Fauna Management Plan

Precinct B, Olson Road, New Beith

Prepared for Frasers Property New Beith Pty Ltd.

18 June 2026

Job No. 10941

Saunders Havill

PATHWAYS TO SUCCESS

Document Control

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Acronyms

CEMP	Construction Environmental Management Plan
DAF	Department of Agriculture and Fisheries (Qld)
DES	Department of Environment and Science (Qld) (former, now DETSI)
DETSI	Department of Environment, Tourism, Science and Innovation (Qld)
EDQ	Economic Development Queensland (Qld)
EHP	Department of Environment and Heritage Protection (Qld) (former, now DETSI)
EPBC	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
EVNT	Endangered, Vulnerable and Near Threatened (as listed in the NCAR)
FTMP	Fauna Translocation Management Plan
NCA	*Nature Conservation Act 1992* (Qld)
NCAR	Nature Conservation (Animals) Regulation 2020 (Qld)
NESS	Natural Environment Overarching Site Strategy
PDA	Priority Development Area
PMST	Protected Matters Search Tool
PTRP	Pre-clearing Trapping and Release Plan
SHG	Saunders Havill Group
WHIMP	Wildlife and Habitat Impact Mitigation Plan
WPMP	Wildlife Protection and Management Plan
WWBW	Waterway Barrier Works

Reference Documents

ADR	*Acceptable Development Requirements for operational work that is constructing of raising waterway barrier works,* prepared by Queensland Government (dated 3 July 2017)
FSTISM	*Fauna Sensitive Transport Infrastructure Delivery manual* (dated June 2024)
The Code	*Code of Practice for Welfare of Wild Animals Affected by Land Clearing and Other Habitat Impacts and Wildlife Spotter /Catchers (Draft),* prepared by Wildlife Warriors and Voiceless.
VMP	*Vegetation Management Plan (10941 Precinct B VMP C),* prepared by SHG (dated August 2025).

1. Introduction

Saunders Havill Group (SHG) was engaged by Frasers Property New Beith Pty Ltd to prepare a Fauna Management Plan (FMP) for the proposed development of Precinct B within the Olson Road, New Beith project (hereafter referred to as the precinct'). The site is located within the Greater Flagstone Priority Development Area (PDA). This FMP has been prepared to manage impacts and protect native animals during clearing and construction. Precinct B is a residential precinct of approximately 23 ha located in the south-east of a larger development area named 'New Beith Round Mountain' (hereinafter referred to as the 'New Beith Site'). The New Beith Site is a proposed development that is located within the PDA.

Condition 25 of the PDA Development Approval dated 19th October 2012 (DEV2012/209) required a Natural Environment Overarching Site Strategy to be prepared for Flagstone City to provide for the strategic management of environmental features. The *Flagstone City Natural Environment Site Strategy*, version 1.3, prepared by SHG (dated August 2015), as amended in red by Economic Development Queensland (EDQ) (dated 22 December 2015) (NESS) was endorsed by EDQ on 22 December 2015 (DEV2012/402/10; DEV201012/209/6/4). The NESS dictates subsequent environmental plans and strategies to be prepared as part of operational works applications. The NESS requires an FMP to be prepared for each stage of development involving vegetation clearing.

This FMP has been prepared for clearing and earthworks associated with the proposed development of a Precinct B at Olson Road, New Beith Site. Refer to **Figure 1** for Site Context and **Figure 2** for Site Aerial.

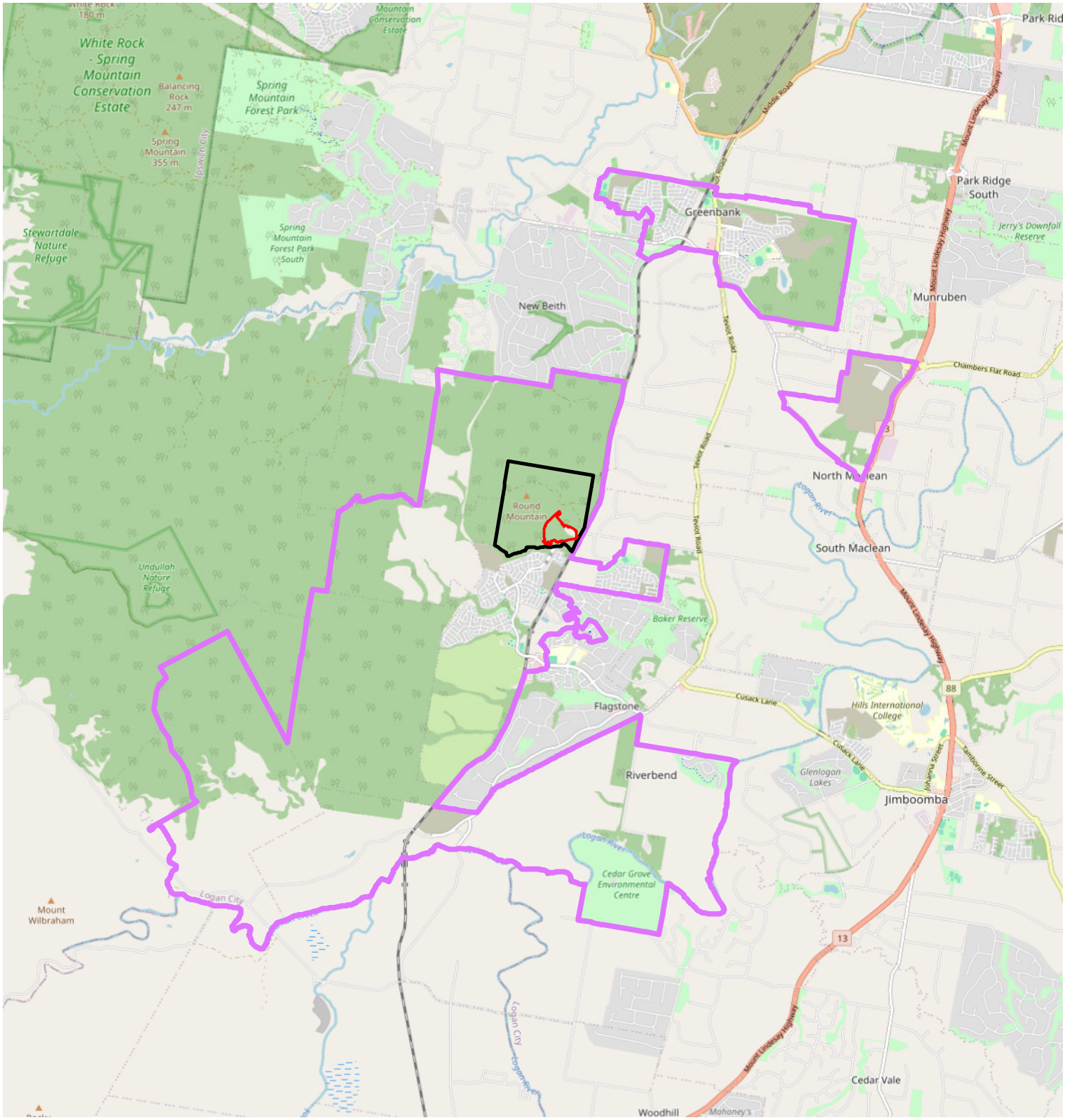
This FMP includes step by step procedures for the management of fauna prior to, during and post-vegetation clearing and construction activities to reduce potential impacts. Fauna management specifications and principles incorporated into this FMP apply generally to all native animals and focus on incorporating measures to minimise disturbance and avoid conflicts. Compliance with this FMP is compulsory and incorporates the use of expert consultants, including a registered and Department of Environment, Tourism, Science and Innovation (DETSI) endorsed Fauna Spotter Catcher. Section 2 outlines the methodology and content for this FMP. In accordance with the stretch target espoused within the NESS, this FMP adopts aspects of the *Code of Practice for Welfare of Wild Animals Affected by Land Clearing and Other Habitat Impacts and Wildlife Spotter /Catchers (Draft)* (the Code).

1.1. Property Summary

Key site details are provided in Table 1 below.

Table 1: Property Summary

Address	Precinct B, Olson Road, New Beith, QLD, 4124
RPD	Part of Lot 4 on SP332712
Local Government Area	Logan City Council
Administering Authority	Economic Development Queensland
Priority Development Area	Greater Flagstone PDA
Planning Scheme	Greater Flagstone Urban Development Area Development Scheme
Area Classification / Zone	Urban Living
Existing Land Use	Vacant



LEGEND

- Greater Flagstone Boundary
- Site boundary
- Precinct B boundary

Figure 1

Site Context

CLIENT

Frasers Property New Beith Pty Ltd

FILE REFERENCE
10941 E FMP Figure 1 P-B GF PDA Context D

DATE
26/02/05

Round Mountain Project

0 1 2 3 km

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:100,000

N

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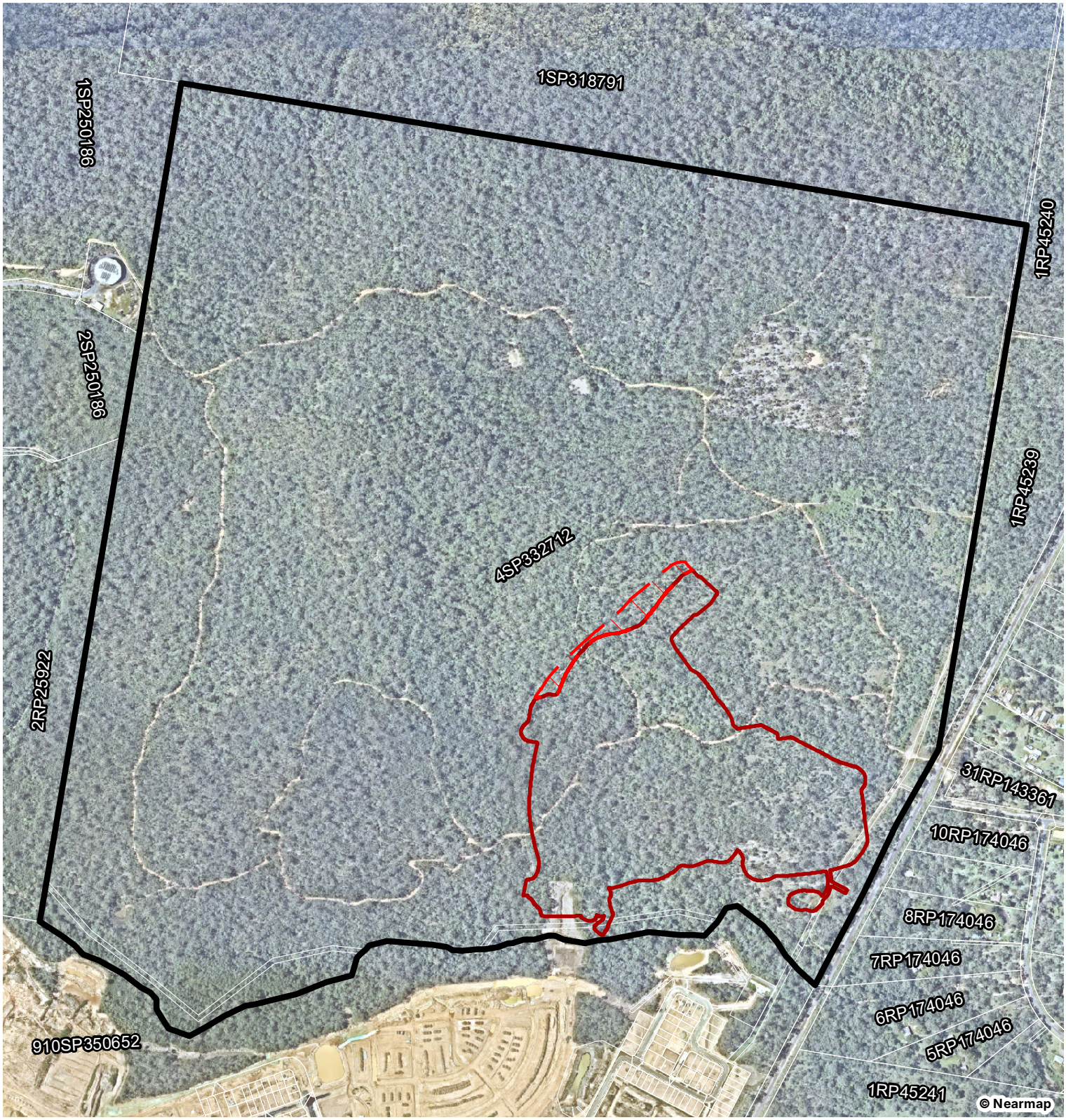

LEGEND

- Qld DCDB
- Site boundary
- Precinct B vegetation clearing area
- Precinct B Temporary Asset Protection Zone - all vegetation to remove

Figure 2

Site Aerial

FILE REFERENCE
10941 E FMP Figure 2 P-B Site Aerial D

DATE
26/02/04

Round Mountain Project

0 100 200 300 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:10,000

N

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2. Legislative Context

2.1. Environment Protection and Biodiversity Conservation Act 1999

The Australian Government's key piece of environmental legislation is the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act aims to protect and manage matters of environmental significance which include nationally and internationally important flora, fauna, ecological communities, and heritage places.

A Protected Matters Search for the allotment was undertaken through the EPBC Act's online Protected Matters Search Tool (PMST). The search provides a list of wetlands of international significance, threatened ecological communities and threatened species which have the potential to be temporarily or permanently located within a 5 kilometre (km) radius of the development site. Table 2 lists a summary of these results relevant to site fauna. The complete results of this search are included in **Appendix A**.

Table 2: EPBC Act Protected Matters Search Tool Results (Fauna)

Wetlands of International Importance (RAMSAR)		
Moreton Bay – 20 – 30 km upstream from RAMSAR site		
Threatened Ecological Communities		
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland – Endangered (community may occur within area) **Coastal Swamp Oak Sclerophyll Forest of New South Wales and South East Queensland ecological community** – Endangered (community likely occur within area) **Grey box-grey gum wet forest of subtropical eastern Australia** –Endangered (community likely to occur within area) **Lowland Rainforest of Subtropical Australia** – Critically Endangered (community may occur within area) **Poplar Box Grassy Woodland on Alluvial Plains** – Endangered (community may occur within area) **Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions** – Endangered (community likely occur within area) **Swamp Tea-tree (Melaleuca irbyana) Forest of South East Queensland** – Critically Endangered (community likely to occur within area) **White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland** – Critically Endangered (community likely to occur within area)		
Threatened Species		
Scientific Name	**Common Name**	**Status**
Birds		
Anthochaera phrygia	Regent Honeyeater	Critically Endangered
Botaurus poiciloptilus	Australasian Bittern	Endangered
Callidris acuminata	Sharp-tailed Sandpiper	Vulnerable
Calidris ferruginea	Curlew Sandpiper	Critically Endangered
Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo	Vulnerable
Charadrius leschenaultii	Greater Sand Plover	Vulnerable

Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)	Vulnerable
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	Critically Endangered
Erythrotriorchis radiatus	Red Goshawk	Endangered
Falco hypoleucos	Grey Falcon	Vulnerable
Gallinago hardwickii	Latham's Snipe	Vulnerable
Geophaps scripta scripta	Squatter Pigeon (southern)	Vulnerable
Grantiella picta	Painted Honeyeater	Vulnerable
Hirundapus caudacutus	White-throated Needletail	Vulnerable
Lathamus discolor	Swift Parrot	Critically Endangered
Rostratula australis	Australian Painted Snipe	Endangered
Stagonopleura guttata	Diamond Firetail	Vulnerable
Tringa nebularia	Common Greenshank	Endangered
Turnix melanogaster	Black-breasted Button-quail	Endangered
Fish		
Maccullochella mariensis	Mary River Cod	Endangered
Insects		
Argynnis hyperbius inconstans	Australian Fritillary	Critically Endangered
Mammals		
Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable
Dasyurus maculatus maculatus	Spotted-tailed Quoll	Endangered
Macroderma gigas	Ghost Bat	Vulnerable
Petauroides volans	Greater Glider	Vulnerable
Petaurus australis australis	Yellow-bellied Glider (south-eastern)	Vulnerable
Petrogale penicillata	Brush-tailed Rock-wallaby	Vulnerable
Phascolarctos cinereus	Koala	Vulnerable
Potorous tridactylus tridactylus	Long-nosed Potoroo	Vulnerable
Pseudomys novaehollandiae	New Holland Mouse	Vulnerable
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable
Reptiles		
Coeranoscincus reticulatus	Three-toed Snake-tooth Skink	Vulnerable
Delma torquata	Adorned Delma	Vulnerable
Furina dunmalli	Dunmall's Snake	Vulnerable
Hemiaspis damelii	Grey Snake	Endangered

The project now maintains an approval under the EPBC Act (refer EPBC 2019-8398). This FMP outlines measures to avoid, minimise and manage impacts to Matters of National Environmental Significance. The protected matters are 'listed threatened species and communities (section 18 and 18A)' including:

- Koala (Phascolarctos cinereus) – combined populations of Queensland, New South Wales and the Australian Capital Territory
- Grey-headed Flying-fox (Pteropus poliocephalus)
- Greater Glider (Petauroides volans volans)
- Swift Parrot (Lathamus discolor)
- Regent Honeyeater (Anthochaera phrygia)

The following details are required under Conditions 13 and 14 of the approval EPBC 2019/8398, and have been addressed by this FMP in the following locations:

Condition 13

a) details of daily visual inspections prior to the commencement of any clearing
    1. Refer **Sections 4.4, 5.2.1 and 5.5.2**

b) details of actions to be taken in the event of an animal being located including machinery exclusion zones and exclusion timeframes
    1. Refer **Section 5.2.1**

c) details of measures taken by the fauna spotter catcher to relocate any animal that requires relocation
    1. Refer **Sections 3.1.2, 3.2.6, 4.4, 5.1.3, 5.2.1, 5.2.4 and 6**

d) details outlining the responsibilities of the site supervisor to ensure the safe management of site fauna and implementation of the site fauna requirements
    1. Refer **Sections 3.1.2, 3.2.5, 4.4 and 5**

Condition 14

a) details of the relevant protected matters and a reference to the EPBC Act approval conditions to which the plan refers
    1. Refer this **Section**

b) a table of commitments made in the plan to achieve the environmental outcomes, and a reference to exactly where these commitments are detailed in the plan
    1. Refer this **Section**

c) commitments capable of ensuring that the environmental outcomes are achieved
    1. Refer this **Section**

d) reporting and review mechanisms to demonstrate compliance with the commitments made in the plan
    1. Refer **Sections 3.1.1, 3.1.2, 3.1.3, 4.4, 5.1.3, 5.2.1, 5.2.3, 5.5.2 and 5.5.3**

e) an assessment of risks relating to achieving the environmental outcomes and risk management strategies and/or mitigation measures that will be applied to address identified risks
    1. Refer **Appendix B**

f) impact avoidance and mitigation consistent with the measures and timing proposed in the Preliminary Documentation
    1. Refer **Appendix B**

g) a monitoring program, which must include:

i. performance indicators
    1. Refer **Section 3.1.2 PTRP**

ii. trigger values for corrective measures
    1. Refer **Sections 3.1.3, 5.2.3, 5.4 and 5.5.2**

iii. the timing and frequency of monitoring, ensuring monitoring is capable of detecting trigger values and changes in the performance indicators
    1. Refer **Sections 3.1.3, 5.2.3, 5.4, 5.5.2 and Appendix B**
iv. proposed corrective measures if trigger values are reached
    1. Refer **Sections 3.1.3, 5.2.3, 5.4, 5.5.2 and Appendix B**

2.2. Nature Conservation Act 1992

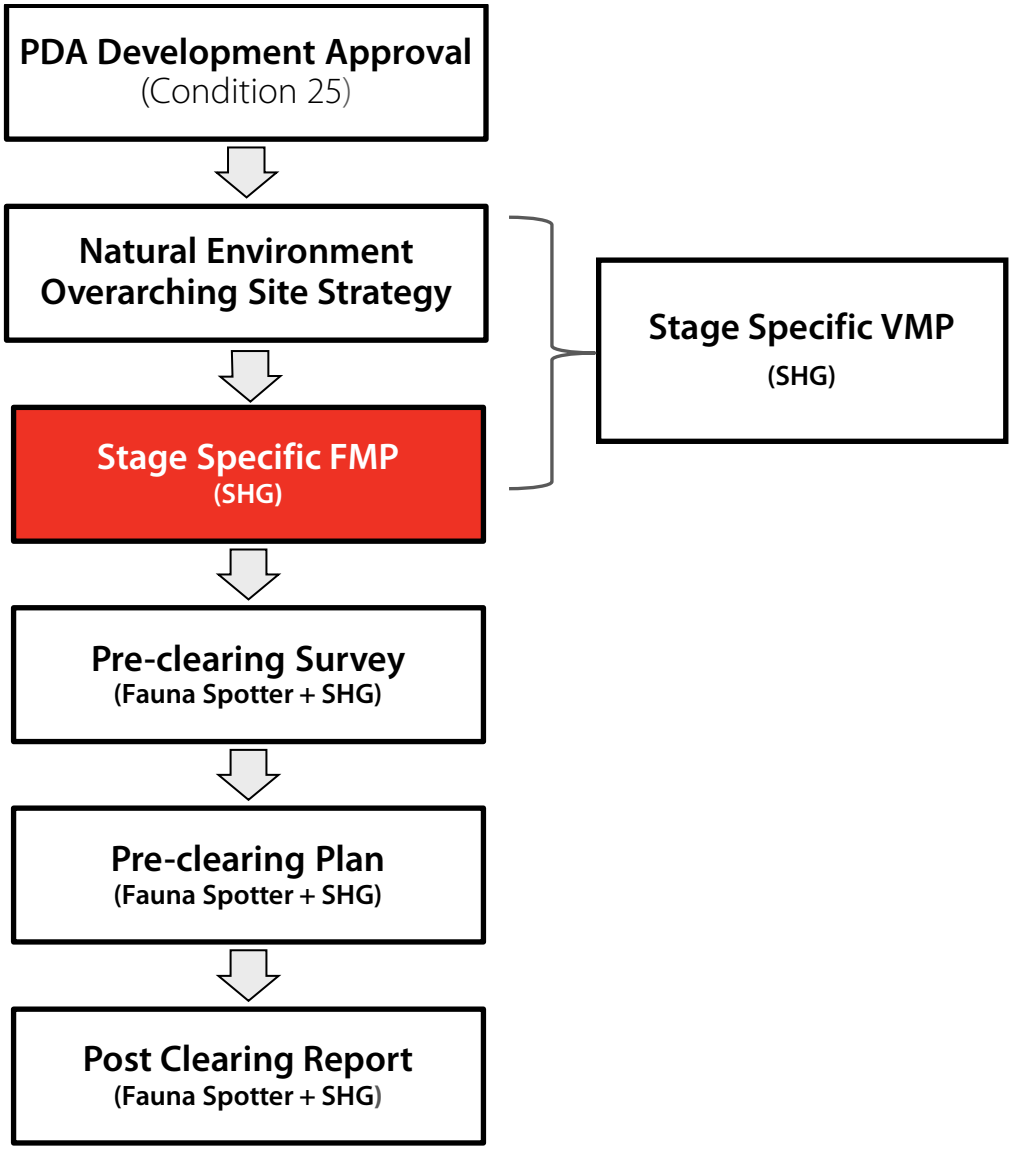
The *Nature Conservation Act 1992* (NCA) classifies and protects significant areas (protected areas) and protects threatened plant and animal species. The *Nature Conservation (Animals) Regulation 2020* (NCAR) and the *Nature Conservation (Plants) Regulation 2020* (NCPR) list plant and animal species presumed extinct, endangered, vulnerable, near threatened, least concern, international or prohibited. The schedules of the NCAR were considered in this FMP using DETSI's Wildlife Online database search for a 5 km radius of the site. Fauna species listed under the NCAR with the potential to occur around the subject site are shown in Table 3. The complete results of this search are included in **Appendix C**.

Table 3: NCA Wildlife Online Search Results

Scientific Name	Common Name	Status
Birds		
Calyptorhynchus lathami lathami	Glossy Black-cockatoo	Vulnerable
Hirundapus caudacutus	White-throated Needletail	Vulnerable
Ninox strenua	Powerful Owl	Vulnerable
Mammals		
Petauroides volans volans	Southern Greater Glider	Endangered
Petaurus australis australis	Yellow-bellied Glider (Southern subspecies)	Vulnerable
Phascolarctos cinereus (Southeast Queensland bioregion)	Koala (Southeast Queensland bioregion)	Endangered
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable
Plants		
Melaleuca irbyana	-	Endangered

3. Methodology

This FMP forms the stage specific strategy for fauna management inclusive of the Precinct B at Olson Road, New Beith Site. It has been developed in response to the PDA Development Scheme and specifications within the NESS. Separate FMPs will be prepared for each stage of the development.



3.1. FMP Framework

This FMP provides a framework for fauna management within the precinct. This FMP should form part of the Construction Environmental Management Plan (CEMP) for this stage of works. To assist in achieving a leading practice model for fauna management prior to, during and post the completion of the construction works for the precinct, all land clearing will be managed generally in accordance with aspects of the *Code of Practice for Welfare of Animals affected by Land Clearing and Other Habitat Impacts and Wildlife Spotter/Catchers (Draft)*, as prepared by the Wildlife Warriors and Voiceless. Under the Code, the procedural guide detailed in Sections 3.1.1 – 3.1.3 will been used to inform the framework for clearing works. Consideration should be given to the survey for and management of permit requirements for tampering with animal breeding places under the Nature Conservation Act.

This FMP should be read in conjunction with approved Precinct B environmental management plans (to be lodged separately), including the Precinct B specific Vegetation Management Plan (VMP).

Fauna management and mitigation strategies are discussed in further detail in Section 4 – Fauna Management Plan Specifications.

3.1.1 Pre-Clearing Survey

Action 1 – Developer to Engage a Fauna Spotter Catcher
Action 1 requires that the developer engage a Fauna Spotter Catcher with full registrations and licences issued by the Department of Environment, Tourism, Science and innovation (DETSI).

Action 2 – Developer to Undertake Pre-Clearing Survey
A pre-clearing survey will be undertaken by a DETSI endorsed Fauna Spotter Catcher within two (2) weeks prior to the commencement of clearing activities at each stage. This survey must include a fauna assessment of the precinct, particularly for Koalas and other native fauna using hollows. This survey will inform the Pre-Clearing Trapping and Release Plan (PTRP) containing elements from the Code, as detailed in Section 3.1.2. Results from the pre-clearance surveys will be made available to DETSI and will form part of the Post-clearing report.

3.1.2 Pre-clearing Trapping and Release Plan

Action 3 – Fauna Spotter to Prepare a Pre-Clearing Trapping and Release Plan
Informed by the pre-clearing surveys, a PTRP containing a Wildlife Protection Management Plan (WPMP) and Wildlife and Habitat Impact Mitigation Plan (WHIMP) Code elements will be developed by a DETSI endorsed Fauna Spotter Catcher a maximum of two (2) weeks prior to the commencement of any clearing activities. This report will provide extensive detail of the fauna likely to be impacted by the clearing works.

The PTRP will outline the methodology for the identification, trapping and relocation of native fauna. The PTRP should include the following information:

- a description of the project with reference to impacts on wildlife and/or wildlife habitat;
- a pre-development plan of the precinct showing habitat areas including nests and hollows, features, corridors, riparian habitats and adjacent areas;
- results of any fauna surveys including pre-clearance surveys;
- contact details of the nearest veterinarian and agencies to be notified of injured wildlife;
- a wildlife and habitat impact assessment based on the proposed development works; and
- confirmation of the release area.

Action 4 – Fauna Spotter Role at Pre-Start Meeting

Prior to the commencement of any construction works, a pre-start meeting is to be held between the Proponent, Site Supervisor, Environmental Coordinator, Fauna Spotter Catcher and other key project personnel. At the pre-start meeting, the Fauna Spotter Catcher is to outline the clearing process and the requirements of the PTRP.

Action 6 – During Construction

The Fauna Spotter Catcher is to be on-site during all phases of construction that involve potential impacts on wildlife or habitat. This will enable the Fauna Spotter Catcher to make any necessary adjustments to the approved VMP and the WPMP to cater for any specific issues encountered during the clearing works. Should an animal be encountered during vegetation clearing, clearing will cease immediately until the animal preferably moves away of its own accord.

3.1.3 Post-clearing Wildlife Management Report

Action 7 – Post Works Reporting

During the course of all site works, including the pre-clearance surveys, the Fauna Spotter Catcher is to keep an accurate record of all animals encountered and/or captured, and all incidents and disposals for each stage of the project. The records should form part of the Post-Clearing Wildlife Management Report to be issued under licence requirements to DETSI. The Post-Clearing Wildlife Management Report should consist of the following three sections:

1. PTRP – Aspects of the planning, design, construction, and ongoing operation of the project in which risks to wildlife have been identified. This plan should also include recommendations and outline the type, frequency, and timeframes for monitoring, as well as updates to describe measures taken to address an incident.

2. Wildlife Capture and Disposal Plan – Should contain details of any animal/s that were caught and/or sighted and released, and the placement of any release/s as well as details of any animals that were destroyed due to injury, given to wildlife rescue groups etc. The following details for each captured animal should be included in the Wildlife Capture and Disposal Plan:

    a. Species.
    b. Identification name or number.
    c. Sex (M, F or unknown).
    d. Approximate Age or Age Class (neonate, juvenile, sub-adult, adult).
    e. Time and date of capture.
    f. Method of capture.
    g. Exact point of capture (GPS coordinates).
    h. State of health.
    i. Incidents associated with capture likely to affect health.
    j. Veterinary intervention or treatments.
    k. Time held in captivity.
    l. Disposal method (euthanasia, translocation, re-release).
    m. Date and time of disposal.
    n. Details of disposal (GPS points of release).
    o. For released animals, location relative to point of capture.

3. Animal Injury and Euthanasia Report – similar details for the Wildlife Capture and Disposal Plan should be included in this report.

The Post-Clearing Wildlife Management Report will be provided to the Proponent, Environmental Coordinator and EDQ no more than two (2) weeks after clearing activities have ceased.

3.2. Roles and Responsibilities

This section details the key roles and responsibilities for the works.

3.2.1 Proponent

Frasers Property New Beith Pty Ltd is the Proponent for the works.

3.2.2 Environmental Coordinator

Saunders Havill Group (SHG) is the Environmental Coordinator for the project and is responsible for the development of this overarching FMP and documentation for overarching environmental management. SHG will be responsible for managing non-compliance by appointed contractors and sub-contractors, including establishing additional management procedures and determining if EDQ notification should be made.

3.2.3 Administering Authority

Economic Development Queensland (EDQ) is the government approval authority for this project.

3.2.4 Site Coordinator

The Site Coordinator is a representative of the project team (typically the project engineer) and is responsible for coordinating the project consultants and construction contractor.

3.2.5 Site Supervisor

The Site Supervisor is a representative of the Construction Contractor (to be appointed) and responsible for overseeing all pre-clearing, clearing and construction activities, which are to be undertaken in accordance with the approved FMP, PTRP and subsequent environmental management documentation. The Site Contractor will be responsible for engaging and the commissioning of the DETSI endorsed Fauna Spotter Catcher.

3.2.6 Fauna Spotter Catcher

A DETSI endorsed Fauna Spotter Catcher is a person who holds a rehabilitation permit with an extended authority issued by the Department of Environment, Tourism, Science and Innovation specifying the holder may take, keep, or use an animal whose habitat is about to be destroyed by a human activity. A DETSI endorsed Fauna Spotter Catcher will be engaged by the proponent for pre-construction and construction stages of the project. It is noted that the Fauna Spotter Catcher must hold a Rehabilitation Permit and a copy of this permit along with their contact details will be passed on to EDQ and the Environmental Coordinator. The engaged Fauna Spotter Catcher will be responsible for undertaking pre-clearing surveys of the precinct and developing the PTRP. The Fauna Spotter Catcher must be present on site during all clearing activities and is responsible for the relocation of native fauna. A list of key contacts for the project is contained in Section 8.

4. Fauna Summary

4.1. Fauna Habitat Areas and Opportunities

The purpose of this FMP is to control the impacts of clearing activities on-site and to the surrounding area's fauna communities. The 'Flagstone City ULDA Context Plan 1 – Natural Environment Assessment Report, ULDA Submission Issue D, prepared by SHG, dated 23 Oct 2012', identified the presence of suitable habitat observed along waterways to be retained by the development as endorsed in the NESS (Refer to Plan 1 – NESS Habitat Values). This FMP will outline the process for tree removal and the strategy for installation of nest boxes to replace removed hollows.

This FMP should be read in conjunction with the following documents, to be lodged separately:

- Approved Vegetation Management Plan

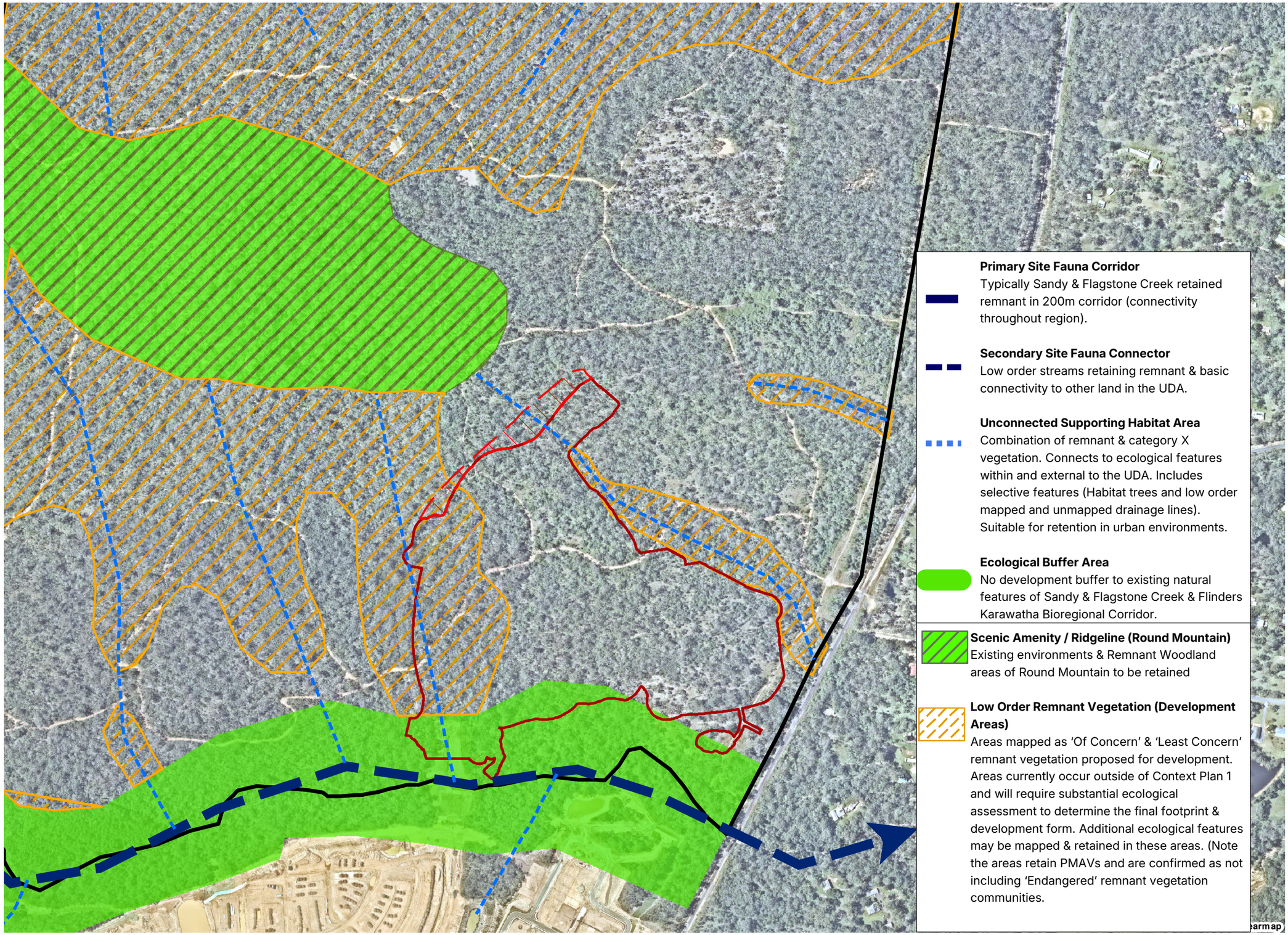
Ecological features identified for protection within the PDA include biodiversity corridors along Flagstone Creek and biodiversity values associated with the Flinders-Karawatha Bioregional Corridor. A single Swamp Tea-tree (*Melaleuca irbyana*) specimen listed as Endangered under the NCA was recorded inside of the Precinct B boundary and has now been removed.

The precinct is bordered by vacant bushland to the north and west, Flagstone Creek to the south and the Brisbane Sydney Rail Line to the east, with rural residential properties further to the east. The precinct contains Eucalypt woodland with species including *Eucalyptus tereticornis, Corymbia intermedia, Eucalyptus crebra* and *Angophora leiocarpa*. The understorey contains *Acacia sp.* and *Lophostemon sp.* along with dense patches of *Lantana camara* in some areas.

The precinct is mapped as Category B (remnant) with patches of Category X (non-remnant) vegetation (refer to Plan 2 – Summary of Vegetation Clearing) and has been subject to selective clearing and varying levels of modification, with scattered remaining mature *Eucalypt sp.* in the cleared areas. The remaining bushland contains weed incursions of *Lantana camara*, reflective of historical disturbance. The majority of the area mapped as Category X non-remnant is dominated by *Acacia* species, including *Acacia disparrima* (Hickory Wattle) and *Acacia leiocalyx* (Early Flowering Black Wattle). Other species recorded are identified as *Alphitonia excelsa* (Soap Tree), *Allocasuarina littoralis* (Black She-oak), *Petalostigma pubescens* (Quinine Bush), *Lophostemon confertus* (Brush Box) and *Lophostemon suaveolens* (Swamp Box).

Habitat for fauna that utilise tree hollows and consolidated leaf litter is limited in the non-remnant areas. The majority of trees present are relatively young and are lacking notable habitat features. In addition, the site contains limited habitat value, such as substantial rocky outcrops, denning habitat and large hollows to provide potential habitat values for threatened fauna.

01. NATURAL ENVIRONMENT SITE STRATEGY HABITATS



Primary Site Fauna Corridor
Typically Sandy & Flagstone Creek retained remnant in 200m corridor (connectivity throughout region).

Secondary Site Fauna Connector
Low order streams retaining remnant & basic connectivity to other land in the UDA.

Unconnected Supporting Habitat Area
Combination of remnant & category X vegetation. Connects to ecological features within and external to the UDA. Includes selective features (Habitat trees and low order mapped and unmapped drainage lines). Suitable for retention in urban environments.

Ecological Buffer Area
No development buffer to existing natural features of Sandy & Flagstone Creek & Flinders Karawatha Bioregional Corridor.

Scenic Amenity / Ridgeline (Round Mountain)
Existing environments & Remnant Woodland areas of Round Mountain to be retained

Low Order Remnant Vegetation (Development Areas)
Areas mapped as 'Of Concern' & 'Least Concern' remnant vegetation proposed for development. Areas currently occur outside of Context Plan 1 and will require substantial ecological assessment to determine the final footprint & development form. Additional ecological features may be mapped & retained in these areas. (Note the areas retain PMAVs and are confirmed as not including 'Endangered' remnant vegetation communities.

Notes:
This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of Saunders Havill.Unless a development approval states otherwise, this is not an approved plan.
Layer Sources
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LEGEND

- Site boundary
- Precinct B vegetation clearing area
- Precinct B Temporary Asset Protection Zone - all vegetation to remove

AMENDMENTS

Issue	Date	Description	Drawn	Checked
C	25/08/07	BUSHFIRE MANAGEMENT	TC	AD
D	26/02/12	Enginering Changes	HW	AD

N

0 50 100 150 200 250 m

1:6,500 @ A3 | Transverse Mercator | GDA 2020 | Zone 56

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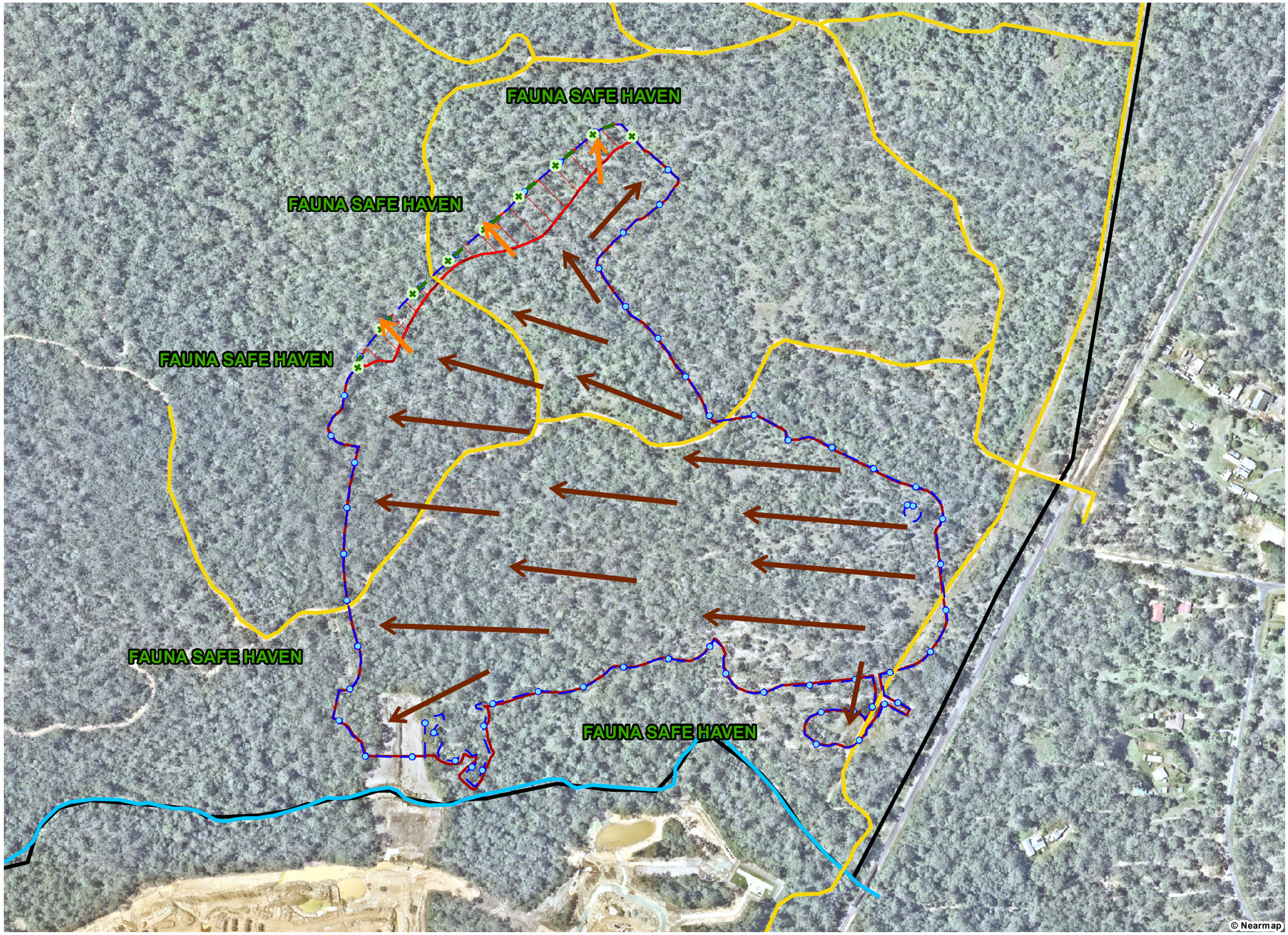
ROUND MOUNTAIN PROJECT

Address / RPD: *Round Mountain Project*

26/02/12

10941 E 01 FMP P-B NESS D

02. SUMMARY OF CLEARING



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LEGEND

- Site Boundary
- Flagstone Creek
- Precinct B vegetation clearing area
- Precinct B Temporary Asset Protection Zone - all vegetation to remove
- Existing tracks (access to site)
- Clearing direction
- Tree protection fencing
- Tree protection fencing (BMP)

AMENDMENTS

Issue	Date	Description	Drawn	Checked
C	25/08/07	BUSHFIRE MANAGEMENT	TC	AD
D	26/02/12	Enginering Changes	HW	AD

N 0 50 100 150 200 m

1:4,000 @ A3 | Transverse Mercator | GDA 2020 | Zone 56

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26/02/12

10941 E 02 FMP P-B Summary of Tree Clearing

The following strategies have been developed as part of this FMP to mitigate the adverse impacts of development on native fauna and provide habitat enhancement and inform the VMP (to be lodged under a separate cover):

1. **Direction of Clearing Plan** – to direct clearing activities from open areas to less open areas allowing fauna to naturally seek shelter in the adjacent habitat;
2. **Fencing Management Strategy** – for the provision of permanent and temporary fencing around roads and construction areas, and
3. **Nest Box/Hollow Strategy** – for the installation of nest boxes in mature native trees in retained environmental corridors and the provision of hollow logs and branches to temporarily house translocated animals and provide permanent nesting sites. Habitat features are to be determined by the Environmental Coordinator as part of the VMP and Rehabilitation Plans prepared for the environmental corridor.

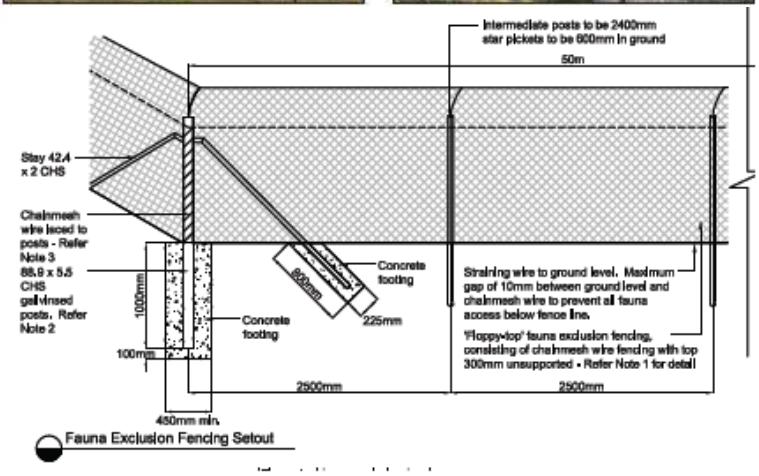
The below images reflect management strategies that may be adopted in this FMP.

FAUNA SPOTTERS RETRIEVING FAUNA

FAUNA SIGNAGE

FAUNA SPOTTER DURING TREE CLEARING

KOALA SIGNAGE



CONSTRUCTION FENCING DETAIL

TREE PROTECTION & EROSION FENCE

SIGNIFICANT TREE PROTECTION FENCING

4.2. Observed Fauna

A detailed fauna survey of the New Beith Site was undertaken by SHG in 2018 and 2021 to identify significant biodiversity values and inform the FMP.

The results of the survey identified sixteen (16) species of mammal, sixty-four (64) species of bird, three (3) species of amphibian and nine (9) species of reptile (refer to Table 4 – Observed Species). Notably, one significant fauna species was recorded in vegetation within the New Beith Site, the Grey-headed Flying Fox, listed as Vulnerable under the EPBC Act and NCA. The species was observed foraging during spotlight surveys approximately 230 m to the west of the Precinct B boundary.

Suitable Koala habitat and food trees were observed throughout the assessment area. Field surveys identified indirect evidence of Koala activity in vegetated areas in and adjacent to the precinct.

Table 4: Observed Fauna Species on the New Beith Site

Scientific Name	Common Name	Native/Introduced
Birds		
Alectura lathami	Australian Brush-turkey	Native
Alisterus scapularis	Australian King Parrot	Native
Anas superciliosa	Pacific Black Duck	Native
Aquila audax	Wedge-tailed Eagle	Native
Cacatua galerita	Sulfur-crested Cockatoo	Native
Cacomantis flabelliformis	Fan-tailed cuckoo	Native
Calyptorhynchus banksii	Red-tailed Black Cockatoo	Native
Centropus phasianinus	Pheasant Coucal	Native
Chalcites basalis	Horsefield's Bronze Cuckoo	Native
Chenonetta jubata	Australian Wood Duck	Native
Climacteris picummus	Brown Treecreeper	Native
Coracina novaehollandiae	Black-faced Cuckoo-shrike	Native
Corvus orru	Torresian crow	Native
Coturnix ypsilophora	Brown quail	Native
Cracticus nigrogularis	Pied Butcherbird	Native
Cracticus tibicen	Australian Magpie	Native
Dacelo novaeguineae	Laughing Kookaburra	Native
Dendrocygna eytonii	Plumed Whistling Duck	Native
Dicrurus bracteatus	Spangled Drongo	Native
Egretta novaehollandiae	White-faced Heron	Native
Elanus axillaris	Black-shouldered Kite	Native

Scientific Name	Common Name	Native/Introduced
Entomyzon cyanotis	Blue-faced Honeyeater	Native
Eopsaltria australis	Eastern Yellow Robin	Native
Geopelia cuneata	Diamond Dove	Native
Geopelia humeralis	Bar-shoulder Dove	Native
Geopelia placida	Peaceful Dove	Native
Gerygone olivacea	White-throated Gerygone	Native
Gralllina cyanoleuca	Magpie-lark	Native
Hirundo neoxena	Welcome Swallow	Native
Lichenostomus chrysops	Yellow-faced honeyeater	Native
Macropygia amboinensis	Brown Cuckoo-Dove	Native
Malurus cyaneus	Superb fairy-wren	Native
Malurus lathami	Variegated Fairy-wren	Native
Malurus melanocephalus	Red-backed Fairy-wren	Native
Manorina melanocephala	Noisy Miner	Native
Meliphaga lewinii	Lewin's Honeyeater	Native
Melithreptus albogularis	White-throated Honeyeater	Native
Merops ornatus	Rainbow Bee-eater	Native
Microeca fascinans	Jacky Winter	Native
Milvus migrans	Black Kite	Native
Myzomela sanguinolenta	Scarlet Honeyeater	Native
Neochmia temporalis	Red-browed Finches	Native
Ocyphaps lophotes	Crested Pigeon	Native
Pachycephala pectoralis	Golden Whistler	Native
Pachycephala rufiventris	Rufous Whistler	Native
Pardalotus striatus	Striated pardalote	Native
Petroica rodinogaster	Pink Robin	Native
Philemon citreogularis	Little Friarbird	Native
Philemon corniculatus	Noisy Friarbird	Native
Platycercus adscitus	Pale-headed Rosella	Native
Podargus strigoides	Tawny Frogmouth	Native
Psophodes olivaceus	Eastern Whipbird	Native
Rhipidura albiscapa	Grey Fantail	Native
Rhipidura leucophrys	Willie Wagtail	Native

Scientific Name	Common Name	Native/Introduced
Scythrops novaehollandiae	Channel-billed Cuckoo	Native
Sphecotheres vieilloti	Fig bird	Native
Strepera graculina	Pied Currawong	Native
Taeniopygia bichenovii	Double-barred Finch	Native
Threskiornis Molucca	Australian White Ibis	Native
Todiramphus macleayii	Forest Kingfisher	Native
Trichoglossus chlorolepidotus	Scaly-breasted Lorikeet	Native
Trichoglossus moluccanus	Rainbow Lorikeet	Native
Vanellus miles	Masked Lapwing	Native
Zosterpos lateralis	Silvereye	Native
Amphibians		
Litoria fallax	Eastern Sedgefrog	Native
Litoria latopalmata	Broad-palmed rocket frog	Native
Rhinella marinus	Cane Toad	Introduced
Mammals		
Austronomus australis	White-striped Free-tailed Bat	Native
Canis familiaris	Domestic Dog	Introduced (Category 3, 4 & 6)
Isoodon macrourus	Northern Brown Bandicoot	Native
Lepus europaeus	Hare	Introduced
Macropus giganteus	Grey Kangaroo	Native
Macropus rufogriseus	Red-necked Wallaby	Native
Macropus parryi	Whiptail Wallaby	Native
Phascogale tapoatafa tapoatafa	Brush-tailed Phascogale	Native
Pseudocheirus peregrinus	Common Ringtail Possum	Native
Pteropus poliocephalus	Grey-headed Flying Fox	Native – Vulnerable (EPBC)
Rattus rattus	Black Rat	Introduced
Tachyglossus aculeatus	Short-beaked Echidna	Native
Trichosurus vulpecula	Common Brushtail Possum	Native
Vulpes vulpes	Red Fox	Introduced (Category 3, 4, 5 & 6)
Wallabia bicolor	Swamp Wallaby	Native
Wallabia sp.	Wallaby sp.	Native
Reptiles		

Scientific Name	Common Name	Native/Introduced
Cryptoblepharus virgatus	Wall Skink	Native
Demansia psammophis	Yellow-face Whip Snake	Native
Diporiphora australis	Tommy Round Head	Native
Lampropholis delicata	Grass Skink	Native
Physignathus lesueurii	Eastern Water Dragon	Native
Pogona barbata	Common Bearded Dragon	Native
Pseudechis porphyiacus	Red-bellied Black Snake	Native
Pseudonaja textilis	Eastern Brown Snake	Native
Varanus varius	Lace Monitor	Native

4.3. Potential Fauna Species (Threatened)

Table 2 and Table 3 (refer to Appendices A & B for full search results) list endangered, vulnerable and near threatened (EVNT) species that may occur within the general proximity (5 km) of the precinct. These species have been identified through the EPBC Act's online PMST and the NCA Wildlife Online database search (discussed in Section 2). During field surveys within the New Beith Site, two (2) conservation significant species were detected. These included *Phascolarctos cinereus* (Koala), that was identified by indirect evidence, and *Pteropus poliocephalus* (Grey-headed Flying-fox) that was recorded while foraging approximately 230 m west of the Precinct B boundary. No other fauna species listed under the EPBC Act or NCA were detected on-site, nor are they considered likely to occur on-site due to the high disturbance levels and general lack of suitable habitat values.

A habitat suitability and risk assessment for significant fauna was undertaken by SHG in conjunction with the ecological surveys. The assessment focused on identifying habitat features typically associated with threatened species and native fauna groups. Eleven (11) significant fauna species were considered as possible occurrences on the site (refer to Table 5). The full assessment is contained in **Appendix D** – Likelihood Assessment.

Table 5: Field rectified likelihood of occurrence for threatened fauna species

Species	EPBC Act / NC Act Status*	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
Birds				
Anthochaera Phrygia (Regent Honeyeater)	CE / E	This species was not identified during field surveys. Two (2) records of this species from Atlas of Living Australia occurs within 5 km and another three (3) within 20 km of the New Beith Site. The subject area is comprised of remnant and non-remnant vegetation dominated	Potential	Low

Species	EPBC Act / NC Act Status*	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
		by eucalypt and *Corymbia* species, particularly *Corymbia citriodora* (Spotted Gum). All riparian areas are highly disturbed from cattle grazing, tree removal and weed invasion. This species relies on vegetation with diversity of species and abundance of mistletoe for food resources throughout the year. Field surveys identified two (2) preferred foraging species *Corymbia citriodora* (Spotted Gum) and *Eucalyptus tereticornis* (Forest Red Gum) within the New Beith Site, however no mistletoe was recorded. Regent Honeyeaters experience competition from aggressive species such as Noisy Miner (*Manorina melanocephala*) and Noisy Friarbird (*Philemon corniculatus*). Both of which were observed to be utilising the vegetation within the New Beith Site, which may reduce potential for Regent Honeyeaters to opportunistically forage within the New Beith Site. Overall, there is potential that the Regent Honeyeater would utilise the vegetation within the New Beith Site as a result of historical disturbances, weed invasion and competition from other more aggressive species.		
Calyptorhynchus lathami lathami (Glossy Black-cockatoo)	- / V	*Allocasuarina* species were observed in areas of the New Beith Site. However, the species was not observed across the New Beith Site nor evidence of the species utilising the *Allocasuarina* species. WildNet identified one (1) proximal record, while ALA had also identified one (1) proximal record.	Moderate	Low
Erythrotriorchis radiatus (Red Goshawk)	V /	This species was not identified during field surveys despite diurnal searches, targeted surveys and opportunistic observations. This species appears within the Protected	Potential	Low

Species	EPBC Act / NC Act Status*	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
		Matters Search Tool but not within the Wildlife Online search or Atlas of Living Australia search using a 5 km radius of the site. A search of the Wildlife Online data shows the closest known record of this species is located approximately 22.1 km north of the New Beith Site. The subject area is dominated by remnant and non-remnant eucalypt woodland. However, this species prefers a mosaic of vegetation types, large prey populations and permanent water. Potential foraging habitat was identified within the remnant vegetation within and adjacent the New Beith Site. Although potential foraging habitat is available within the New Beith Site, the lack of records within the local area, no evidence of permanent residence on site and very few areas containing permanent water, indicate that this species is unlikely to occur.		
Gallinago hardwickii	V/SL	The species prefers permanent and ephemeral wetlands with dense but heterogeneous vegetative cover, as well as saline or brackish water and modified or artificial habitats including farm land. Although 10 ALA records of the species have been identified approximately 5-7 km from the precinct boundary, minimal potential foraging habitat is available within the New Beith Site.	Moderate	Low
Hirundapus caudacutus (White-throated Needletail)	V / V	The species is considered almost exclusively aerial and is known to occur over most habitat types. Targeted bird surveys were completed across the New Beith Site and the species was not observed.	Moderate	Low

Species	EPBC Act / NC Act Status*	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
Lathamus discolor (Swift Parrot)	CE / E	This species was not identified within the New Beith Site. Additionally, a review of Queensland Government WildNet and Atlas of Living Australia records for the species identified the closest record is 8.83 km north-east, identified at Chambers Flat. Field surveys identified two (2) preferred foraging species *Corymbia citriodora* (Spotted Gum) and *Eucalyptus tereticornis* (Forest Red Gum) within the New Beith Site. A greater number of mature species were found within the Category B (remnant) vegetation which dominates the north-east portion of the site. As such there is potential that the Swift Parrot would utilise the vegetation within the New Beith Site, however the New Beith Site is not considered to contribute to important habitat for the species. Additionally, the significant foraging vegetation is provided within the surrounding landscape and in particular the Flinders Karawatha Corridor. Although two (2) preferred foraging species were identified within the New Beith Site, there is a low potential that the Swift Parrot would utilise onsite vegetation, given the lack of nearby records and lack of onsite floristic diversity. Targeted bird surveys conducted in 2021 did not detect the species, therefore, the Swift Parrots are unlikely to rely on the New Beith Site.	Potential	Low
Ninox strenua (Powerful Owl)	- / V	Their preferred habitat of wet forests with dense understoreys along watercourses was not observed on-site.	Potential	Low

Species	EPBC Act / NC Act Status*	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
Mammals				
		No evidence of this species was found throughout the assessment period, including with the camera traps. A rocky outcrop was observed close to the south-eastern boundary of the New Beith Site, however, extensive surveys and camera footage in this location did not pick up the presence of this species. This species appears within the PMST but not within the Wildlife Online search or Atlas of Living Australia search using a 5 km radius of the New Beith Site.		
Dasyurus maculatus maculatus (Spotted-tailed Quoll)	E / V	This species requires hollow logs, tree hollows, rock outcrops or caves. Historical logging practises have deteriorated large portions of the site, and likely to have resulted in reduced prey abundance, greater Fox incursion, and changed fire regimes. It is possible that the species could use the New Beith Site for movement and foraging purposes, particularly the more intact and dense riparian corridors. However, given the historical disturbances and lack of documented sightings it is considered an unlikely occurrence.	Potential	Low
Petauroides volans (Greater Glider)	V / V	No evidence of this species was found throughout the field assessment, including the motion sensor camera. This species is on the PMST search, ALA search and Wildlife Online search (1 record) for a radius of 5 km from the New Beith Site. Potential habitat is therefore concentrated within the southern portion of Precinct B in Category B (remnant) vegetation.	Potential	Low

Species	EPBC Act / NC Act Status*	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
		Category X (non-remnant) vegetation provides limited habitat for this species as a result of historical disturbances resulting in a relative lack of suitable old growth trees throughout the site. Pests including Red Foxes, Dingos and Domestic Dogs, are current threats to this species and two of these species were recorded within the New Beith Site. Combined with the low amount of records within proximity to the New Beith Site, onsite vegetation is not considered to provide preferred habitat for this species.		
Phascolarctos cinereus (Koala)	V / V	The New Beith Site is highly disturbed through past vegetation clearing and grazing purposes and severe infestations of *Lantana camara* have also reduced the quality of habitat for this species. Indirect evidence of the species was recorded at some locations across the New Beith Site by the total of 31 SAT surveys and the species has been recorded in the broader area.	High	Known
Pteropus poliocephalus (Grey-headed Flying Fox)	V / V	Suitable foraging habitat is mapped on-site in the form of remnant eucalypt woodland. A Grey-headed Flying Fox roost is located on Cedar Grove, approximately 7.9 km south-east of the site. Grey-headed Flying Foxes were observed on-site during spotlighting surveys.	Moderate	Known
Plants				
Melaleuca irbyana	- / E	A *Melaleuca irbyana* specimen was recorded within the New Beith Site towards the eastern boundary along the access track.	High	Known

**Status abbreviations are as follows: CE = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, C = Least Concern, SL = Special Least Concern, - = Not Listed.*

4.4. Potential Impacts

Impacts of the proposed development can generally be summarised as the following:

CONSTRUCTION IMPACTS	OPERATIONAL IMPACTS
- Direct removal of site vegetation - Loss of habitat - Loss of food sources - Excavation / compaction/ changes in existing ground levels - Altering of hydrological flows - Noise, vibration and dust - Fragmentation of habitat - Erosion and sedimentation - Threats associated with open cuts etc. and fauna entrapment	- Weed introduction (garden escapees) - Increased hydrology with increased hardstand - Altering of run-off chemical and nutrient components (quality) - Barriers to fauna movement - Vehicle and pedestrian movement and trespass - Introduction of domestic and predatory species

Generally, most impacts for developments are associated directly with vegetation clearing. The VMP will provide provisions for wildlife management to mitigate potential impacts during vegetation clearing and comply with legislative requirements and approval conditions. These will include:

- The Fauna Spotter Catcher (DETSI endorsed) must remain on site during all clearing works to undertake pre-clearing inspection, direct clearing activities and relocate fauna.
- Immediately prior to the commencement of clearing of native vegetation, a daily visual inspection of the area must be carried out by a qualified Fauna Spotter Catcher.
- In the event of an animal being located an area of 5 m radius should be established around the tree excluding machinery from the area until the animal has relocated (usually overnight) or, if an animal requires relocating this must be undertaken by a suitably qualified and permitted fauna expert recognised by DETSI.
- Any native fauna orphaned or injured by the development process must be reported to DETSI.
- The site supervisor is responsible for the safe management of site fauna and implementation of these specific fauna requirements.
- Dogs will be restricted on-site during construction activities to encourage fauna movement outside construction hours. Dogs brought onto the premises for security must be controlled and contained.

5. Fauna Management Plan Specifications

5.1. Pre-Construction

Management Item	Responsibility	Timing	Reporting
5.1.1 Temporary Fencing			
Prior to the commencement of clearing activities, the applicant must fence the limits of vegetation clearing and install tree protection / fauna fencing. This fencing shall be inspected by the Environmental Coordinator. Fencing shall be in accordance with the specifications shown in the approved VMP and if modified by the WPMP. • Fencing shall be fauna friendly and erected to direct fauna towards vegetation associated with Flagstone Creek to the south and vegetation to the west. • Fencing shall be erected prior to the commencement of clearing activities and shall be removed in accordance with the WPMP to enable animals to safely move to refuge areas. • Within the tree protection zone, the following activities are not permitted: storage and mixing of materials, vehicle parking, liquid disposal, machinery repairs and/or refuelling, construction of site office or shed, combustion of any material, stockpiling of soil, rubble or debris, any filling or excavation including trenching, topsoil skimming and/or surface excavation, unless otherwise approved. • Only approved weed management, landscape and revegetation works are to occur beyond the temporary protection fencing. • Fencing shall be reinstated immediately if damaged or knocked down. • Fencing shall remain until the completion of all bulk earthworks and removed just prior to practical completion.	Site Supervisor	No more than two weeks prior to clearing works commencing on-site.	Inspected by Proponent, the Environmental Coordinator, or Site Supervisor.

Management Item	Responsibility	Timing	Reporting
5.1.2 Contractor Education and Awareness			
All site contractors and sub-contractors will be made aware of their responsibilities to protect native fauna. The Construction Contractor will be responsible for the commissioning of the PTRP. This FMP is provided as a working document to assist on-site management and protection of native animals. This FMP will generally form part of education and training in a broader Construction Environmental Management Plan but as a minimum will include: • A copy of this FMP kept on site (Site Office). • General education and awareness notification of contractors and sub-contractors involved in activities potentially impacting native animals as part of site induction – contractors must know the location of the FMP, key phone numbers including the nominated Fauna Spotter Catcher and DETSI, and who to report to if potential breaches of the FMP occur. • A list of relevant contact numbers as listed in Section 8 kept in a visible and accessible location in the site office.	Site Supervisor / Proponent.	Prior to the commencement of construction and as part of the site induction for new staff and sub-contractors.	Site Supervisor
5.1.3 Fauna Spotter and Catcher			
A DETSI endorsed Fauna Spotter Catcher shall inspect the site no more than two (2) weeks prior to clearing works commencing on-site and prepare a PTRP. The report must include a full list of fauna species encountered during the site survey, as well as the marking and identification of significant habitat trees. The report shall be sent to the Environmental Coordinator and Proponent prior to the pre-start meeting, for approval and inspection by the Environmental Coordinator. In addition, the DETSI endorsed Fauna Spotter Catcher must assess the site for: • The presence of native fauna and/or supporting habitat on-site. • Available habitat suitable for likely fauna species. • The presence of any fauna that is 'protected wildlife' as defined under the *Nature Conservation Act 1992* (protected wildlife).	Site Supervisor / Proponent.	No more than two weeks prior to clearing works commencing on site.	Site Supervisor / Environmental Coordinator

Management Item	Responsibility	Timing	Reporting
• The presence of any species that is a 'listed threatened species' under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (listed threatened species). Section 6 details the documentation and actions to be taken if the assessment finds suitable habitat present adjacent to the site or protected/listed species present and/or if the relocation of fauna is required. The DETSI endorsed Fauna Spotter Catcher must be present during the pre-start meeting to identify all fauna habitat trees prior to the commencement of works to ensure wildlife is unharmed at the time of tree clearing operations Note. The DETSI endorsed Fauna Spotter Catcher is a person who holds a rehabilitation permit with an extended authority issued by the Department of Environment, Tourism, Science and Innovation specifying the holder may take, keep or use an animal whose habitat is about to be destroyed by a human activity.'			

5.2. Vegetation Clearing

Management Item	Responsibility	Timing	Reporting
5.2.1 Fauna Spotter Catcher			
For all vegetation clearing: • Immediately prior to the commencement of clearing of native vegetation a daily visual inspection of the area must be carried out. • In the event of a Koala being located, an area of 5 m radius should be established excluding machinery from the area until the animal has relocated (usually overnight). • If any used hollows or nests are identified from inspection by the Fauna Spotter Catcher, the hollows and nest must be removed by an experienced machinery operator and carefully lowered for inspection and fauna removal by the Fauna Spotter. • The relocating of fauna is only permitted where necessary as per the Rehabilitation Permit held by the Fauna Spotter. There is no approval to relocate fauna as part of operational works onsite, refer to Section 6 of this document for further details. • Any native fauna orphaned or injured by the development process must be immediately reported to the Queensland Parks and Wildlife Service (1300 130 372), DETSI, RSPCA and the Environmental Coordinator and Proponent. • The Site Supervisor is responsible for the safe management of site fauna and implementation of these specific requirements. • All personnel on-site must undertake all works in accordance with all direction/s given by the DETSI endorsed fauna spotter catcher. SPECIFIC KOALA MANAGEMENT NOTES A DETSI endorsed Koala Spotter is a person who holds a tertiary qualification in Biology or Zoology, or who is demonstrably experienced in the identification and location of Koalas in their natural habitat and has an authorisation from DETSI to conduct such activities. For example, demonstrably	DETSI endorsed Fauna Spotter Catcher.	Must be present for pre-start meeting, during clearing, construction and continue during the site clearing operations.	Proponent / Site Supervisor / Environmental Coordinator

Management Item	Responsibility	Timing	Reporting
experienced may include a Koala keeper employed by a licenced Wildlife exhibitor (i.e. a zoo) may be capable of demonstrating competence in location of Koalas.			
Clearing to be undertaken in accordance with the Nature Conservation (Koala) Conservation Plan 2017. If the proposed clearing is located within Koala district A or B and will result in the clearing of Koala habitat trees, the following sequential clearing conditions must be complied with: • Clearing of Koala habitat trees is carried out in a way that ensures Koalas occupying the area that is being cleared have enough time to move out the area being cleared without human intervention; and • If the area being cleared is more than 3 hectares: o The clearing must be carried out in stages; and o If the area being cleared is less than 6 hectares, no more than 50% of the area being cleared can be cleared in any one stage; and o If the area being cleared is more than 6 hectares, no more than 3 hectares or 3% of the area being cleared (whichever is the greater) can be cleared in any one stage; and o Between each stage and the next there is at least one period of 12 hours (starting at 6 pm on a day and ending at 6 am on the following day) during which no trees are cleared on the site; and • While the clearing is being undertaken, the clearing of Koala habitat trees must be carried out in a way that ensures appropriate habitat links are maintained within the area being cleared and the adjacent area to ensure any Koalas occupying the site can safely move off of the site; and • If a koala is in a tree, that tree is not to be cleared; and • If the crown of a tree overlaps with a tree that a Koala is in, that tree is not to be cleared. Prior to the commencement and during felling operations, it is the responsibility of the DETSI endorsed Fauna Spotter to:			

Management Item	Responsibility	Timing	Reporting
1. Be present at the site of felling operations; 2. Identify any tree at the site which a Koala is present, as well as any tree that has a crown which is intermeshed or overlapping with such tree; and 3. Advise the person who is authorised to conduct the felling operation, or that person's representative, of the precise location of each such tree.			
5.2.2 Direction of Clearing			
Vegetation clearing activities must be in accordance with the Direction of Clearing Plan (as also shown in the approved VMP or corrected by the WPMP) which directs clearing towards vegetation to be retained.	Site Supervisor / Earthworks Contractor / Sub Contractor.	As part of clearing earthworks operations.	Site Supervisor / Proponent / Environmental Coordinator
5.2.3 Monitoring of Clearing/Earthworks			
Works are to be monitored to ensure on-site success of Direction of Clearing Plan (as also shown in the approved VMP or corrected by the WPMP) and for immediate reporting of orphaned, injured, distressed, or killed native animals to DETSI, RSPCA, Environmental Coordinator and Proponent.	DETSI endorsed Fauna Spotter Catcher as employed by the Construction Contractor.	As part of clearing/ earthworks operations.	Site Supervisor / Proponent/ Environmental Coordinator
5.2.4 Timing of Clearing			
No machinery use for vegetation clearing or damage of any kind shall occur on-site between 6 pm and 6 am.	Site Supervisor / Earthworks Contractor / Sub Contractor.	As part of clearing earthworks operations.	Site Supervisor / Proponent / Environmental Coordinator
5.2.4 Relocation / Translocation			

Management Item	Responsibility	Timing	Reporting
Where works will result in unacceptable risks to health and safety of fauna, a range of measures may be used by the endorsed Fauna Spotted Catcher to minimise risks, including the temporary removal of animals from the site with the aim or returning animals back to habitat on site at the completion of risk associated works or to suitable habitat adjacent to the site. Appropriate measures are to be determined by the approved Fauna Spotter Catcher. Note: Appropriate wildlife-proof barriers must be used between adjacent habitat and risk associated structures (i.e. roads) where translocation occurs.	DETSI endorsed Fauna Spotter Catcher as employed by the Construction Contractor.	As part of clearing/ earthworks operations.	Site Supervisor / Proponent/ Environmental Coordinator / EDQ

5.3. Excavation, Earthworks and Access

Management Item	Responsibility	Timing	Reporting
5.3.1 Minimise Entrapment			
Trenches, manholes, excavation for footings, etc. pose threats to native animal entrapment when left open and should be backfilled as soon as possible. In some locations barriers may be required overnight to eliminate the accidental capture of animals moving through the site.	Site Supervisor / Earthworks Contractor / Sub Contractor.	As part of site earthworks.	Site Supervisor / Proponent / Environmental Coordinator
When trenches are not backfilled, they are to be inspected at the commencement of each day for trapped or injured wildlife. Note: If during the inspection injured wildlife or entrapped native fauna is observed the Site Supervisor is to contact the Fauna Spotter Catcher immediately.	Site Supervisor	On-going	Site Supervisor / Proponent / Environmental Coordinator
5.3.2 Regular and Defined Access			
To minimise impacts and conflicts between native animals, vehicular movement and access during construction and site access should be controlled via minimal entry and exit points.	Site Supervisor	On-going	Site Supervisor / Proponent / Environmental Coordinator / EDQ.
5.3.3 Stockpile and Rubbish Locations			
Stockpiled vegetation, topsoil and other materials can quickly become temporary habitat for animals displaced during the actual clearing and earthworks. Rubbish, waste and litter provides opportunistic food source for native and exotic animals alike and often encourages predatory and feral species. Locations for stockpiles, designated rubbish points etc. should occur in cleared sections of the site, away from retained areas, limiting interaction between these areas and core retention areas.	Site Supervisor	On-going	Site Supervisor / Proponent / Environmental Coordinator

5.4. Nest Box / Hollow Maintenance and Monitoring

Management Item	Responsibility	Timing	Reporting
5.4.1 Installation			
As part of the VMP and pre-clearance reporting, the Environmental Coordinator will determine the number of lost habitat values (hollows) that will require replacement. A schedule of hollows recorded from felled trees focusing on those that are over 400 mm DBH will be compiled by the appointed Fauna Spotter during clearing. The specific location of nest boxes to be in installed in retained vegetation bordering along the waterways and will be directed in the Rehabilitation Management Plan. The Nest Box Management Plan will require that all nest box locations are to be GPS recorded and coordinates provided to the Environmental Coordinator, Proponent and EDQ.	Environmental Coordinator / Site Supervisor	As per the approval conditions and Nest Box Offset Strategy	Site Supervisor / Proponent / Environmental Coordinator / EDQ
5.4.2 Maintenance and Monitoring			
Nest boxes are to be monitored and maintained for 12 months. Maintenance activities include, but are not limited to, the following: • The replacement of failed or damaged next boxes • The removal of invasive species • The removal of invasive species will be determined by the engaged DETSI endorsed Fauna Spotter Catcher or suitably qualified person.	Nest Box Contractor	12 months	Site Supervisor / Proponent / Environmental Coordinator / EDQ
5.4.3 Reporting Schedule and Pro forma			
A reporting schedule and pro forma must be completed to report all nest box maintenance and monitoring activities throughout the construction period of the development. A copy of the reporting schedule and pro forma must be provided to the Environmental Coordinator and Proponent.	Nest Box Contractor	Throughout the construction period of the development.	Site Supervisor / Proponent / Environmental Coordinator / EDQ

5.5. Non-compliance, Monitoring and Reporting

Management Item	Responsibility	Timing	Reporting
5.5.1 Non-Compliance			
Despite the provisions in this FMP, in the unlikely event of a non-compliance or breach, where a contractor or sub-contractor witnesses or is involved in activities that do not comply with this FMP the following procedure shall be followed: • All breaches of the FMP must immediately be reported to the Proponent. • If possible, prior approval / or communication on the breach should be discussed with the Environmental Coordinator. The Environmental Coordinator is responsible for establishing additional management procedures or determining if EDQ notification should be made. • Non-compliance activities should be halted immediately, and impacts rectified (fencing reinstalled, stock piling relocated, etc.). • Site staff should notify the site supervisor who is responsible for either rectifying actions or contacting the Environmental Coordinator. • All major breaches which fundamentally do not achieve the overall outcomes of the FMP and result in lost habitat or distress to native animals must be reported to the Environmental Coordinator, Proponent and applicable regulatory authorities.	Site Supervisor	On-going	Site Supervisor / Proponent / Environmental Coordinator / EDQ
5.5.2 Monitoring and Reporting			
The site shall be monitored at all times. This should include: • Daily inspections by the Site Supervisor. • Weekly/fortnightly inspections by the Environmental Coordinator. • Random and periodical inspections by the Proponent. The Fauna Spotter Catcher employed during pre-construction and on-site works shall provide a Post-clearing Report, to be given to the Environmental Coordinator, Proponent and Environmental Coordinator no more than two (2) weeks after clearing has finished, specifying the following:	All Site Staff	On-going	EDQ / Environmental Coordinator / Proponent

Management Item	Responsibility	Timing	Reporting
• Length and time of clearing; • Details of any fauna that were caught and/or released and the placement of any release/s; • Inventory of species encountered during tree removal; • Brief summary of any fauna handling, mortalities or other relevant fauna related incidents that may have occurring during tree removal; and The Fauna Spotter Catcher Post-clearing Report is to be submitted to the Environmental Coordinator, Proponent and EDQ following the completion of tree clearing activities and prior to commencement of the use of the premises.			
5.5.3 Orphaned or Injured Fauna			
All native animal fatalities must be reported immediately to the Environmental Coordinator, the Proponent and DETSI. Where any site staff (contractors or sub-contractors) witnesses or locates distressed, injured or orphaned animals they should immediately contact the Environmental Coordinator, Proponent and DETSI. Works within the area of the animal must cease until further instruction is provided by one of the above authorities. Refer to Section 8 for a list of key contacts.	All Site Staff	On-going	EDQ / DETSI / Environmental Coordinator / Proponent

Refer to Section 8 for the contact details of responsible entities. The Environmental Coordinator's role has been to prepare this FMP and liaise with EDQ, Frasers Property New Beith Pty Ltd and the approved Fauna Spotter Catcher (to be appointed) and the Construction Contractor (to be appointed) to achieve the outcomes of this plan.

6. Fauna Spotter Catcher Assessment

The Fauna Spotter Catcher assessment as part of the pre-clearing surveys and PTRP may reveal suitable fauna habitat adjacent on land within the Flinders-Karawatha Bioregional Corridor for protected/listed species present on the site and/or the requirement for relocation of fauna. The following table details the actions to be taken in these events.

Fauna Spotter Catcher required – suitable habitat present adjacent to the precinct	If the engaged Fauna Spotter Catcher's assessment determines that no protected wildlife or listed species are present but such threatened fauna may be present within suitable habitat existing adjacent to the site, the following must be included in the PTRP: • Fauna Spotter Catcher credentials and for handling of anticipated protected species • A list of anticipated species; and • A Wildlife Protection Management Plan (WPMP) and Wildlife Habitat Impact Mitigation Plan (WHIMP) • A Species Management Program (if required) NB: The broader project has been approved under the EPBC Act. Despite no records for the species, at present the following species is considered by the Commonwealth Department of Climate Change, Energy, the Environment and Water to potentially have breeding habitat present on site that may be impacted: • Greater Glider (*Petauroides volans*) Although these species have not been recorded on site and are not under assessment Federally, there remains some risk that breeding habitat for these species may be present on site and may be impacted: • Powerful Owl (*Ninox strenua*) • Yellow-bellied Glider (*Petaurus australis*) A Low-Risk and High-risk Species Management Program have obtained for the broader project site (refer **Appendix E**).
Fauna Spotter Catcher required – protected / listed species present and/or relocation of fauna required	If the Fauna Spotter Catcher's Assessment determines that any protected wildlife or listed species are present, and/or threatened fauna are to be systematically relocated, a Fauna Translocation Management Plan (FTMP) must be prepared in accordance with the PTRP. The FTMP must be submitted to DETSI for endorsement. The following must then by submitted to EDQ with a development application for operational works (vegetation clearing): • Fauna Spotter Catcher credentials and for handling of anticipated protected species • A list of anticipated species; and • DETSI endorsement of the proposed FTMP; and • A copy of the DETSI endorsed FTMP.

7. Koala Habitat

The site is identified as containing State mapped Koala Habitat Area – core and is adjacent to areas mapped as Koala Habitat Areas – core and mapped Koala habitat under State Planning Policy. The mapped KHA onsite will be retained within the watercourse ecological features. The following should be complied with as part of this FMP to ensure safe removal should any Koalas be encountered on site:

- During construction phases measures are taken in construction practices to not increase the risk of death or injuries to Koalas as specified within this FMP.
- Native vegetation clearing is undertaken as sequential clearing under the guidance of a Koala spotter where the native vegetation is a non-juvenile Koala habitat tree.
- Landscape activities provide food, shelter, and movement opportunities for Koala consistent with the site design.

8. Site Contacts

Role	Contact Details
Proponent	Belinda Ryan Frasers Property New Beith Pty Ltd Ph. (07) 3249 7400
Site Supervisor	*To be appointed.*
Environmental Coordinator	Andrew Davies Saunders Havill Group Ph. (07) 3251 9444
Administering Authority	Brandon Bouda Economic Development Queensland Ph. (07) 3452 7422
Council	Adam Avalos Logan City Council Ph. (07) 3412 4874
Construction Contractor	*To be appointed.*
Fauna Spotter and Catcher	*To be appointed.*
Veterinarian (in closest proximity to application site)	Jimboomba Veterinary Surgery 10 Euphemia St, Jimboomba QLD 4280 Mon-Fri: 8:00am – 6:30pm, Sat: 8:00am – 5:00pm, Sun: 9:00am–4:00pm Ph. (07) 5546 9079 / 1800 217 794
Department of Environmental and Heritage Protection	For wildlife incidents and licensing and permits: Ph. 1300 130 372
RSPCA Queensland	For reporting injured, sick or orphaned wildlife: Ph. 1300 ANIMAL (1300 264 625)

9. Appendices

Appendix A
Protected Matters Search Tool - Environment Protection and Biodiversity Conservation Act 1999

Appendix B
EPBC Act Framework

Appendix C
Wildlife Online Search - Nature Conservation Act 1992

Appendix D
Likelihood Assessment

Appendix E
Species Management Programs

Appendix A

Protected Matters Search Tool

Environment Protection and Biodiversity Conservation Act 1999

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: 20-May-2024

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:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	8
Listed Threatened Species:	54
Listed Migratory Species:	15

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:	None
Commonwealth Heritage Places:	None
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:	2
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	27
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [Resource Information]

Ramsar Site Name	Proximity	Buffer Status
Moreton bay	20 - 30km upstream from Ramsar site	In feature area

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
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 likely to occur within area	In buffer area only
Grey box-grey gum wet forest of subtropical eastern Australia	Endangered	Community likely to occur within area	In feature area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area	In feature area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area	In feature area
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	Critically Endangered	Community likely to occur within area	In buffer area only
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may 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
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Geophaps scripta scripta](#) Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area
[Grantiella picta](#) Painted Honeyeater [470]	Vulnerable	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
[Lathamus discolor](#) Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
[Stagonopleura guttata](#) Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
[Turnix melanogaster](#) Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
FISH			
[Maccullochella mariensis](#) Mary River Cod [83806]	Endangered	Translocated population known to occur within area	In buffer area only
INSECT			
[Argynnis hyperbius inconstans](#) Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area	In feature area
MAMMAL			
[Chalinolobus dwyeri](#) Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
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
Macroderma gigas			
Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely 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 buffer area only
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
Potorous tridactylus tridactylus			
Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pseudomys novaehollandiae			
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
Arthraxon hispidus			
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Bosistoa transversa			
Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Coleus habrophyllus listed as Plectranthus habrophyllus [91378]	Endangered	Species or species habitat known to occur within area	In feature area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis tomentella Boonah Tuckeroo [3322]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fontainea venosa [24040]	Vulnerable	Species or species habitat may occur within area	In feature area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area	In feature area
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Notelaea x ipsviciensis listed as Notelaea ipsviciensis Cooneana Olive [93460]	Critically Endangered	Species or species habitat may occur within area	In feature area
Picris evae Hawkweed [10839]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Planchonella eerwah			
Shiny-leaved Condoo, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat likely to occur within area	In feature area
Rhaponticum australe			
Austral Cornflower, Native Thistle [22647]	Vulnerable	Species or species habitat may occur within area	In feature area
Rhodamnia rubescens			
Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rhodomyrtus psidioides			
Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In feature area
Samadera bidwillii			
Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Thesium australe			
Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
REPTILE			
Coeranoscincus reticulatus			
Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Delma torquata			
Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
Furina dunmalli			
Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area
Hemiaspis damelii			
Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[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
[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 may 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 likely to occur within area	In feature area
[Symposiachrus trivirgatus as Monarcha trivirgatus](#) Spectacled Monarch [83946]		Species or species habitat likely to occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris melanotos](#)			
Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
[Charadrius leschenaultii](#)			
Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
[Gallinago hardwickii](#)			
Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Tringa nebularia](#)			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
[Actitis hypoleucos](#)			
Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
[Anseranas semipalmata](#)			
Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area
[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]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	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 likely to occur within area overfly marine area	In feature area
[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 may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely 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 likely to occur within area overfly marine area	In feature area
Sterna striata White-fronted Tern [799]		Migration route may occur within area	In buffer area only
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	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
A and T Koala Billabong	Nature Refuge	QLD	In buffer area only
Koolena	Nature Refuge	QLD	In buffer area only

EPBC Act Referrals [Resource Information]				
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
DT0018 Matt Court Wastewater Conveyance	2023/09529		Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Industrial Development	2023/09607		Assessment	In buffer area only
Kagaru to Acacia Ridge and Bromelton Inland Rail Project	2021/8927		Completed	In feature area
New Beith Road Upgrade	2023/09505		Assessment	In buffer area only
Proposed Industrial Development at North Maclean	2022/09304		Approval	In buffer area only
Controlled action				
130 Tully Road New Beith Residential Development v2	2021/8904	Controlled Action	Assessment Approach	In buffer area only
Bushman Drive Residential Development, Jimboomba, Qld	2018/8376	Controlled Action	Further Information Request	In buffer area only
Casino Ipswich Pipeline	2007/3877	Controlled Action	Completed	In buffer area only
Cedar Grove Connector Pipeline	2011/6013	Controlled Action	Completed	In buffer area only
Crowson Lane Road Upgrade	2021/9084	Controlled Action	Assessment Approach	In buffer area only
Flagstone West Urban Development Project, QLD	2014/7206	Controlled Action	Post-Approval	In feature area
Greater Flagstone master planned residential development, Undullah, Qld	2015/7530	Controlled Action	Post-Approval	In buffer area only
Mirvac Greater Flagstone Project - Master Planned Development, Greenbank, Qld	2016/7817	Controlled Action	Post-Approval	In buffer area only
Residential Development, Lot 4 RP45728, New Beith, Qld	2019/8398	Controlled Action	Further Information Request	In feature area
Residential development, Teviot Road, north Beaudesert, Qld	2016/7724	Controlled Action	Post-Approval	In buffer area only
Residential Development (Lot30, SP309195) Mountain Ridge Rd, South Maclean, Qld	2019/8408	Controlled Action	Post-Approval	In buffer area only
Southern Regional Water Pipeline	2006/2593	Controlled Action	Post-Approval	In buffer area only
Tarnbrae Greater Flagstone Residential Development, New Beith, QLD	2019/8412	Controlled Action	Further Information Request	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Teviot Downs Residential Estate, Greenbank	2011/6106	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Construction and upgrade of approximately 7km of external road corridor, Flagstone, Qld	2014/7319	Not Controlled Action	Completed	In buffer area only
Flagstone Central to Cedar Grove WWTP Conveyance Pipeline	2018/8190	Not Controlled Action	Completed	In buffer area only
Greenbank to Flagstone Central Conveyance Pipeline Project, Qld	2018/8344	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
South West Pipeline and Wyaralong Tanks Project, Qld	2018/8320	Not Controlled Action	Completed	In buffer area only
Spring Mountain Park rural residential estate, stages 15-18, Greenbank/New Beith, Qld	2013/7030	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Construction & Operation 275/330kV Transmission Line	2006/2820	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Referral decision				
130 Tully Road, New Beith, Residential Development	2020/8848	Referral Decision	Referral Publication	In buffer area only

Bioregional Assessments			[Resource Information]
SubRegion	BioRegion	Website	Buffer Status
Clarence-Moreton	Clarence-Moreton	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 B

EPBC Act Framework

Construction

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation	Timeline	Risk Assessment	Milestone	Residual Impact
Loss of habitat	Impacts have been avoided and minimised through the development design, incorporating open space and conservation areas within areas identified as providing greater environmental values (i.e. Round Mountain, Flagstone Creek and biodiversity corridors within the GFPDA Development Scheme).	Ecological surveys and habitat assessments conducted across the referral area led to the precise spatial analysis of vegetation and habitat qualities.	59.7 ha of vegetation, comprising of Round Mountain, Greater Flagstone Creek and a central corridor connecting these areas, will be retained as habitat and biodiversity corridors. A further 39.6 ha of the referral area will be used for open space (excluding local parks and district sports park), ensuring this vegetation will remain accessible for species habitation.	Works complete	The field survey applied has accurately mapped environmental values and features. The site is not considered to contain significant MNES values.	Mitigation measures (FMP) effectively applied.	**Loss of habitat**
Risk of injury or mortality to MNES	All clearing will be undertaken in accordance with mitigation measures outlined. These will include: • Provisions for the proponent to engage a qualified Fauna Spotter Catcher to participate in all stages of vegetation clearing. The Fauna Spotter Catcher will be required to adopt elements of the Draft Code of Practice endorsed by the Australia Zoo Wildlife Warriors and Voiceless (The Draft Code). The role of the Fauna Spotter Catcher is to ensure that no injury or deaths occur to Koalas or other fauna species. • Vegetation will be cleared sequentially. Clearing will be conducted so that fauna are flushed into safe, vegetated areas	The use of a Fauna Spotter Catcher throughout clearing is an effective tool to: 1. Identify the types of species within the referral area prior to clearing; and 2. Identify and flag habitat features that require thorough examination before clearing. Fauna Spotter Catchers have a primary role to ensure no fauna are in vegetation before it is cleared. Given the size of Koalas and their utilisation of tree branches, they can quite easily be observed from the ground. As such, it is extremely unlikely that a Koala will be killed or injured during vegetation clearing, particularly given the onerous and thorough procedures set out The Draft Code.	Fauna Spotter	Present at all times during clearing works	Fauna Spotter not present and Fauna injured or killed	Mitigation of injury or death to listed Fauna during clearing	The use of a Fauna Spotter is mandated **No residual impact**
			Sequential Clearing	At all times during clearing	Sequential clearing not undertaken and fragmentation induced	Clearing completed as per sequential clearing	Sequential clearing is mandated and guided by VC&MPS, pre-clearance checklists and pre-starts **No residual impact**
			Temporary fauna fencing	At all times during clearing	Temporary fencing not applied and Koala are injured or killed	Temporary fencing utilised at all times during the clearing process	Temporary fauna fencing is mandated and guided by FMPs and pre-clearance checklists and pre-starts **No residual impact**
			Restricted construction hours	At all times during construction	Works outside of hours	Works area completed within mandated hours	**No residual impact**

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation	Timeline	Risk Assessment	Milestone	Residual Impact
	and it will avoid pushing fauna into fragmented areas. • Temporary fauna friendly fencing will allow fauna to safely disperse into vegetated areas away from construction, • Temporary fauna exclusion fencing will then be erected to prevent fauna dispersing into construction areas. • Restricted construction hours (i.e. daylight 6am -6pm) • Prohibition of companion /security animals (e.g. dogs). • Restricted vehicle speeds (e.g. max 40km) within construction areas. In addition to this, all construction personnel shall attend environmental training as part of the referral area induction process prior to entering the work site. As part of this training all personnel will be instructed on their obligations in regard to vehicle movement and construction speed limits.	Given Grey-headed Flying-foxes are nocturnal, there is minimal risk of mortality from vehicle collision. Restricted operation hours (i.e. daylight hours) is considered an effective mitigation measure to minimise this risk. The sequential clearing of vegetation will allow for the gradual loss of vegetation, giving fauna time to naturally disperse away from the disturbance. The use of fauna exclusion fencing around construction areas will ensure fauna do not disperse into unsafe, hostile areas, again minimising the risk of injury of death. Each of these measures will ensure that the risk of injury or death to MNES as a result of construction are avoided and mitigated.	Dog prohibitions Low vehicle speeds Site inductions	At all times during construction At all times during construction At all times during construction	No companion and security dogs within the referral area Speeds are exceeded resulting in fauna strike Induction avoided	Construction completed without dogs within the referral area Construction completed without vehicle strike Construction completed without inductions being breached	Dog controls are mandated and guided by the FMPs. **No residual impact** Speed limits are mandated and guided by the FMPs. **No residual impact** Inductions are mandatory. **No residual impact**
Fragmentation of habitat critical for the survival of MNES during construction	Vegetation clearing has the risk of fragmenting habitat areas during the construction phase. To avoid this impact, vegetation will be undertaken sequentially to allow fauna to disperse from construction areas.	Habitat isolation and fragmentation is a primary concern due to its impacts on fauna. The listed fauna are able to disperse through a variety of environs, including bushland and cleared areas.	Fauna not fragmented from adjoining habitat during clearing	Fauna are not fragmented from habitat during clearing. Sequential clearing is undertaken at all times during clearing. At all times during construction	Fauna are fragmented by clearing	Clearing completed without fauna being fragmented	Sequential clearing is mandated and guided by VC&MPs, FMPs, pre-clearance checklists and pre-starts **No residual impact**

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation	Timeline	Risk Assessment	Milestone	Residual Impact
	Clearing procedures that avoid the fragmentation of vegetation will be adopted within the FMPs and informed by the Fauna Spotter Cather reports. Clearing will be undertaken in a way that flushes fauna into the vegetation retention zone and/or connected areas of habitat and will avoid flushing fauna into fragmented or hostile areas. Specifically: • Fauna are not required to cross roads or move through developed or disturbed areas, such as residential areas of areas that require movement greater than 100m over cleared ground to reach suitable habitat; • Fauna are not left occupying an 'island' of habitat between hostile environments, such as road and cleared areas; • Fauna can safely leave the referral area of clearing and relocate to adjacent habitat; • Demarcation fencing will be fauna friendly to ensure fauna are not trapped within the proposed cleared extent; and • Cleared vegetation is to be stockpiled as to not impede fauna movement. Additionally, proposed construction roads will be subject to design	The direction of clearing of vegetation in accordance with the VC&MP and FMPs will ensure that clearing does not create fragmented habitat islands that could trap fauna. Rather, procedures will be in place to ensure clearing flushes fauna away from construction areas into the vegetation retention zone and/or surrounding habitat areas that are connected to the wider landscape.	Temporary fauna fencing	At all times during clearing	Temporary fences are not applied	Temporary fencing utilised at all times during construction	Temporary fauna fencing is mandated and guided by VC&MPs, FMPs, pre-clearance checklists and pre-starts. **No residual impact**
			Stockpiling of cleared vegetation ensures safe fauna movement	At all times during construction	Stockpiling creates a barrier to fauna	Stockpiling is undertaken as guided by VC&MP and FMP	Safe stockpiling is mandated and guided by VC&MPs, FMPs, pre-clearance checklists and pre-starts **No residual impact**
			Safe fauna dispersal locations during construction	At all times during construction	Fauna strike occurs	No fauna strikes during construction	Fauna go slow and fencing measures are applied as per the VC&MPs, FMPs, pre-clearance checklists and pre-starts **No residual impact**
			Low vehicle speeds	At all times during construction	Speed limits are breached resulting in fauna strike	No speed limit breaches during construction	Speed limits are mandated and guided by FMPs, pre-clearance checklists and pre-starts **No residual impact**

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation	Timeline	Risk Assessment	Milestone	Residual Impact
	treatments to ensure safe fauna crossing opportunities are maintained to vegetated areas and impose low vehicle speeds within construction areas.						
Disturbance to retained and surrounding habitat critical to the survival of MNES	The VC&MP and FMP will include controls to avoid, minimise and mitigate risk of disturbance to retained and surrounding habitat critical to the survival of the listed species during construction, specifically: <u>Light and noise disturbance</u> Construction of the project will result in increased noise and light disturbance. These impacts may disturb fauna and disrupt foraging, reproduction or movement behaviours. Restricted construction hours (e.g. 6am-6pm) will limit disruption from light and noise impacts, as well as allow a 12 hour period for fauna to disperse and forage.	Construction management and clearing controls implemented by the SBMP are considered to be able to effectively avoid, minimise and mitigate risk of disturbance to listed species activities during construction, and allow for adaptive management where required. Limiting hours of construction and clearing to daylight hours, allows a 12 hour period for safe dispersal. With appropriate monitoring, pre, during and post construction by the Fauna Spotter Catcher, no residual impacts area expected to occur.	Minimise light and noise disturbance	At all times during construction	Light and noise impacts on fauna	Light and noise disturbance is limited to daylight hours	Light and noise restrictions mandate works between 6am and 6pm in the SBMP. **No residual impact**
	<u>Contamination, weeds and pathogens</u> Construction activities increase the risk of weeds, pathogens and contamination into the referral area. To manage these impacts, a Weed and Pathogen Management Plan will be prepared to identify potential weed species, and include appropriate controls for weed and		The risk of contamination and exacerbating weeds and pathogens is minimised	At all times during construction	Contamination, weed and pathogen incursion	Contamination and weed and pathogen incursions do not occur	The VC&MP and FMP will mitigate the risk of contamination and weed and pathogen incursion **No residual impact**

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation	Timeline	Risk Assessment	Milestone	Residual Impact
	pathogen management, disposal and monitoring. Weeds will be actively managed within the construction footprint and disposed of appropriately.. No companion animals (e.g. dogs) will be allowed within construction areas.						
	<u>Vehicle disturbance</u> Reduced vehicle speeds will be implemented throughout the construction area to minimise vehicle disturbances. Further, proposed construction roads will be subject to design treatments to ensure safe fauna crossing opportunities are maintained to vegetated areas and impose low vehicle speeds within construction areas.		Vehicle disturbance minimised- reduce number of access tracks and/or haul roads	At all times during construction	Fauna disturbance, Injury or mortality from vehicles	Fauna disturbance, Injury or mortality from vehicles is mitigated	The VC&MP, FMP, pre-start checklist and pre-start meeting will mitigate the risk of vehicle disturbance **No residual impact**
	<u>Barriers to dispersal</u> Vegetation will be cleared sequentially. Clearing will be conducted so that fauna are flushed into safe, vegetated areas and it will avoid pushing fauna into fragmented areas.		Barriers to dispersal are not created	At all times during construction	Vegetation clearing and stockpiling creates a barrier to fauna	Vegetation clearing and stockpiling is undertaken as guided by VC&MP and FMP	The VC&MP, FMP, pre-start checklists and pre-start meeting will mitigate the risk of dispersal barriers **No residual impact**
	Temporary fauna friendly fencing will allow fauna to safely disperse into vegetated areas while clearing. Temporary fauna exclusion fencing will then be erected to prevent fauna dispersing into construction areas.		Temporary fauna fencing	At all times during construction	Temporary fences are not applied	Temporary fencing utilised at all times during construction	The VC&MP, FMP, pre-start checklists and pre-starts will guide temporary fencing **No residual impact**
	<u>Contractor management</u>		Inductions and training	At all times during construction	Inductions avoided	All inductions are completed and records maintained	Site Inductions are mandatory **No residual impact**

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation	Timeline	Risk Assessment	Milestone	Residual Impact
	All construction personnel shall attend environmental training as part of the referral area induction process prior to entering the work site. As part of this training, all personnel will be instructed on their obligations in regard to vegetation clearing protocols and to protect native fauna. Additional controls for listed species will be presented in a toolbox talk.		Adaptive management	At all times during construction	Adaptive management not applied	Adaptive management utilised if required	The VC&MP and FMP will include adaptive management strategies to avoid recurrence of adverse incidents should they occur **No residual impact**

Operation

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation	Timeline	Risk Assessment	Milestone	Residual Impact
Risk of injury or death to MNES from vehicle strike	A number of measures will be imposed to avoid and mitigate the risk of listed fauna being hit by vehicles. These measures include: • Imposition of low vehicle speeds to reduce the risk of collisions. Vehicle speed limits are restricted to 50km/h on built up residential roads. • Installation of traffic calming devices, fauna movement solutions and wildlife crossing awareness signage where roads cross waterways and corridors. • Erection of listed fauna awareness signage in parks to raise awareness of the species' presence in the area.	The purpose of these avoidance and mitigation measures is to minimise the risk of injury or death to listed species from vehicle strike. Importantly, low vehicle speeds will be imposed along residential roads, minimising the risk of high-speed vehicle strikes which were identified in the literature review as accounting for a large proportion of vehicle related deaths. In addition, awareness signage will ensure motorists are aware that listed species have the potential to occur in the area, making them more conscious of potentially dispersing fauna and encouraging them to maintain a low vehicle speed. The purpose of these measures is to enable the objective of no injury or death to listed species as a result of vehicle strike. No residual impacts can be identified.	Reduce roads that bisect ecological corridors.	On Completion of construction	The number of roads bisecting corridors is limited to two (2)	Fauna deaths from vehicle strike mitigated	**No residual impact**
			Delivery of development prior to adjoining properties to the north and west, allowing dispersal to Flinders-Karawatha Corridor.	Prior to commencement of future development within properties to the north and west.	Development postponed	No listed fauna isolated within an urban area	**No residual impact**
			Provide safe fauna passage through fauna crossings and exclusion fencing.	On construction of roads	Safe passage and fencing not erected	Fauna deaths from vehicle strike mitigated	**No residual impact**
			Low vehicle speeds	On construction of roads	Vehicles speeding	Fauna deaths from vehicle strike mitigated	Vehicle speeds and slow points will be signed and enforced as for public roads **No residual impact**
			Awareness signage	On-maintenance	Signs not installed	Signs installed	Awareness signage to be installed where necessary throughout operation. **No residual impact**
Risk of injury or death from dog attack	This risk already exists with the presence of feral predators within the referral area. As such, the proposed action is considered unlikely to exacerbate this impact. Domestic dogs are to be controlled on a lead or in fenced yards within the completed estate. Fenced "off-leash" areas / dog facilities will be constructed within parks in the estate, to provide balance with strictly "dog on leash" areas.	Feral predators already occur within the local area, and are known to occur on the referral area. The project will result in an increase in dog ownership numbers in the area. As such, the education of residents has been identified as a key management tool in reducing the risk or injury of dog attacks on listed fauna.	Dog restrictions	At delivery of open space areas and dog oof-lease facilities	Dogs are not managed	Dog signage and off-leash parks are delivered. Council controls on dog ownership imposed.	Dogs will be managed to Council specifications and prohibited off-leash unless otherwise signed **No residual impact**
Creation of barriers to dispersal/ Fragmentation of Habitat	The referral area is by existing development and properties earmarked for future development. Additionally, the referral area is bound by the Brisbane-Sydney Interstate Railway to the east.	The development of residential areas across the estate will create barriers to movement in the form of houses, roads, fences and other infrastructure. As noted, the estate will	Retention and rehabilitation of Biodiversity Corridors	At construction	Construction mitigation measures (i.e. fauna spotter catcher, sequential	No clearing within the vegetation retention zones.	**No residual impact**

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation	Timeline	Risk Assessment	Milestone	Residual Impact
	To ensure no native faun are isolated within the referral area, the proposed action includes the retention of vegetation for biodiversity corridors in accordance with the GFPDA Development Scheme. Further, the proposed action should be developed prior to neighbouring properties to the north and west to allow dispersal and refuge within the Flinders-Karawatha Corridor. Highly mobile fauna (e.g. Grey-headed Flying-fox) are not considered to be impacted by the creation of physical barriers created through the development of the referral area. <u>Resident awareness</u> • Wildlife awareness signage	be largely void of native fauna as surrounding approved urban development continues and commences.			clearing) not implemented. Clearing into vegetation retention zone occurs.		
Disturbance to retained and surrounding habitat critical to the survival of MNES during operation	<u>Light and noise disturbance</u> Operation of the project will result in increased noise and light disturbance. These impacts may disturb fauna and disrupt foraging, reproduction or movement behaviours. Directional lighting limit disruption from light and noise impacts will be mitigated by the setting aside of conservation areas. Those species not functionally lost are typically tolerant of urbanised environments when foraging.	Directional lighting is an effective tool to minimise potential adverse impacts form light spillage. Public access to Council controlled open space areas is anticipated to be designated for daylight hours.	Minimise light and noise disturbance	At all times during operation design and implementation	Light and noise impacts on fauna	Light and noise disturbance is limited	Light is directional in open space areas and noise restrictions mandate no access to conservation areas outside of daylight hours. **No residual impact**
	<u>Contamination, weeds and pathogens</u> Operation activities increase the risk of weeds, pathogens and contamination into the referral area. To manage these impacts, a Weed and Pathogen Management Plan will be prepared to identify potential weed species, and include appropriate controls for weed and pathogen management, disposal and monitoring. Weeds will be actively managed within the site and disposed of appropriately prior to handover to Council for ongoing management.	Landscaping controls implementing only native species are anticipated under EDQ approval. All opens pace areas will be conditioned to be free of weeds and rehabilitated prior to handover to Council.	The risk of contamination and exacerbating weeds and pathogens is minimised	At all times during operation	Contamination, weed and pathogen incursion	Contamination and weed and pathogen incursions do not occur	Rehabilitation conditions for open space areas prior to handover to Council control will mitigate the risk of contamination and weed and pathogen incursion **No residual impact**
	<u>Vehicle disturbance</u> Reduced vehicle speeds will be implemented throughout the development to minimise vehicle disturbances. Further, roads will be subject to		Vehicle disturbance eradicated from open space areas under Council control.	At all times during operation	Fauna disturbance, Injury or mortality from vehicles	Fauna disturbance, Injury or mortality from vehicles mitigated	Council control and access limitations through bollards and fencing will

Impact	Avoidance and Mitigation Measures	Evaluation of the Effectiveness of Measures	Mitigation	Timeline	Risk Assessment	Milestone	Residual Impact
	design treatments to ensure safe fauna crossing opportunities are maintained to vegetated areas and impose low vehicle speeds within residential areas.						mitigate the risk of vehicle disturbance **No residual impact**
	<u>Barriers to dispersal</u> Fauna exclusion fencing and safe fauna passage will be employed to allow fauna to safely disperse through retention areas.		Barriers to dispersal are not created	At all times during operation	Fauna fencing and passage is not implemented	Fauna fencing and passage is conditioned and implemented	Fauna fencing and safe passage conditions will mitigate the risk of dispersal barriers **No residual impact**

Appendix C

Wildlife Online Search

Nature Conservation Act 1992

Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: Native
Queensland status: Rare and threatened species
Records: Confirmed
Date: Since 1980
Latitude: -27.7865
Longitude: 152.9533
Distance: 5
Email: deborahcargill@saundershavill.com
Date submitted: Monday 20 May 2024 11:42:46
Date extracted: Monday 20 May 2024 11:50:06

The number of records retrieved = 7

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Information about your Species lists request is logged for quality assurance, user support and product enhancement purposes only.
The information provided should be appropriately acknowledged as being derived from WildNet database when it is used. As the WildNet Program is still in a process of collating and vetting data, it is possible the information given is not complete. Go to the WildNet database webpage (https://www.qld.gov.au/environment/plants-animals/species-information/wildnet) to find out more about WildNet and where to access other WildNet information products approved for publication. Feedback about WildNet species lists should be emailed to wildlife.online@des.qld.gov.au.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Apodidae	*Hirundapus caudacutus*	white-throated needletail		V	V	1
animals	birds	Cacatuidae	*Calyptorhynchus lathami lathami*	glossy black-cockatoo (eastern)		V	V	1
animals	birds	Strigidae	*Ninox strenua*	powerful owl		V		2
animals	mammals	Petauridae	*Petaurus australis australis*	yellow-bellied glider (southern subspecies)		V	V	2
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		E	E	139
animals	mammals	Pseudocheiridae	*Petauroides volans volans*	southern greater glider		E	E	1/1
plants	land plants	Myrtaceae	*Melaleuca irbyana*			E		1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992.*
The codes are Extinct (EX), Extinct in the Wild (PE), Critically Endangered (CR), Endangered (E), Vulnerable (V), Near Threatened (NT), Special Least Concern (SL) and Least Concern (C).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999.*
The values of EPBC are Extinct (EX), Extinct in the Wild (XW), Critically Endangered (CE), Endangered (E), Vulnerable (V) and Conservation Dependent (CD).

Records - The first number indicates the total number of records of the taxon (wildlife records and species listings for selected areas).
This number is output as 99999 if it equals or exceeds this value. A second number located after a / indicates the number of specimen records for the taxon.
This number is output as 999 if it equals or exceeds this value.

Appendix D

Likelihood Assessment

HABITAT ASSESSMENT FOR LISTED EPBC SPECIES

Matters of National Environmental Significance

Birds

Scientific Name	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
Anthochaera phrygia	Regent Honeyeater	Critically Endangered	82338	Regent Honeyeaters mostly occur in dry Box-Ironbark Eucalypt woodland and dry sclerophyll forest associations in areas of low to moderate relief, wherein they prefer moister, more fertile sites. These areas are generally associated with creek flats and river valleys and foothills. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes. They are a generalist forager, which mainly feed on nectar from a wide range of eucalypts and mistletoes.	While the New Beith Site did feature woodlands associated with creek flats, the site is not dominated by box and ironbark eucalypts. Additionally, no proximal ALA or WildNet records were identified.	Low Risk
Calyptorhynchus lathami lathami	Glossy Black-cockatoo	Vulnerable	67036	This species prefers woodland areas dominated by she-oak Allocasuarina, or open sclerophyll forests and woodlands with a stratum of Allocasuarina beneath Eucalyptus, Corymbia or Angophora. Glossy black-cockatoos have also been observed in mixed Allocasaurina, Casuarina, cypress Callitris and brigalow *Acacia harpophylla* woodland assemblages. In SEQ west of the Great Dividing Range, they have been observed feeding in remnant belah Casuarina cristata and bulloak *Allocasuarina luehmannii* forests. This species is also known to utilise appropriate remnant woodlands, and individual or small pockets of Allocasuarina and Casuarina feed trees in urban areas.	*Allocasuarina* species were observed in areas of the New Beith Site. However, the species was not observed across the New Beith Site nor evidence of the species utlising the *Allocasuarina* species.	Low Risk
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	Endangered	59714	The Coxen's Fig Parrot occurs in rainforest habitats including lowland subtropical rainforest, dry rainforest, littoral and developing littoral rainforest, and vine forest. They may also occur in habitats including sub-littoral mixed scrub, riparian corridors in woodland, open woodland and across cleared land, and urbanised and agricultural areas with fig trees (*Ficus* spp.). Food is mainly taken from figs, however other species fruit have been recorded in their diet including *Elaeocarpus grandis, Syzygium corynanthum, Litsea reticulata* and *Grevillea robusta*.	Field surveys found potential foraging habitat to be absent. A lack of suitable food sources in the form of *Elaeocarpus grandis, Syzygium corynanthum, Litsea reticulata* and *Grevillea robusta* are not present on-site. The site also lacks specific feeding trees, *Ficus* spp. Much of the habitat onsite is *Eucalypt* woodland with cleared areas, not corresponding with subtropical or dry rainforests preferred by this species.	No Risk

Erythrotriorchis radiatus	Red Goshawk	Vulnerable	942	A wide ranging and highly mobile species generally observed over eucalypt habitats. This species prefers forest and woodland with a mosaic of vegetation types, large prey populations (birds) and permanent water. The vegetation types include eucalypt woodland, open forest, tall open forest, gallery rainforest, swamp sclerophyll forest and rainforest margins. Habitat has to be open enough for fast attack and manoeuvring in flight, but provide cover for ambushing of prey.	This species was not identified during field surveys despite diurnal searches, targeted surveys and opportunistic observations. This species appears within the Protected Matters Search Tool but not within the Wildlife Online search or Atlas of Living Australia search using a 5 km radius of the site. A search of the Wildlife Online data shows the closest known record of this species is located approximately 22.1 km north of the site. The site is dominated by non-remnant eucalypt woodland. However, this species prefers a mosaic of vegetation types, large prey populations and permanent water. Potential foraging habitat was identified within the remnant vegetation adjacent to the site. Although potential foraging habitat is available within the site, the lack of records within the local area, no evidence of permanent residence on site and very few areas containing permanent water, indicate that this species is unlikely to occur.	Low Risk
Falco hypoleucos	Grey Falcon	Vulnerable	64440	The Grey Falcon is a medium-sized, compact, pale falcon with a heavy, thick-set, deep-chested appearance. Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey. Preys primarily on birds, especially parrots and pigeons, using high-speed chases and stoops; reptiles and mammals are also taken. It utilises old nests of other birds of prey and ravens, usually living in a eucalypt near water or a watercourse. This species frequents timbered lowland plains, particularly acacia shrublands that are crossed by tree-lined water courses. The species has been observed hunting in treeless areas and	The vegetation on-site contains eucalypt woodland with some riverine vegetation communities. However, limited large trees were located across the subject site, especially *Eucalyptus camaldulensis* and *Eucalyptus coolabah*. This species was not identified within the site. Additionally, a review of Queensland Government WildNet and Atlas of Living Australia records for the species identified the closest	No Risk

				frequents tussock grassland and open woodland, especially in winter.	record is approximately 25 km north-east, identified at Beenleigh. Due to lack of local records and suitable habitat onsite species is considered unlikely to occur onsite.	
Gallinago hardwickii	Latham's Snipe	Vulnerable	863	Latham's Snipe occurs in permanent and ephemeral wetlands. They usually inhabit open, freshwater wetlands with low, dense vegetation.	No suitable habitat was observed within the assessment area.	No Risk
Geophaps scripta scripta	Squatter Pigeon (southern)	Vulnerable	64440	This species inhabits open grasslands and woodlands typically with a native understorey although may occur in artificial pasture.	Suitable habitat in the form of open grasslands and woodlands is not present on-site. In addition, the species is very rarely observed in southern Queensland, and thus this species is not expected to occur on-site.	No Risk
Grantiella picta	Painted Honeyeater	Vulnerable	470	This species inhabits mistletoes in eucalypt forests/woodlands, riparian woodlands of black box and river red gum, box-iron-bark-yellow gum woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens. The species prefers woodlands which contain a higher number of mature trees, as these host more mistletoes. It is more common in wider blocks of remnant woodland than in narrower strips.	Due to the lack of mistletoe observed on site, and lack of records within the local area and south east Queensland, it is highly unlikely that this species will occur. However, vegetation communities typical of this species preferred habitat is observed throughout the investigation area.	No Risk
Hirundapus caudacutus	White-throated Needletail	Vulnerable	682	The White-throated needle tail is almost exclusively aerial. This species has been recorded roosting in trees in forests and woodlands, both among dense foliage in the canopy or in hollows. The species breeds in wooded lowlands and sparsely vegetated hills, as well as mountains covered with coniferous forests. They are recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland.	The species is considered almost exclusively aerial and is known to occur over most habitat types. Targeted bird surveys were completed across the subject site and the species was not observed.	Low Risk

Lathamus discolour	Swift Parrot	Critically Endangered	744	Swift Parrots breed in Tasmania during spring to early summer. During autumn and winter the species migrates to the mainland where it follows a nomadic existence linked to the availability and timing of flowering of trees in various locations. While the species is very uncommon in south-east Queensland, its occurrence cannot be completely discounted.	This species was not identified within the site. Additionally, a review of Queensland Government WildNet and Atlas of Living Australia records for the species identified the closest record is 15.3 km north-east, identified at Chambers Flat. Field surveys identified two (2) preferred foraging species *Corymbia citriodora* (Spotted Gum) and *Eucalyptus tereticornis* (Forest Red Gum) within the site. A greater number of mature species were found within the Category B (remnant) vegetation mapped to the west of the site. There is potential that the Swift Parrot would utilise the vegetation within the site, however the site is not considered to contribute to important habitat for the species. Additionally, the significant foraging vegetation is provided within the surrounding landscape and in particular the Flinders Karawatha Corridor. Although two (2) preferred foraging species were identified within the site, there is a low potential that the Swift Parrot would utilise onsite vegetation, given the lack of nearby records and lack of onsite floristic diversity. Targeted bird surveys conducted in 2021 did not detect the species, therefore, the Swift Parrots are unlikely to rely on the subject site.	Low Risk

Rostratula australis	Australian Painted Snipe	Endangered	77037	The Australian Painted Snipe is usually found in shallow inland wetlands, either freshwater or brackish, that are either permanently or temporarily filled. The species has a scattered distribution throughout many parts of Australia, with a single record from Tasmania.	A waterbody is located within the subject site, however the species has not been recorded within 5 km of the subject site. The species is not considered to utilise the subject site.	No Risk
Stagonopleura guttata	Diamond Firetail	Vulnerable	59398	Diamond firetails occur in eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats, including farmland and grassland with scattered trees. They prefer areas with relatively low tree density, few large logs, and little litter cover but high grass cover. They feed predominantly at ground level, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects.	No sightings of the species have been recorded in site locality and field surveys confirmed that suitable foraging habitat was absent from the site.	No Risk
Tringa nebularia	Common Greenshank	Endangered	832	The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. The species is known to forage at the edges of wetlands in soft mud or mudflats.	No suitable habitat was observed throughout the assessment area.	No Risk
Turnix melanogaster	Black-breasted Button-quail	Vulnerable	923	Typical habitat occurs in dry rainforest and vegetation immediately adjacent to rainforest. However the species has also been recorded in a variety of low coastal heathlands around Frazer Island and nearby mainland. Deep leaf litter in which the species can forage appears to be particularly favoured.	The site does not contain dry rainforest or vegetation immediately adjacent to rainforest, and no heathlands are present. Deep leaf litter is also absent over the majority of the site. It is unlikely that this species will occur.	No Risk

Fish

Scientific Name	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
Maccullochella mariensis	Mary River Cod	Endangered	83806	The Mary River Cod occurs mainly in pools within relatively undisturbed tributaries. Found in southeast Queensland in the Mary River system, their ideal habitat is described as	No river system is present within the assessment area, therefore it is unlikely this species would occur on-site.	No Risk

				deep shaded, slow flowing pools with plenty of snaps and log-piles.		
Insects						
Scientific Name	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Risk**
Argynnis hyperbius inconstans	Australian Fritillary	Critically Endangered	88056	Most specimens have been collected from river estuaries or swampy coastal areas at or near sea level. The Australian fritillary butterfly is restricted to open, swampy, coastal areas where the larval food plant, *Viola betonicifolia* (the arrowhead violet), grows as a small, insignificant ground herb in association with *Lomandra longifolia* (Long-Leaved Matrush) and grasses, especially the grass *Imperata cylindrica* (Bladey Grass). This habitat is called *Melaleuca* wetlands, although the larval food plant does not occur in all sub-types of this plant community. The arrowhead violet is widespread throughout Queensland and NSW, at both high and low altitudes. However, the Australian fritillary appears to only occupy lower altitude sites (<600m), and in these lower altitude regions there has been significant clearing for urban expansion.	Coastal riverine habitat is not mapped on-site. *Viola betonicifolia* (Arrowhead Violet) was not identified throughout the investigation area and therefore it is unlikely that this species would occur.	No Risk
Mammals						
Scientific Name	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Risk**
Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable	183	The Large-eared Pied Bat roosts on sandstone cliffs and fertile woodland valley habitat within close proximity of each other. However in South-east Queensland habitat includes rainforest and moist eucalypt forest habitats at high elevations.	No typical roost habitat was identified in the assessment area, with no records of caves, mines, rock overhangs or crevices. There are no confirmed local records of this uncommon species, with the closest sighting over 40 km to the south in Lamington National Park. Although the site contains riparian corridors, these are not high elevation, moist forest habitats.	No Risk

Dasyurus maculatus maculatus	Spotted-tailed Quoll	Endangered	75184	The Spot-tailed Quoll has a preference for mature wet forest habitat. Unlogged forest or forest that has been less disturbed by timber harvesting is also preferable. This predominantly nocturnal species rests during the day in dens. Habitat requirements include suitable den sites such as hollow logs, tree hollows, rock outcrops or caves. Individuals require an abundance of food such as birds and small mammals, and large areas of relatively intact vegetation through which to forage.	No evidence of this species was found throughout the assessment period, including with the camera traps. A rocky outcrop was observed to the west of the site, however, extensive surveys and camera footage in this location did not pick up the presence of this species. This species appears within the PMST but not within the Wildlife Online search or Atlas of Living Australia search using a 5 km radius of the site. This species requires hollow logs, tree hollows, rock outcrops or caves. Historical logging practises have deteriorated large portions of the site, and likely to have resulted in reduced prey abundance, greater Fox incursion, and changed fire regimes. It is possible that the species could use the site for movement and foraging purposes, particularly the more intact and dense riparian corridors. However, given the historical disturbances and lack of documented sightings it is considered an unlikely occurrence.	Low Risk
Macroderma gigas	Ghost Bat	Vulnerable	174	Ghost Bats have been recorded in both arid regions (Pilbara region) and rainforest areas (north Queensland). *Macroderma gigas* roost in caves, old mine tunnels and in deep cracks in rocks. This species is distributed widely however patchily across the northern half of Australia, being found in a variety of tropical habitats.	No confirmed local records of this uncommon species. The subject site lacks suitable roosting sites of caves, rock crevices and old mines.	No Risk

Petauroides volans ***(Petauroides armillatus)***	Greater Glider	Vulnerable	254	The greater glider is an arboreal nocturnal marsupial, largely restricted to eucalypt forests and woodlands, although it occurs in highest abundance in taller, montane, moist eucalypt forests with abundant (large) hollow-bearing trees for shelter and a variety of eucalypt species for feeding. It is primarily folivorous, with a diet mostly comprising eucalypt leaves, and occasionally flowers. Small home ranges and low dispersibility make this species sensitive to clearing and fragmentation, with low persistence in small forest fragments.	No evidence of this species was found throughout the field assessment, including the motion sensor camera and spotlighting. This species is on the PMST search and Wildlife Online search (1 record) for a radius of 5 km from the site. No records were returned on the Atlas of Living Australia search and no known populations occur within proximity to the referral area. Potential habitat is concentrated off-site within the Category B (remnant) vegetation to the northwest. Category X (non-remnant) vegetation provides limited habitat for this species as a result of historical disturbances resulting in a relative lack of suitable old growth trees throughout the site. Pests including Red Foxes, Dingos and Domestic Dogs, are current threats to this species and two of these species were recorded within the referral area. Combined with the lack of records within proximity to the site, onsite vegetation is not considered to provide preferred habitat for this species.	Low Risk
Petaurus australis australis	Yellow-bellied Glider	Vulnerable	87600	The yellow-bellied glider is a medium-sized arboreal marsupial, the largest Australian petaurid and the second largest Australian glider. The yellow-bellied glider occurs in eucalypt-dominated woodlands and forests, including both wet and dry sclerophyll forests generally in areas with high rainfall and nutrient rich soils. The subspecies prefers large patches of mature old growth forest that provide suitable trees for foraging and shelter, along with areas with winter-flowering species and smooth-barked eucalypts. During the day, the yellow-bellied shelters in hollows found in large, old trees. This species is very mobile and occupy large home	Potential habitat is concentrated to the northwest of the site in Category B (remnant) vegetation. Category X (non-remnant) vegetation provides limited habitat for this species as a result of historical disturbances resulting in a relative lack of suitable old growth trees throughout the site. The species was not recorded during field surveys and due to the lack of	Low Risk

				ranges of 20 to 85 ha to encompass dispersed and seasonally available food resources.	large trees across the subject site, the species is not considered to occur.	
Petrogale penicillata	Brush-tailed Rock-wallaby	Vulnerable	225	This species prefers rocky habitats, including loose boulder-piles, rocky outcrops, steep rocky slopes, cliffs, gorges and isolated rock stacks. Most populations have been found on north facing slopes but have occurred on south facing slopes. This species browse on vegetation in and adjacent to rocky areas eating grasses and forbs as well as the foliage and fruits of shrubs and trees.	No suitable rocky habitat was observed on site, and no evidence of this species was found throughout the field assessment. The closest sightings of this species occur over 10 km to the west, in the rocky habitat areas of Undullah and Mt Elliot.	No Risk
Phascolarctos cinereus	Koala	Endangered	85104	They are found in a range of habitats, from coastal islands and tall eucalypt forests to low woodlands inland. The species is known from the surrounding area and evidence has been recorded on-site.	The site is highly disturbed through past vegetation clearing and grazing purposes and severe infestations of *Lantana camara* have also reduced the quality of habitat for this species. Indirect evidence of the species was recorded at some locations across the subject site by the total of 31 SAT surveys and the species has been recorded in the broader area.	High Risk
Potorous tridactylus tridactylus	Long-nosed Potoroo	Vulnerable	66645	The Long-nosed Potoroo inhabits coastal heaths and dry and wet sclerophyll forests. The species generally prefers rainforest and adjacent to wet sclerophyll forest, coastal heathlands and similar habitats with a dense understorey. Like all Potoroos, fungi are the major component of the diet and is also known to feed on invertebrates.	No suitable habitat was observed throughout the assessment area, with limited dense vegetation for shelter.	No Risk
Pseudomys novaehollandiae	New Holland Mouse	Vulnerable	96	Across the species' range the New Holland Mouse is known to inhabit open heathlands, open woodlands with a heathland understorey and vegetated sand dunes. The New Holland Mouse is a social animal, living predominantly in burrows shared with other individuals. The home range of the New Holland Mouse ranges from 0.44 ha to 1.4 ha. The species peaks in abundance during early to mid-stages of vegetation succession typically induced by fire.	Suitable habitat is not present on site.	No Risk

Pteropus poliocephalus	Grey-headed Flying Fox	Vulnerable	186	Species generally roosts in camps in trees adjacent to larger permanent watercourse. The Grey-headed flying fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. It also feed son commercial fruit crops. The primary food source is blossom from Eucalyptus and related genera.	Suitable foraging habitat is mapped adjacent to the site in the form of remnant eucalypt woodland. A Grey-headed Flying Fox roost is located on Cedar Grove, approximately 7.9 km south-east of the site. Grey-headed Flying Foxes were observed adjacent to the site during spotlighting surveys.	Medium Risk

Reptiles

Scientific Name	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
Coeranoscincus reticulatus	Three-toed Snake-tooth Skink	Vulnerable	59628	Found mostly in closed forest and possibly open layered *Eucalyptus* forest. Generally recorded in moist layered forest on loamy basaltic soils, but also found in closed forest overlying silica sand dunes at Cooloola. Within forests, this species is found in well-mulched, loose, friable rainforest soil in leaf litter, often immediately adjacent to fallen tree trunks. Much of the lowland closed forest within its range has been cleared for agriculture and grazing, pasture improvement, crop production, tropical fruit production and native forest logging.	No suitable habitat to support this species occurs on-site. It is considered unlikely the assessment area would support this species.	No risk
Delma torquata	Collared Delma	Vulnerable	1656	In general, the species occurs on rocky hillsides on basalt and lateritic soils supporting open eucalypt and Acacia woodland with a sparse understorey of shrubs and tussocks or semi-evergreen vine thicket.	The site contains non-remnant vegetation communities dominated by eucalypt and Corymbia species. A large portion of the site is currently utilised for logging practices, which is unsuitable for this species. The provisions of suitable canopy species are present within the site, however, due to a lack of microhabitat (rocky outcrops), and the presence of dense Lantana infestations, the site does not hold suitable habitat for the Collared Delma. This species was not identified within the site. Additionally, a	No Risk

					review of Queensland Government WildNet and Atlas of Living Australia records for the species identified the closest record is approximately 30 km north, identified at Pinjarra Hills locality. Due to lack of local records and suitable habitat onsite species is considered unlikely to occur onsite.	
Furina dunmalli	Dunmall's Snake	Vulnerable	59254	Dunmall's Snake has been found in a broad range of habitats, including forests and woodlands on black alluvial cracking clay and clay loams dominated by Brigalow other Wattles, native Cypress or Bull-oak, and various Blue Spotted Gum, Ironbark, White Cypress Pine and Bull oak open forest and woodland associations on sandstone derived soils. Dunmall's Snake occurs primarily in the Brigalow Belt region in the South-eastern interior of Queensland. Records indicate sites at elevations between 200–500 m above sea level. The snake is very rare or secretive with limited records existing. It has been recorded at Archokoora, Oakey, Miles, Glenmorgan, Wallaville, Gladstone, Lake Broadwater, Mount Archer, Exhibition Range National Park, roadside reserves between Inglewood and Texas, Rosedale, Yeppoon and Lake Broadwater Conservation Park.	Due to a lack of records within the local area, it is highly unlikely that this species will occur. Further, the referral area sits at an elevation below 200-500m ASL, which is preferred by the species.	No Risk
Hemiaspis damelii	Grey Snake	Endangered	1179	The grey snake is a relatively small, venomous, front-fanged (proteroglyphous) snake. In Queensland, grey snake habitat is Brigalow *Acacia harpophylla* and Belah *Casuarina cristata* woodlands on heavy, dark brown to black cracking clay soils, particularly in association with water bodies, areas with small gullies and ditches, and floodplain environments where the species shelters beneath logs, rocks and soil cracks.	Habitat attributes to support this species are not present on-site.	No Risk

Listed Migratory Species (*not listed above*)

Migratory Marine Birds						
Scientific Name	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Risk**

Apus pacificus	Fork-tailed Swift	Migratory	678	This species is almost exclusively aerial and mostly occur over inland plains but sometimes above foothills or in coastal areas.	Possible as a fly over species however no impact to this species is likely to occur.	No Risk

Migratory Terrestrial Species

Species	Common Name	Status	EPBC Code	Description of Community / Habitat	Likelihood of Occurrence	Risk
Cuculus optatus	Oriental Cuckoo	Migratory	86651	It mainly inhabits forests, occurring in coniferous, deciduous and mixed forest. It feeds mainly on insects and their larvae, foraging for them in trees and bushes as well as on the ground. Non-breeding habitat only: monsoonal rainforest, vine thickets, wet sclerophyll forest or open Casuarina, Acacia or eucalypt woodlands. Frequently at edges or ecotones between habitat types.	Preferred habitat of rainforest is not present on-site. However, there is potential that the Oriental Cuckoo may forage in the eucalypt vegetation on-site. This species is commonly recorded in the Brisbane region with some records within Logan. Due to the disturbed nature of the site it is highly unlikely this migratory species would utilise the site	No Risk
Monarcha melanopsis	Black-faced Monarch	Migratory	609	The Black-faced Monarch mainly occurs in rainforest ecosystems, including semi-deciduous vine thickets, complex notophyll vine forests, tropical (mesophyll) rainforest, subtropical (notophyll) rainforest, mesophyll (broadleaf) thicket/shrubland, warm temperate rainforest, dry (monsoon) rainforest and occasionally cool temperate rainforest.	No suitable habitat was observed throughout the assessment area.	No Risk
Monarcha trivirgatus (Symposiachrus)	Spectacled Monarch	Migratory	610	The Spectacled Monarchs natural habitats are subtropical or tropical moist lowland forests, subtropical or tropical mangrove forests, and subtropical or tropical moist montane forests. Its preference is for thick understorey areas.	No suitable habitat was observed throughout the assessment area.	No Risk
Motacilla flava	Yellow Wagtail	Migratory	644	The yellow wagtail occurs in a variety of damp or wet habitats with low vegetation, from rushy pastures, meadows, hay fields and marshes to damp steppe and grassy tundra. Outside of the breeding season it is also found in cultivated areas. The yellow wagtail typically forages in damp grassland and on relatively bare open ground at edges of rivers, lakes and wetlands, but also feeds in dry grassland and in fields of cereal crops	Observations of this species have been primarily from NSW. No suitable habitat was observed throughout the assessment area.	No Risk

Myiagra cyanoleuca	Satin Flycatcher	Migratory	612	Satin Flycatchers inhabit heavily vegetated gullies in eucalypt dominated forests and taller woodlands, and on migration occur in coastal forests, woodlands, mangroves and drier woodlands and open forests.	No suitable habitat was observed throughout the assessment area. Although several *Eucalypt* species were recorded within the assessment area, these patches are relatively disturbed, not reflecting heavily vegetated gully lines the Satin Flycatcher prefers for foraging.	No Risk
Rhipidura rufifrons	Rufous Fantail	Migratory	592	The Rufous fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by Eucalypts such as *Eucalyptus microcorys*, *Eucalyptus pilularis*, *Eucalyptus resinifera* and a number of other Eucalyptus species.	No suitable habitat was observed throughout the assessment area. Although scattered *Eucalypt* species were recorded within the assessment area, none represented the associated species listed.	No Risk

HABITAT ASSESSMENT FOR LISTED NCA SPECIES (6207) 5km Search

Birds

Scientific Name	Common Name	Status	Description of Community / Habitat	Likelihood of Occurrence	Risk
Calyptorhynchus lathami	Glossy Black-cockatoo	Vulnerable	The species is uncommon although widespread throughout suitable forest and woodland habitats, from the central Queensland coast to East Gippsland in Victoria, and inland to the southern tablelands and central western plains of NSW. The Glossy Black-Cockatoo is highly dependent on the distribution of Allocasuarina species and is found in open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur. Black Sheoak (*Allocasuarina littoralis*) and Forest Sheoak (*A. tortulosa*) are important foods. Requires tree hollows for breeding.	*Allocasuarina* species were observed in areas of the subject site. However, the species was not observed across the subject site nor evidence of the species utilising the *Allocasuarina* species.	Low Risk
Hirundapus caudacutus	White-throated needletail	Vulnerable	The White-throated needle tail is almost exclusively aerial. This species has been recorded	The species is considered almost exclusively aerial and is known to occur over most	Low Risk

			roosting in trees in forests and woodlands, both among dense foliage in the canopy or in hollows. The species breeds in wooded lowlands and sparsely vegetated hills, as well as mountains covered with coniferous forests. They are recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland.	habitat types. Targeted bird surveys were completed across the subject site and the species was not observed.	
Ninox strenua	Powerful Owl	Vulnerable	Found in open forests and woodlands, as well as along sheltered gullies in wet forests with dense understoreys, especially along watercourses. Will sometimes be found in open areas near forests such as farmland, parks and suburban areas, as well as in remnant bushland patches. Needs old growth trees to nest.	Their preferred habitat of wet forests with dense understoreys along watercourses was not observed on-site.	Low Risk

Mammals

Species	Common Name	Status	Description of Community / Habitat	Likelihood of Occurrence	Risk
Petauroides Volans volans	Central Greater Glider	Endangered	The Greater Glider is an arboreal nocturnal marsupial that is mostly restricted to eucalypt forests and woodlands, although it occurs in highest abundance in taller, montane, moist eucalypt forests with abundant (large) hollow-bearing trees for shelter and a variety of eucalypt species for feeding. Diet consists of eucalypt leaves, and occasionally flowers. Small home ranges and low dispersability make this species sensitive to clearing and fragmentation, with low persistence in small forest fragments.	No evidence of this species was found throughout the field assessment, including the motion sensor camera. This species is on the PMST search and Wildlife Online search (1 record) for a radius of 5 km from the New Beith Site. No records were returned on the Atlas of Living Australia search and no known populations occur within proximity to the New Beith Site. Potential habitat is therefore concentrated within the northwest portion of the New Beith Site in Category B (remnant) vegetation. Category X (non-remnant) vegetation provides limited habitat for this species as a result of historical disturbances resulting in a relative lack of suitable old growth trees throughout the site. Pests including Red Foxes, Dingos and Domestic Dogs, are current threats to this species and two of these species were recorded within the New Beith Site. Combined with the lack of records within proximity to the New Beith Site, onsite	Low Risk

				vegetation is not considered to provide preferred habitat for this species.	
Petaurus australis australis	Yellow-bellied Glider	Vulnerable	The yellow-bellied glider is a medium-sized arboreal marsupial, the largest Australian petaurid and the second largest Australian glider. The yellow-bellied glider occurs in eucalypt-dominated woodlands and forests, including both wet and dry sclerophyll forests generally in areas with high rainfall and nutrient rich soils. The subspecies prefers large patches of mature old growth forest that provide suitable trees for foraging and shelter, along with areas with winter-flowering species and smooth-barked eucalypts. During the day, the yellow-bellied shelters in hollows found in large, old trees. This species is very mobile and occupy large home ranges of 20 to 85 ha to encompass dispersed and seasonally available food resources.	Potential habitat is concentrated to the northwest of the site in Category B (remnant) vegetation. Category X (non-remnant) vegetation provides limited habitat for this species as a result of historical disturbances resulting in a relative lack of suitable old growth trees throughout the site. The species was not recorded during field surveys and due to the lack of large trees across the subject site, the species is not considered to occur.	Low Risk
Phascolarctos cinereus	Koala	Endangered	They are found in a range of habitats, from coastal islands and tall eucalypt forests to low woodlands inland. The species is known from the surrounding area and evidence has been recorded on-site.	The site is highly disturbed through past vegetation clearing and grazing purposes and severe infestations of *Lantana camara* have also reduced the quality of habitat for this species. Indirect evidence of the species was recorded at some locations across the subject site by the total of 31 SAT surveys and the species has been recorded in the broader area.	High Risk

Appendix E

Species Management Programs

Application outcome

Section 335 of the Nature Conservation (Animals) Regulation 2020

This letter is issued by the administering authority to advise of the outcome of an application for an approved species management program.

To: Frasers Property New Beith Pty Ltd
Attn: Belinda Ryan

Greenhouse,WestVillage
Level 8, 97 Boundary Street
WEST END QLD 4101

Our reference: SMP1946

Dear Ms Ryan,

Re: Decision made in relation to your application request for a low risk species management program.

Your application, dated 11 December 2025, has been assessed and decided on 16 January 2026.

After reviewing the documentation provided, it has been determined that the request for a low risk species management program, which applies to least concern animals (excluding special least concern or colonial breeders), is acceptable under section 335 of the Nature Conservation (Animals) Regulation 2020.

The outcome regarding your application is specified below:

Project Name	Details of project location	Outcome
Greater Flagstone Priority Development Area – New Beith residential development	Olsen Road NEW BEITH QLD 4124 Lot 4 on SP332712	GRANTED

Your species management program reference is **SMP1946**.

The approval is valid from: **16 January 2026** to **15 January 2029.**

Please note that, unless otherwise authorised, you are not approved to tamper with an animal breeding place after this date.

Please note for an approval, the following documents collectively constitute the approval documentation: this letter, the application supporting documents, and the specified attachments.

As a legal requirement, this approval documentation must be retained as evidence of the approved species management program. Please keep these records for any activities carried out under the program.

ABN: 46 640 294 485

DELIVERING FOR QUEENSLAND
Queensland Government

If you have any queries in relation to this letter, please refer to the contact details below.

Janelle Evans JEvans

Acting Senior Wildlife Officer

Department of the Environment, Tourism, Science and Innovation

Delegate of the administration authority

Nature Conservation Act 1992

Date 16 January 2026

Enquiries:

Reference: SMP1946

Email: wildlife@detsi.qld.gov.au

Postal Address: PO Box 2454, BRISBANE QLD 4001

Attachments:

1. low risk species management program (SMP1946), forwarded electronically.
2. Animal breeding place register reporting template - https://environment.qld.gov.au/licences-permits/plants-animals/species-management-program

Decision - Species Management Program

Section 335 of the Nature Conservation (Animals) Regulation 2020

This letter is issued by the administering authority to advise of the outcome of an application for an approved species management program.

To: Frasers Property New Beith Pty Ltd
Atten: Belinda Ryan
Development Manager
Greenhouse, West Village
Level 8, 97 Boundary Street
WEST END QLD 4101

Our reference: SMP1947

Dear Ms Ryan,

Re: Decision made in relation to your application request for an approved species management program

Your application dated 4 February 2026, seeking a high risk approved species management program for the New Beith Residential Deelopment – Flagsone PDA project has been considered.

After consideration of the documentation included with your application, I advise your application has been approved under section 335 of the Nature Conservation (Animals) Regulation 2020.

The details of the decision are below:

Project Name	Details of project location	Outcome
New Beith Residential Deelopment – Flagsone PDA	Lot 4 on SP332712 Olsen Road, New Beith QLD 4124 Greater Flagstone PDA	APPROVED

The species management program is assigned reference **SMP1947**.

Species Management Plan decision

This approval takes effect on 17 April 2026 and remains in force until 16 April 2029.

This approval consists of this letter and the attached signed species management program (SMP1947), including all specified appendices and supporting documents.

Removal or tampering with an animal breeding place must be undertaken in accordance with the approved species management program.

This approval does not authorise the taking of a protected animal.

The approval documentation must be retained as evidence of the approved species management program and produced to the department upon request.

ABN: 46 640 294 485

DELIVERING FOR QUEENSLAND | Queensland Government

If you have any queries in relation to this letter, refer to the contact details below.

Rhianna Steindl Digitally signed by Rhianna Steindl Date: 2026.04.17 16:06:33 +10'00'

Rhianna Steindl

Team Leader, Wildlife Permits

Department of the Environment, Tourism, Science and Innovation

Delegate of the administration authority

Nature Conservation Act 1992

Date: 17 April 2026

Enquiries:

Reference: SMP1947

Email: wildlife@detsi.qld.gov.au

Postal Address: PO Box 2454, BRISBANE QLD 4001

Attachments:

1. Approved high risk species management program (SMP1947), forwarded electronically.
2. Animal breeding place register reporting template - https://environment.qld.gov.au/licences-permits/plants-animals/species-management-program

Species Management Program
High Risk

Prepared for Frasers Property New Beith Ltd

23 March 2026

Job No: 10941 E

Saunders Havill

PATHWAYS TO SUCCESS

Document control

Document: Species Management Program – High Risk, prepared for Frasers Property New Beith Pty Ltd by Saunders Havill (SH)

Document Issue

Issue	Date	Prepared By	Checked By
A	05/12/2025	KR	AD
B	05/02/2026	KR	AD
C	23/03/2026	KR	AD

Prepared by
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www.saundershavill.com

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1. Introduction

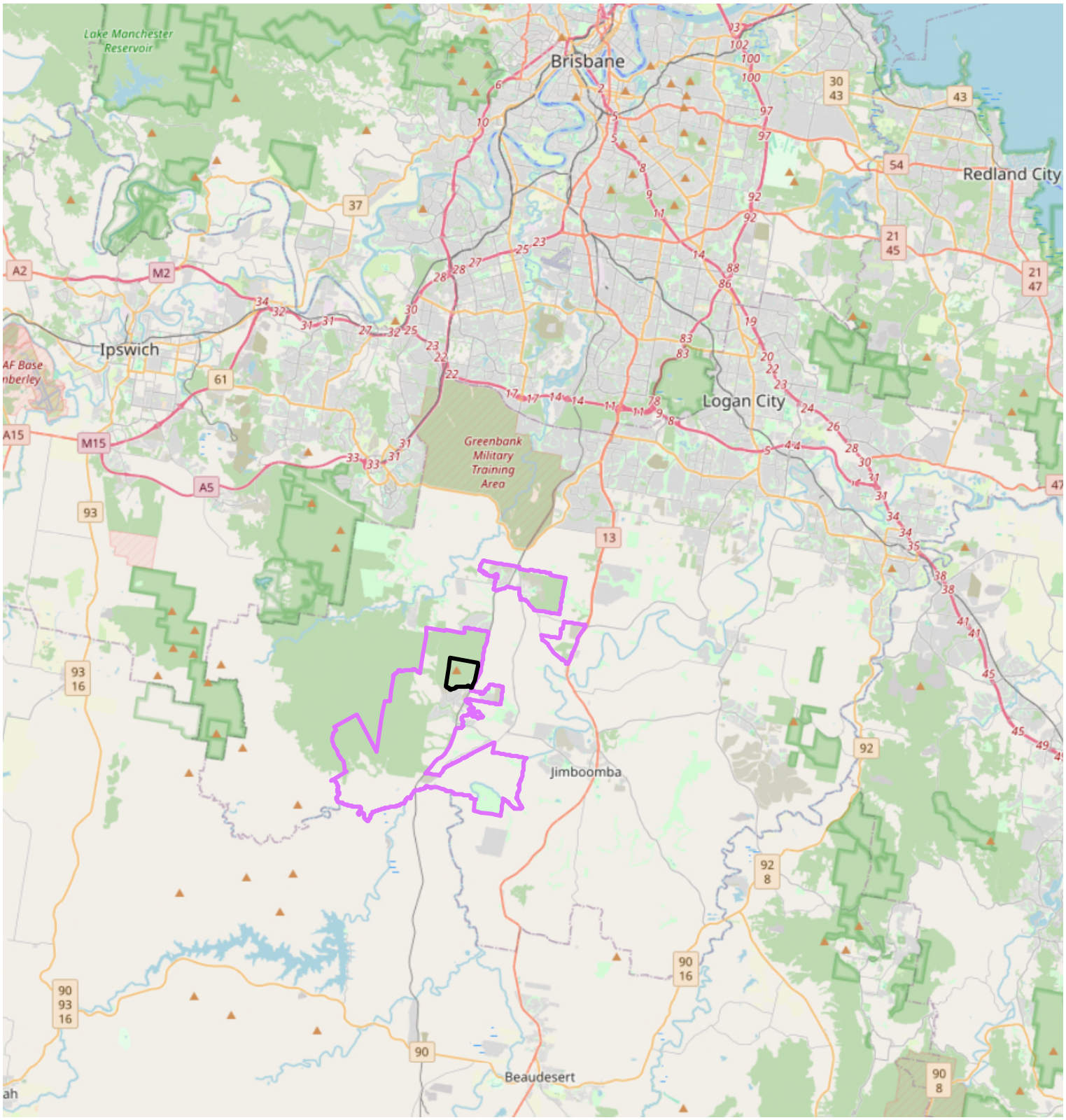
1.1. Background

Saunders Havill (SH) were engaged by Frasers Property New Beith Pty Ltd to prepare a High Risk Species Management Program (SMP) their Greater Flagstone Project – residential development, currently seeking approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). During the process of EPBC Act approval, listed threatened species identified through both desktop and extensive on-ground field surveys as having a potential significant impact were the Koala (*Phascolarctos cinereus*, combined populations of Queensland, New South Wales and the Australian Capital Territory), Grey-headed Flying-fox (*Pteropus poliocephalus*), Greater Glider (*Petauroides volans*), Swift Parrot (*Lathamus discolor*) and Regent Honeyeater (*Anthochaera Phrygia*).

The site is located within the Greater Flagstone Priority Development Area (GFPDA) where Economic Development Queensland (EDQ) is the administering authority. The project maintains development approvals from Economic Development Queensland (EDQ) under the *Greater Flagstone Urban Development Area Development Scheme.*

The site is located approximately 25.4 kilometres (km) south-east of Ipswich and approximately 14.7 km south-west of Logan Village. The subject site adjoins the Flagstone City development area and accounts for approximately 246.24 hectares of future residential development (refer **Figure 1**).

This SMP details areas of the proposed development that are to be impacted and subject to future development (refer **Figure 2**).



LEGEND

- Greater Flagstone Boundary
- Site boundary

Figure 1

Project Area Locality

CLIENT

Frasers Property New Beith Pty Ltd

FILE REFERENCE
10941 E SMP Figure 1 Site Context A

DATE
9/10/2025

Round Mountain Project

0 1 2 3 4 5 km

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:300,000

N

Saunders Havill
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LEGEND

- Qld DCDB
- Site boundary

Figure 2

Site Aerial

CLIENT

Frasers Property New Beith Pty Ltd

FILE REFERENCE
10941 E SMP Figure 2 Site Aerial A
DATE
9/10/2025

Round Mountain Project

0 200 400 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:12,500

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1.2. Purpose

This Species Management Program (SMP) will address the management of impacts to potential animal breeding habitat for identified *Nature Conservation (Animals) Regulation 2020* (NCAR). A SMP is required if a proposed activity will impact breeding places with respect to:

- Protected animals classified as *extinct in the wild, critically endangered, endangered, vulnerable, near threatened* (EVNT), *special least concern, colonial breeder or least concern,*
- Least Concern animals that are colonial breeders,
- Least concern animals where proposed tampering with a breeding place may have impacts on the broader population of that species of animal.

The proposed development is currently in the process of EPBC Act approval to clear eucalypt vegetation that has the potential to provide breeding habitat. The specific scope of the plan is to:

- Provide the results of animal breeding places surveys undertaken within the project impact area;
- Identify and outline potential impacts and management strategies to minimise impact when interacting with animal breeding places for any EVNT, special least concern, colonial breeding or least concern species or colonies of colonial breeding species within the project impact area;
- Provide a working arrangement for activities that may require tampering with animal breeding places, to satisfy the legislative requirements of the Nature Conservation Act 1992 (NCA);
- Identify monitoring and reporting requirements.

This report details potential threats to native animal breeding places, management actions to be incorporated to avoid or minimise impacts and set monitoring and reporting requirements that demonstrate compliance with the management actions.

1.3. Applicant Details

Table 1 below provides a review of entity and project details.

Table 1: Project details

Registered Legal Entity Name	**Mirvac Queensland Pty Ltd**
Entity	Frasers Property New Beith Pty Ltd
ABN	90 655 630 381
Person in Charge for Entity	Belinda Ryan
Entity Contact Details	Level 2, 1C Homebush Bay Drive, Rhodes, NSW, 2138
Project Location	Olson Road NEW BEITH QUEENSLAND 4124 Lot 4 on SP332712
Applicant	Saunders Havill

1.4. Duration of SMP and Approved Agents

Once approved, this SMP will remain valid for three (3) years. Once this timeframe has concluded, if further clearing activities are to be undertaken, an application for another SMP will need to be prepared and approved.

The following parties are approved to operate under this SMP:

- Frasers Property New Beith Pty Ltd
- Appointed suitably qualified subcontractors to undertake activities associated with the project.

2. Assessment of Impacts

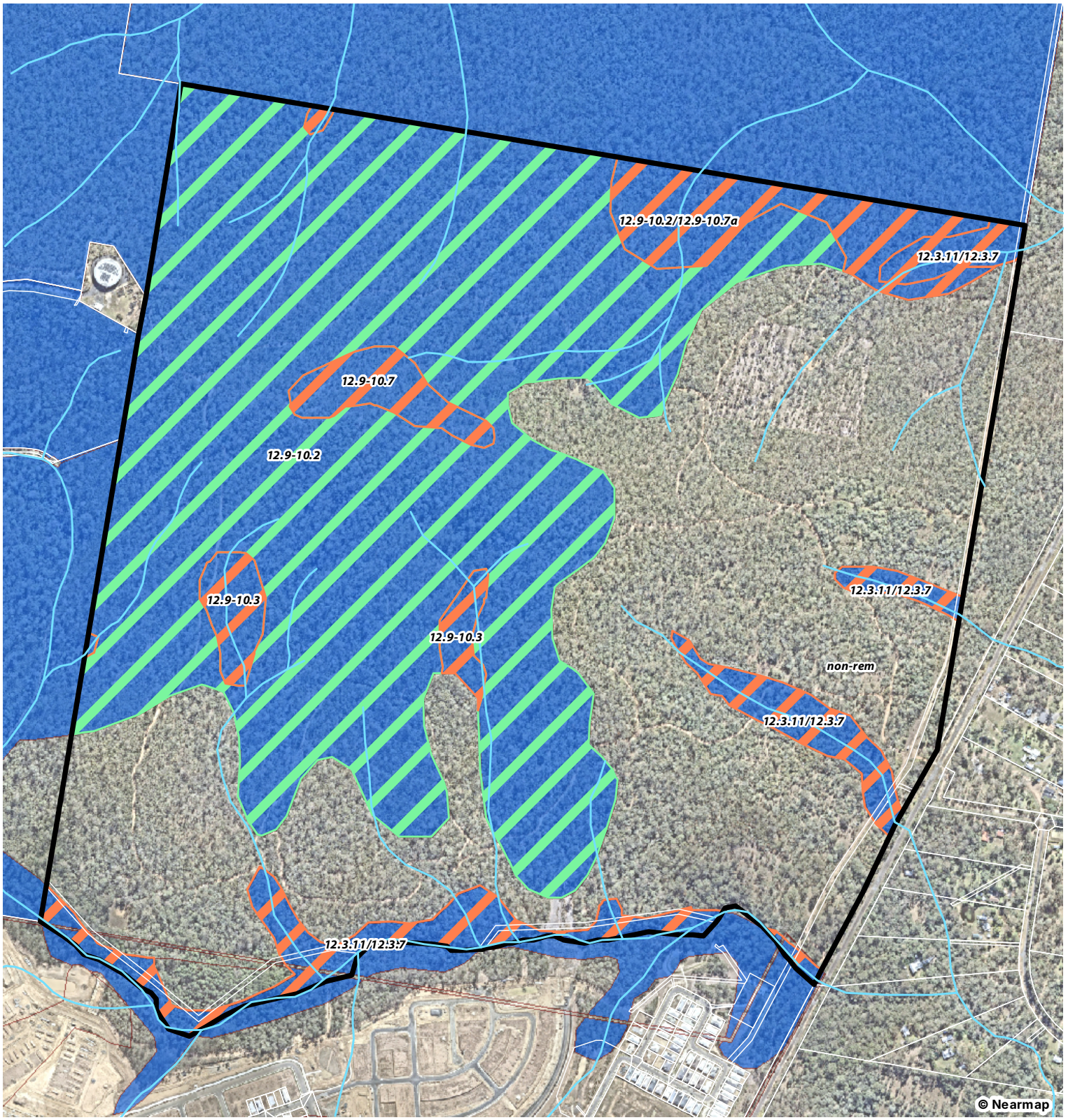
2.1. Desktop Assessment Review

Table 2 below provides a review of contemporary legislative provisions.

Table 2: Legislative review

Legislation	Purpose	Contemporary Site Relevance
Environmental Protection & Biodiversity Conservation Act 1999 (EPBC Act)	The Australian Government's key piece of environmental legislation is the EPBC Act. The EPBC Act aims to protect and manage matters of environmental significance which include nationally and internationally important flora, fauna, ecological communities and heritage places.	The Protected Matters Search Tool (PMST) identified thirty-one (31) protected fauna species, seventeen (17) flora species, and seven (7) Threatened Ecological Communities (TECs) as potentially occurring within a 5 km radius of the site (refer **Appendix A**). At the time of reporting the project is currently in the process of being referred under the EPBC Act.
Nature Conservation Act 1992 (NC Act)	The NCA classifies and protects significant areas (Protected Areas) and protects Threatened plant and animal species. The *Nature Conservation (Animal) Regulation 2020* and *Nature Conservation (Plant) Regulation 2020* lists animal and plant species presumed extinct, critically endangered, endangered, vulnerable, near threatened, least concern, international or prohibited.	The Wildlife Online search tool identified seven (7) species listed under the NC Act as potentially occurring within a 5 km radius of the site (refer **Appendix B**). *Phascolarctos cinereus* (Koala), *Pteropus poliocephalus* (Grey-headed Flying-fox) and *Melaleuca irbyana* (Swamp Tea Tree) have been recorded across the broader property.
Vegetation Management Act 1999 (VMA)	The VMA is the key mechanism by which the Queensland Government protects the state's environmental resources pertaining to vegetation. Under the VMA, a series of maps delineate vegetation features across the landscape which are each assigned a conservation value directly related to the remaining extent of these features in the landscape. The VMA also protects 'essential habitat' vegetation where	Two Property Map of Assessable Vegetation (PMAV) assessments have been conducted over the site (PMAV 2018/001365, formally PMAV 2010/007185). Under the VMA, the majority of the site is mapped predominately as Category B (remnant) vegetation, encompassing 141.88 ha. The remainder of the site is comprised of approximately 109.77 ha of Category X (non-remnant) vegetation (refer **Figure 3**).

	listed threatened species have been known to occur.	Areas of vegetation planned for retention have been captured within the on-site to be retained areas. It is important to note that the provisions of the VMA do not apply in a PDA.
PDA Development Scheme	The development scheme is the regulatory document which assists with planning, carrying out, promoting, coordinating and controlling land development within the PDA.	The endorsed Natural Environment Site Strategy (NESS) does not identify any significant biodiversity values within the proposed development area (refer **Figure 4**). Only areas classified under the NESS as the following categories will be cleared: • Low Order Remnant Vegetation Development Areas • Unconnected Supporting Habitat Areas



LEGEND

- Qld DCDB
- Site boundary
- VM Watercourses

Site Regional Ecosystems

- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem

VMA PMAV

- Category A
- Category B
- Category C
- Category R
- Water
- Category X

Figure 3

Certified Property Map of Assessable Vegetation

FILE REFERENCE
10941 E SMP Figure 3 PMAV Vegetation A

DATE
9/10/2025

Round Mountain Project

0 100 200 300 400 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:10,000

N

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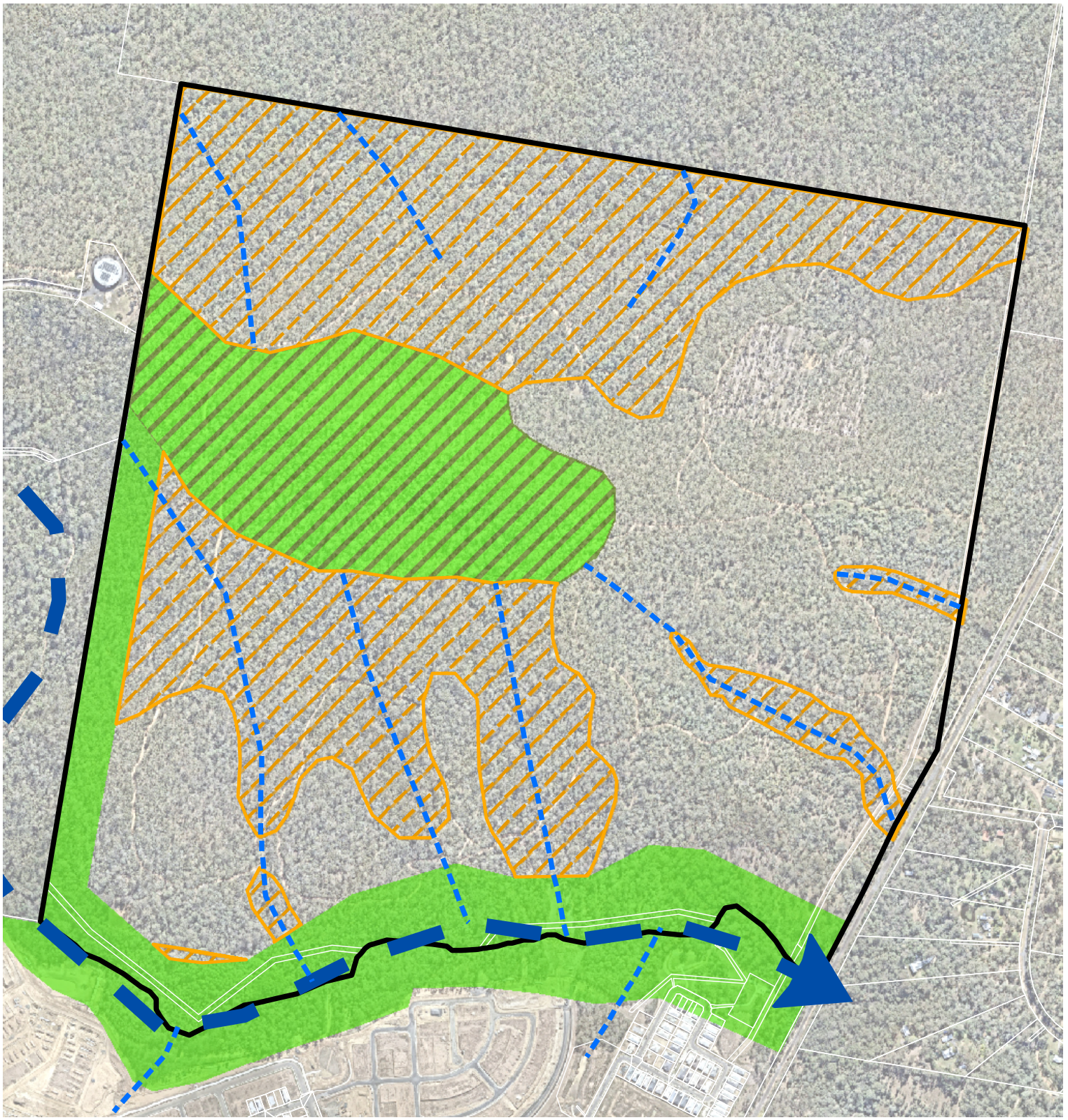

LEGEND

- Qld DCDB
- Site boundary
- Primary Site Fauna Corridor
- Unconnected Supporting Habitat Area
- Ecological Buffer Area
- Low Order Remnant Vegetation (Development Areas)
- Scenic Amenity / Ridgeline - Round Mountain

Figure 4

Certified Natural Environment Site Strategy

FILE REFERENCE
10941 E SMP Figure 4 NESS A

DATE
9/10/2025

Round Mountain Project

0 100 200 300 400 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:10,000

N

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2.1.1 Conservation Significant Species (High-Risk)

Review of the Wildnet results returned seven (7) species of conservation significance as having the potential to occur within 5 km of the site. These include *Hirundapus caudacutus* (White-throated Needletail), *Calyptorhynchus lathami lathami* (Glossy Black-cockatoo (eastern)), *Ninox strenua* (Powerful Owl), *Petaurus australis australis* (Yellow-bellied Glider (southern subspecies)), *Phascolarctos cinereus* (Koala), *Petauroides volans volans* (Southern Greater Glider) and *Pteropus poliocephalus* (grey-headed Flying-fox) (refer **Figure 5**). Additionally, during field surveys outlines in **Attachment C**, one (1) colonial tree-dweller, the White-striped Free-tail Bat (*Austronomus australis*) and one (1) Special Least Concern species, the Short-beaked echidna (*Tachyglossus aculeatus*) were identified within the site. While breeding places were not identified for these species, the latter two (2) have been included to ensure any unexpected interactions during works are appropriately managed.

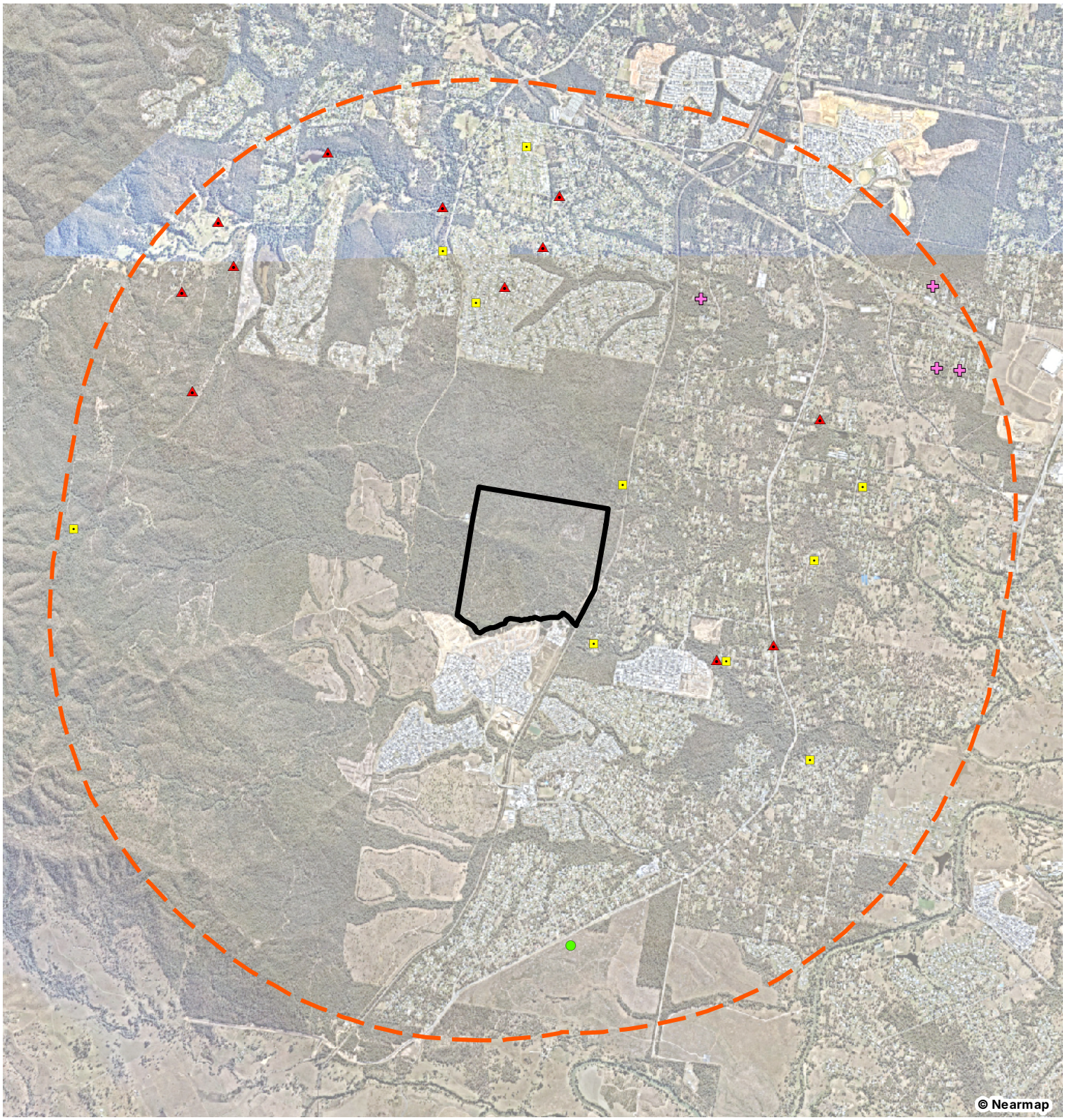
The Koala is not included in the requirements for SMP documentation as this species does not use a habitual breeding place. Clearing of Koala habitat on-site is to occur as per the *South East Queensland Koala Conservation Strategy 2020-2025* and *Nature Conservation (Koala) Conservation Plan 2017.*

Table 3 below describes the identified potential threatened species and their preferred breeding habitat that may occur on-site.

Table 3: Summary of species Identified and their breeding habitat

Species	NC Act Listing	EPBC Act Listing	Species Breeding Habitat	Potential Breeding Habitat Present on-site
White-throated Needletail	V	V	Breeding grounds are located in the northern hemisphere.	No
Glossy Black-cockatoo (eastern)	V	V	Mature eucalypt forest with presence of mature hollow-bearing trees.	Yes
Powerful Owl	V	-	Mature eucalypt forest with presence of mature hollow-bearing trees.	Yes
Yellow-bellied Glider	V	V	Large contiguous areas of diverse eucalypt forest dominated by winter flowering eucalypts which contain mature living hollow-bearing trees.	Yes
Koala	E	E	No breeding site.	N/A
Southern Greater Glider	E	E	Large contiguous areas of eucalypt forest which contain mature hollow-bearing trees.	Yes
Grey-headed Flying-fox	C	V	Identified roosting locations	No
White-striped Free-tail Bat	-	-	Mature to dead eucalypt species with large tree diameters (>89 cm) as roost habitats.	Yes

Species	NC Act Listing	EPBC Act Listing	Species Breeding Habitat	Potential Breeding Habitat Present on-site
Short-beaked Echidna			Areas of eucalypt forest.	Yes



LEGEND

- Qld DCDB
- Site boundary
- 5km buffer radius

ALA Records since 2004

- Greater Glider (Southern) *(Petauroides volans)* [1]
- Yellow-bellied Glider *(Petaurus australis australis)* [10]
- Powerful Owl *(Ninox (Rhabdoglaux) strenua)* [12]
- Glossy Black Cockatoo *(Calyptorhynchus lathami lathami)* [4]

Layer Source: © State of Queensland 2025

Figure 5

ALA Database Records – 5km Radius

FILE REFERENCE
10941 E SMP Figure 5 ALA 5km
DATE
5/12/2025

Round Mountain Project

0 1 2 km

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:65,000

N

CLIENT

Frasers Property New Beith Pty Ltd

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

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Six (6) of the identified species within **Section 2.1.1.** may have suitable breeding habitat within the development site impact area. Due to the remnant status of the mapped vegetation within the impact area, the potential for the presence of large mature hollow-bearing trees is considered likely. The following section outlines desktop assessments of the three identified threatened species.

2.1.2 Glossy-black Cockatoo (*Calyptorhynchus lathami lathami*)

Conservation Status

The Glossy-black Cockatoo is listed as Vulnerable under the NC Act.

Description

The Glossy-black Cockatoo is described as having a brown-black head, neck and underparts, with red or orange-red tail panels and a dull black body. The crest is small and inconspicuous; the bill is broad and bulbous. Females have yellow patches on the head and neck and tail panels are more orange-red with black bars. Male tail panels tend to be bright red.

Habitat

The Glossy-black Cockatoo forages in woodland dominated by *Allocasuarina* species and requires hollow-bearing trees commonly associated with mature eucalypt vegetation to nest. This species can be found along eastern part of Australia from central Queensland to northern Victoria.

Breeding Place Type

Glossy-black Cockatoos require large old growth trees (living or dead), with hollows used for nesting between 10-20 metres above the ground in vertical or near vertical areas of the tree. The Glossy-black Cockatoo breeding place type defined for this SMP is a hollow within a large old growth tree (living or dead) used for nesting and rearing young. Peak breeding for the Glossy-black Cockatoo occurs between March to August in south-east Queensland.

Threats

The Glossy-black Cockatoo is primarily threatened by habitat loss, degradation, and fragmentation.

Recovery Actions

Conservation actions for the species include protecting habitat from clearing of native vegetation/timber harvesting and habitat fragmentation, extensive severe fire and nest hollow competition.

Survey Guidelines

As per the Targeted Species Survey Guidelines for the Glossy-black Cockatoo (*Calyptorphynchus lathami*) prepared by the Queensland Government[1] the species is present throughout the year in many regions, however, peak breeding occurs from March to August in south-east Queensland. Diurnal bird

[1] Hourigan, C. 2012. Glossy black-cockatoo, Calyptorhynchus lathami. Targeted species survey guidelines. Queensland Herbarium, Department of Environment and Science, Brisbane.

surveys are the recommended search tool, where walking transects throughout the project area, looking and listening for signs of the species.

2.1.3 Powerful Owl (*Ninox strenua*)

Conservation Status

The Powerful Owl is listed as Vulnerable under the NC Act.

Description

The Powerful Owl is a large predatory bird, averaging around 50-60cm in length and with a wingspan of 110-140 cm. The owl has numerous grey and brown markings across the chest with a mostly off-white top of body, with yellow eyes and feet.

Habitat

The Powerful Owl has a variety of preferred habitat, including open forests and rainforest vegetation. Distribution ranges of this species include central eastern Queensland to south-eastern South Australia. In South East QLD, they are found on the coastal side of the Great Dividing Range halfway between the mountain range and the ocean. The Powerful Owl predominantly nests in hollow-bearing trees commonly associated with mature eucalypt vegetation.

Breeding Place Type

Powerful Owl nesting requires a vertical hollow within a large, mature tree. The Powerful Owl breeding place type defined for this SMP is a vertical hollow within a large, mature tree used for nesting and rearing young. Peak breeding for the Powerful Owl occurs during May to August (Winter).

Threats

The Powerful Owl is primarily threatened by fragmentation, degradation and loss of significant habitat, invasive species and increased human activity.

Recovery Actions

The Powerful Owl is protected under the *Nature Conservation Act 1992*. It is an offence to hurt or interfere with the Powerful Owl in any other way than when accepted by the Act.

Survey Guidelines

Peak breeding for this species occurs during Winter months (May – August). Suggested surveys for this species include call playback and diurnal, dusk and dawn bird surveys, which include walking transects throughout the project area, looking and listening for signs of the species[2].

[2] Eyre TJ, Ferguson DJ, Smith GC, Mathieson MT, Venz MF, Hogan, LD, Hourigan CL, Kelly, AL & Rowland, J. 2022. Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland, Version 4.0. Brisbane: Department of Environment and Science, Queensland Government.

2.1.4 Yellow-bellied Glider (*Petaurus australis australis*) (south-eastern populations)

Conservation Status

The Yellow-bellied Glider (south-eastern) is listed as Vulnerable under the EPBC Act and NCA as of March 2022.

Description

The Yellow-bellied Glider (south-eastern) is a medium-sized arboreal marsupial, the largest Australian petaurid (Russell 1995) and the second largest Australian glider. The head and body length have a range of 240–310 mm, with a 380–470 mm long tail. The body is a greyish-brown colour with a black stripe running down the back and extending to the tail. The tail is mostly black with grey edging at the base. Males weigh 470–725 g and females weigh 435–660 g, though the head and body length of males is only marginally longer than that of females, and females have longer tails. The belly is white to yellow, typically paler in young individuals and becoming more yellow with age. There are black markings on the feet, with a black stripe running down each thigh. There are also black markings along the edge of the gliding membrane. The ears are pale in colour and bare, featuring prominently on the head. This description was drawn from Goldingay (2008).

The two subspecies of Yellow-bellied Glider are similar in appearance, though the Yellow-bellied Glider (Wet Tropics) is typically smaller than the Yellow-bellied Glider (south-eastern) (Goldingay & Kavanagh 1991). The Wet Tropics subspecies may also be also darker in colour on the back than the south-eastern subspecies and possesses less distinctly yellow belly fur (Brown et al. 2006).

Habitat

The Yellow-bellied Glider (south-eastern) occurs in eucalypt-dominated woodlands and forests, including both wet and dry sclerophyll forests (Kavanagh et al. 1995; Rees et al. 2007). Abundance is highly dependent on habitat suitability, which is in turn determined by forest age and floristics (Woinarski et al. 2014).

The subspecies shows a preference for large patches of mature old growth forest that provide suitable trees for foraging and shelter (Milledge et al. 1991; Eyre & Smith 1997; Incoll et al. 2001; Eyre & Goldingay 2003; Eyre 2002, 2004; van der Ree et al. 2004; Kavanagh et al. 2021). There is also a clear preference for forests with a high proportion of winter-flowering and smooth-barked eucalypts (Kavanagh 1987a; Eyre & Smith 1997; Eyre 2004; Irish & Kavanagh 2011; Woinarski et al. 2014). Smooth-barked eucalypts are important due to the range of foraging substrates (and therefore food resources) they provide, as loose bark hanging in strips from these trees provides shelter for insect prey (Eyre & Smith 1997). Yellow-bellied gliders (south-eastern) also require some level of floristic diversity to provide a year-round food supply, and they are unlikely to persist in forests dominated by only one or two tree species (Kavanagh 1987a). The species also prefers to den in living hollow-bearing trees and in groups in large exclusive home ranges as foraging substrates are dispersed and variable through time and space, therefore large areas of forest are required to maintain population viability.

Breeding Place Type

Yellow-bellied Glider prefers smooth-barked hollow-bearing eucalypt species (living or dead). With trees greater than 50 cm diameter at shoulder height preferred for nesting. The Yellow-bellied Glider breeding place type defined for this SMP is a mature, hollow-bearing tree (living or dead) used for nesting and rearing young. Breeding for the Yellow-bellied Glider in Queensland occurs throughout the year, where typically young remain in the hollow for 2-3 months before weaning.

Threats

The Yellow-bellied Glider (south-eastern) is primarily threatened by climate change, altered fire regimes, clearing, fragmentation and timber harvesting. Invasive species have been recorded preying on the subspecies, though it is unknown if this is having a population-level impact. Other minor threats include mortality by barbed wire fencing and habitat degradation by feral deer (Cervidae spp.). Dieback caused by *Phytophthora cinnamomi* may also be impacting the subspecies through habitat degradation.

Recovery Actions

There is no adopted recovery plan for the Yellow-bellied Glider (south-eastern). Conservation actions for the species include protecting habitat from extensive severe fire, fragmentation and timber harvesting, mitigating known threats, retaining habitat connectivity and key habitat features (e.g., sap trees, hollow-bearing trees).

Survey Guidelines

Breeding for the Yellow-bellied Glider in Queensland occurs throughout the year, where typically young remain in the hollow for 2-3 months before weaning. Suggested surveys for this species include call playback and nocturnal surveys , which include walking transects throughout the project area, looking and listening for signs of the species[3].

2.1.5 Greater Glider (*Petauroides volans volans*)

Conservation Status

The Greater Glider is listed as Endangered under the EPBC Act and NCA as of July 2022.

Description

The Greater Glider (southern and central) is the largest gliding possum in eastern Australia. It has a head and body length of 35–46 cm, tail length of 45–60 cm, and a weight range of 900–1700 g, with females being larger than males. The Greater Glider (southern and central) has thick fur that increases its apparent size. Its fur colour is white or cream below and varies from dark grey, dusky brown through to light mottled grey and cream above. It has a long furry tail, large furry ears and a short snout. Its tail is not prehensile, and the gliding membrane extends from the forearm to the tibia.

[3] Eyre TJ, Ferguson DJ, Smith GC, Mathieson MT, Venz MF, Hogan, LD, Hourigan CL, Kelly, AL & Rowland, J. 2022. Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland, Version 4.0. Brisbane: Department of Environment and Science, Queensland Government.

Distribution

The Greater Glider is restricted to eastern Australia, occurring from the Windsor Tableland in north Queensland through to central Victoria (Wombat State Forest), with an elevational range from sea level to 1200 m above sea level.

Habitat

The Greater Glider is largely restricted to eucalypt forest and woodlands. It is primarily folivorous with a diet mostly comprising of eucalypt leaves and occasionally flowers. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. The species favours forests with a diversity of eucalypt species, due to seasonal variation in its preferred tree species.

During the day it shelters in tree hollows, with a particular preference for large hollows in large, old growth trees (Smith et al., 2007). The presence of live, hollow-bearing trees is thought to be a limiting factor within otherwise suitable habitat. Large, continuous tracts of mature woodland and forest with a minimum of 2-4 suitable hollows per 2 ha is considered essential for sustaining a population (Eyre, 2002). The species is considered to be particularly sensitive to forest clearance and intensive logging practices (Kavanagh and Wheeler, 2004). Subsequently, Greater Gliders have relatively low persistence in small forest fragments and disperse poorly across vegetation that is not native forest. Modelling suggest that they require native forest patches of at least 160 km^2 to maintain viable populations (Eyre, 2002).

Breeding Place Type

The Greater Glider breeding place type defined for this SMP is a mature, hollow-bearing tree (living or dead) used for nesting and rearing young. The Greater Gliders breeding season ranges from March to June, after which the joey lives in the mother's pouch for up to nine (9) months.

Threats

Key threats to the Greater Glider (southern and central) are frequent and intense bushfires, inappropriate prescribed burning, climate change, land clearing and timber harvesting (DCCEEW, 2022a). In particular it is the loss of breeding habitat (hollows) and loss and fragmentation of old-growth forests.

Recovery Actions

There is no national recovery plan in place for the Greater Glider. A range of *in situ* conservation and management priorities are proposed including:

- Protecting non-fire affected areas and post-fire refuges;
- Implement and enforce measures to reduce direct mortality and loss of hollow-bearing trees in prescribed burn areas;
- Protection of hollow-bearing trees on private property and road reserves;
- Establish, maintain and enforce effective prescriptions in production forests to support populations of the Greater Glider;
- Avoid fragmentation and loss of habitat due to development and infrastructure;

- Restore habitat and connectivity;
- Avoid use of barbed wire;
- Protect climate refuges; and
- Implement appropriate control measures for invasive species that threaten the Greater Glider.

Survey Guidelines

The Greater Gliders breeding season ranges from March to June, after which the joey lives in the mother's pouch for up to nine (9) months. Suggested surveys for this species include call playback and nocturnal surveys , which include walking transects throughout the project area, looking and listening for signs of the species[4].

2.1.6 White-striped Free-tail Bat (*Austronomus australis*)

Conservation Status

The White-striped Free-tail Bat is listed as Least Concern under the NCA.

Description

The White-striped Free-tail Bat is named for the distinctive stripes of white fur on the underside where the wings meet the body. The colour of the pelage is a deep chocolate brown, with well defined white stripes beneath the wing; occasional patches of white may appear at the upper ventral side. Individuals have a mass of 33 to 41 grams, and average of 37 g, and a head and body length of 85 to 100 millimetres. The free tail extends 40 to 55 mm from the body and can be folded during high speed flight to reduce drag.

Distribution

An endemic species to Australia, the white-striped free-tailed bat is widespread and common.

Habitat

This species can be found in most habitats from closed forest to open flood plain, and occurs in urban areas, in regions across temperate and subtropical Australia. In the Greater Brisbane Region of South East Queensland the white-striped free-tail bat uses over-mature to dead eucalypt species with large tree diameters (>89 cm) as roost habitats. These trees have developed large trunk cavities, often extending throughout the trunk and major branches. The bats access these cavities through multiple unobstructed branches and/or trunk hollows. This strategy also allows the bats a direct flight path when leaving the roost cavities which may result in energy savings for the bats and reduce the exposure to predators.

Breeding Place Type

[4] Eyre TJ, Ferguson DJ, Smith GC, Mathieson MT, Venz MF, Hogan, LD, Hourigan CL, Kelly, AL & Rowland, J. 2022. Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland, Version 4.0. Brisbane: Department of Environment and Science, Queensland Government.

The White-striped Free-tail Bat breeding place type defined for this SMP is a communal or maternity roost hollow. These roosts are usually located within large over-mature to dead eucalypts with diameter greater than 89 cm. Breeding for the White-striped Free-tail Bat occurs between late August, after which young are born between December and January. Weaning can last approximately four to five months, of which a maternity roost site is utilised.

Threats

Other minor threats include mortality by barbed wire fencing and habitat destruction through the removal of mature eucalypt species.

2.1.7 Short-beaked echidna (*Tachyglossus aculeatus*)

Conservation Status

The Short-beaked Echidna is listed as Special Least Concern under the NCA.

Description

This species is covered in fur and spines and has a distinctive snout and a specialised tongue, which it uses to catch its insect prey at a great speed. The short-beaked echidna has extremely strong front limbs and claws, which allow it to burrow quickly with great power. The body is rounded and covered in sharp, yellow-cream spines with black tips.

Distribution and Habitat

The short-beaked echidna is common throughout most of temperate Australia, it remains widespread across a wide range of habitats, including urban outskirts, coastal forests and dry inland areas, The species can live anywhere with a good supply of food and regularly feast on ants and termites. They are most common in forested areas with abundant, termite filled, fallen logs.

Breeding Place Type

Breeding season for this species occurs between June to August, where the female will lay a single egg into a temporary pouch. The egg gestation lasts approximately ten (10) days, after which the puggle remains in the mother's pouch for approximately three (3) months. During this period, the mother may occupy temporary burrows or begin to dig a nursery burrow. After the three (3) month period, the mother may begin to leave the puggle in a nursery burrow and return to feed the puggle every five to ten days, until weaned. The period from egg hatching to weaning is considered as lactating. The Short-beaked Echidna breeding place type defined for this SMP is a nursery burrow used for rearing young.

Threats

Predation and habitat loss.

2.2. Field Assessment Review

This section provides a summary of field assessments undertaken in the proposed impact area. Please refer to **Appendix C** for Ecological Assessment Report for the detailed analysis.

2.2.1 Ecologist and Fauna Spotter Catch Qualifications

As part of existing approvals, the entirety of the development site was assessed for potential breeding habitat, which included mapping potential habitat trees present at the time of survey and detailing all hollow-bearing trees (refer **Plan 1**).

These surveys were conducted by tertiary qualified Ecologists experience in undertaking field surveys. The reporting of this SMP has been overseen by the Manager of the Environmental Division at SH who has extensive experience within the industry.

This site has been subject to extensive surveys conducted by SH Ecologists over multiple years to gain an understanding of the environment and habitat present across the site including detailed vegetation and habitat assessments for multiple layers of legislative approvals (refer **Table 2**). Ecological field surveys were conducted on the subject site from 6th – 15th November 2018 and more recently, 18th, 23rd and 24th February 27th, 29th April 19th, 20th, 24th May and 1st June 2021, 19th, 22nd, 27th, 29th September 2023 and 31st July and 3rd October 2024. Given the spread of seasonal field surveys across the site, if any of the six (6) species identified breeding places were present within the site, these are likely to have been noted. While the Short-beaked Echidna and White-striped Free-tail Bat were observed within the site during field surveys, breeding places identified within **Section 2.1.6** and **Section 2.1.7** were not. Field surveys were lead by Principal Ecologist David Havill (refer **Appendix D** for Curriculum Vitae).

Before clearing can commence within a designated area, ecological values are to be reassessed by SH Ecologists when preparing the Significant Biodiversity Assessment Report and clearing management plans for lodgement to Economic Development Queensland (EDQ). Once these reports have been approved, the staged area is also assessed by a suitably qualified fauna spotter catcher in the lead up to clearing activities. The suitably qualified fauna spotter catcher is to hold and operate under the following permits,

- DETSI Rehabilitation Permit for Spotter Catcher activity,
- Damage Mitigation Permit (removal and relocation of wildlife).

2.2.2 General Site Description

The site has undergone multiple field surveys in order to gain Federal and State approvals including PMAVs of vegetation communities across most of the impact site. The site has been described as containing Category X (non-remnant) and Category B (remnant) composite 'Of Concern' RE 12.9-10.2/12.9-10.7 vegetation. Vegetation within these areas is reflective of the below:

- RE 12.3.7: *Narrow fringing woodland of Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana +/- Melaleuca viminalis. Other species associated with this RE include Melaleuca bracteata, M. trichostachya, M. linariifolia. North of Brisbane Waterhousea floribunda commonly occurs and may at times dominate this RE. Melaleuca fluviatilis occurs in this RE in the*

north of the bioregion. Lomandra hystrix often present in stream beds. Occurs on fringing levees and banks of rivers and drainage lines of alluvial plains throughout the region. Riverine. (BVG1M: 16a).

- RE 12.3.11: *Eucalyptus tereticornis +/- E. siderophloia and Corymbia intermedia open forest to woodland. Corymbia tessellaris, Lophostemon suaveolens and Melaleuca quinquenervia frequently occur and often form a low tree layer. Other species present in scattered patches or low densities include Angophora leiocarpa, E. exserta, E. grandis, E. latisinensis, E. tindaliae, E. racemosa and Melaleuca sieberi. Corymbia trachyphloia and/or C. citriodora subsp. variegata may dominate on areas of Pleistocene alluvia. Eucalyptus seeana may be present south of Landsborough and Livistona decora may occur in scattered patches or low densities in the Glenbar SF and Wongi SF areas. Occurs on Quaternary alluvial plains and drainage lines along coastal lowlands. Rainfall usually exceeds 1000mm/y. Contains Palustrine. (BVG1M: 16c).*
- RE 12.9-10.2: *Corymbia citriodora subsp. variegata open forest or woodland usually with Eucalyptus crebra. Other species such as Eucalyptus tereticornis, E. moluccana, E. acmenoides and E. siderophloia may be present in scattered patches or in low densities. Understorey can be grassy or shrubby. Shrubby understorey of Lophostemon confertus (whipstick form) often present in northern parts of bioregion. Occurs on Cainozoic and Mesozoic sediments.*
- RE 12.9-10.3: *Eucalyptus moluccana open forest. Other canopy species include Eucalyptus siderophloia or E. crebra, E. tereticornis and Corymbia citriodora subsp. variegata. Understorey generally sparse but can become shrubby in absence of fire. Occurs on Cainozoic and Mesozoic sediments, especially shales. Prefers lower slopes. Not a Wetland. (BVG1M: 13d).*
- RE 12.9-10.7: *Eucalyptus crebra +/- E. tereticornis, Corymbia tessellaris, Angophora leiocarpa, E. melanophloia woodland. Occurs on Cainozoic and Mesozoic sediments. Not a Wetland. (BVG1M: 13c).*

2.2.3 Ecological Methodologies Undertaken

Extensive ecological field surveys have been conducted across the development site utilising methods outlined below to describe ecological values.

PMAV Surveys

Each Regional Ecosystem community has been previously accurately surveyed, including producing detailed floristic lists, and checks for any threatened species, or habitat that may support these species. The PMAV process produced accurate data on projected foliage cover and age structure of each vegetation community. Detailed data sheets and GPS markings were recorded within each site using the Queensland Herbarium Map Assessment Request forms.

Observational Survey for Significant Flora and Fauna, Habitat Trees and Biodiversity Values

The site was walked several times where possible to ensure all species (flora and fauna) were recorded and identified. Particular attention was paid to any threatened species that were listed as possibly occurring on or within the vicinity of the site and specific micro-assemblages which may support these threatened species. This included observations for vertebrate fauna present on or that may utilise the site,

including faunal lists and significance status of species under the Commonwealth's EPBC Act including the JAMBA, CAMBA, ROKAMBA and the Bonn Convention, and Queensland's NCA.

The observational survey included identification of ecological features and values such as broad vegetation communities, fauna habitats, and connectivity. Specific attention was paid to threatened flora and fauna species.

For the purposes of this report, a significant flora and fauna species has been defined as a species that is scheduled as 'critically endangered', 'endangered', 'vulnerable' or conservation dependent under the Commonwealth EPBC Act of Nature Conservation Act.

Scats, tracks, and other traces search

Surveys for scats, tracks and other fauna traces were conducted throughout field surveys as part of the observational surveys. Both predator and non-predator scats were sought during all searches. Specific search efforts were made to locate the presence of Koalas or evidence of their occurrence on the subject lands and the local area. In addition, particular attention was paid to the identification of potential dens, scats and tracks for invasive species, such as wild dogs, European red foxes and domestic cats, to identify predator-prey interactions and understand existing impacts within the site.

GPS Tree Plot

A tree plot survey was conducted across the site to locate and describe the vegetation values, namely the native mature tree specimens (≥ 300mm DBH) and those considered to contain habitat features. A handheld GPS device (Trimble) was used to record locations (accuracy ±1 m), and the following parameters of each tree specimen were recorded: tree species, via a combination of observations of the gum nuts, buds, leaves, bark and growth form;

- diameter of the trunk of the tree measured using the standard method of Diameter at Breast Height (DBH);
- height of the tree measured using a laser rangefinder with three-point measurement capability (inclinometer);
- canopy spread;
- health assessment (canopy, trunk); and
- habitat values (for example, presence and/or number of hollows, nests, termites, scratches and scats).

Koala habitat and Spot Assessment Technique surveys and meanders

Spot Assessment Technique (SAT) surveys were conducted across the site with the aim to assess Koala usage. SAT surveys follow the methodology designed by Phillips and Callaghan (2011). It involves a single ecologist combing the ground under Koala food plant trees (or non-food plant trees if necessary) for a 1-metre radius around the trunk searching for scats. Each tree searched must be greater or equal to 100 mm diameter at breast height (DBH) and search of each tree continues for up to 2 minutes. The search can

cease prior to the 2-minute limit if scats are detected. Thirty trees meeting the specifications are analysed during each SAT survey.

Nocturnal active searches and spotlighting

A combination of high-powered spotlights and head torches were used to detect nocturnal mammals, birds, reptiles within the site. This non-intrusive technique is the most effective method to obtain estimates of nocturnal arboreal mammal incidence and abundance in wooded habitats. Spotlighting also targets medium to large terrestrial nocturnal mammals, and can detect other nocturnal taxon groups (e.g., frogs, geckoes, nocturnal snakes, nocturnal birds, spiders).

A combination of high-powered spotlights and head torches were used to sample for nocturnal mammals, birds, reptiles and frogs across the proposed action area. This technique involved detecting eye shine, and a record of vegetation density was taken. Additional information recorded included the prevailing conditions and search effort.

Motion sensor camera detection

Camera trapping involves setting up a fixed digital camera to capture images or video of animals that pass in front of a camera with an infrared trigger. It is a non-invasive technique designed to detect medium to large sized animals as they pass, although it is possible to detect smaller animals depending on the set-up. This method identifies fauna activity beyond the scope of direct observational studies and with the absence of potential observer impacts.

Ultrasonic Bat Detection

Active ultrasonic monitoring of potential ultrasonic batt flyways was conducted utilising the Wildlife Acoustics 'Echo Meter Touch' on an iOS platform which readily allows for the identification of ultrasonic bat species. Notably, *Chalinolobus dwyeri* emits a characteristic frequency between 21.5 and 25.5 kHz and is curved with up sweeping, down sweeping or no tail. It can easily be distinguished from other species by the combination of the low frequencies and distinct pattern of alternation present in search phase calls (refer Pennay et al. 2004).

Flying-fox Roost Searches

This search was conducted via walking transects during the day within the survey area, watching for flying bats and listening for their distinctive calls. This search is not only for flying fox camps, but the presence of food plants to assess the potential importance of the survey area to the species. At night, spotlighting whilst walking transects surveyed for individuals using the site for foraging.

Diurnal Active Searches

Active searching primarily focusses on detecting reptiles and amphibians yet will also detect small terrestrial mammals and signs of other cryptic species.

This technique involved scanning for active animals as well as turning rocks and logs, raking through leaf litter, looking under bark and in crevices and other suitable microhabitat for cryptic animals. During these searches, other signs were also recorded (when observed) where they could confidently be attributed to

species (e.g. tracks, scats, nests and feeding signs). During searches, habitat was reinstated, such as re-rolling logs and rocks back into place and avoiding the removal of whole sheets of exfoliating bark.

Targeted Bird Surveys

This technique is a non-intrusive active area search that provides a direct census of bird species occurrence and abundance. Inclement weather was avoided as this greatly reduces the detection of bird species. Particular attention was paid to the detection of EPBC Act listed Critically Endangered species, *Anthochaera phrygia* (Regent Honeyeater) and *Lathamus discolor* (Swift Parrot) as they were identified by the Likelihood of Occurrence Assessment as having a moderate potential to occur. Although *Erythrotriorchis radiatus* (Red Goshawk), was not identified as having a moderate potential to occur within the Likelihood of Occurrence Assessment, targeted bird surveys in combination with diurnal observation surveys would be appropriate in the detection of this species.

Diurnal bird surveys were conducted as per relevant guidelines early morning and late afternoon at specified locations across the referral area in November 2018 and between April and May 2021. All bird species observed during the assessment period were recorded. Birds were also opportunistically surveyed across the referral area for the duration of the entire survey period including additional survey works conducted in February and June 2021. A total of 179 person hours of survey works were completed over the referral area. Birds were identified from either direct observation or by their calls.

Modified Habitat Quality Assessment

The subject site was separated into assessment units (AU) for Modified Habitat Quality Assessments (MHQA) supporting the EPBC Act assessment. Vegetation was categorised according to status, remnant and non-remnant. Within each of these categories each regional ecosystem (remnant or pre-clear) is a separate AU. The referral area was separated into AUs to ensure each habitat type was assessed to provide results that are representative of the entire subject area.

2.2.4 Fauna Spotter and Catcher Surveys

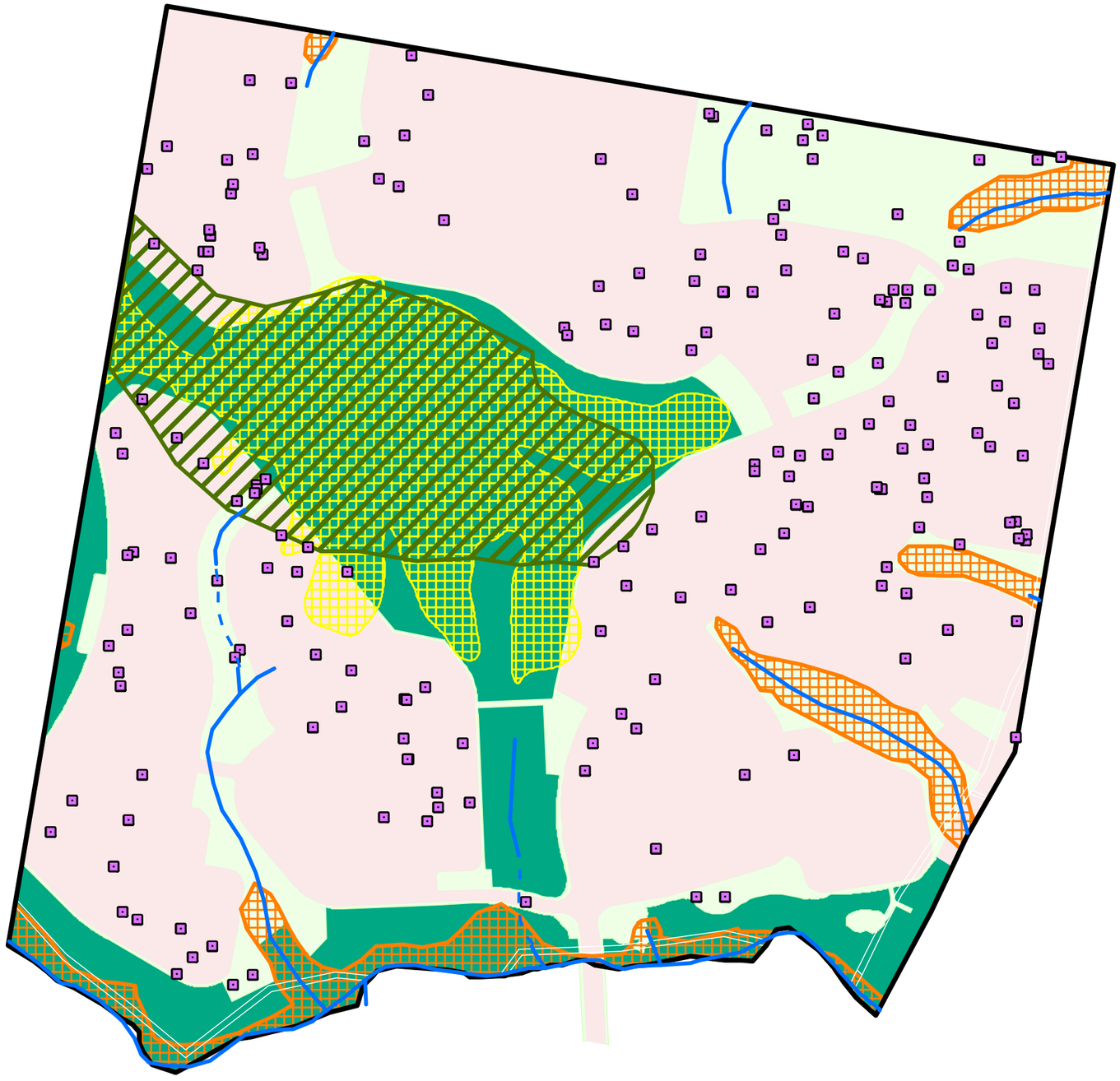
Immediately prior to the clearing activities being undertaken a suitably qualified Fauna Spotter Catcher is to undertake pre-clearance surveys of the area whereby any fauna habitat features will be delineated on-site. All personnel are to be notified of the location of the habitat features. The Fauna Spotter Catcher is then required to be on-site for all clearing activities.

2.2.5 Development Assessment Review

The six (6) listed or colonial breeding species identified as having potential breeding habitat within the proposed impact area are Glossy-black Cockatoo, Powerful Owl, Yellow-bellied Glider, Greater Glider, White-striped Free-tail Bat and Short-beaked Echidna. All of which rely on mature eucalypt forest with large hollow-bearing trees. As part of the field surveys conducted by SH Ecologists as detail in **Section 2.2.3**, hollow-bearing trees were located across the proposed impact area.

A summary list of all identified hollow-bearing trees and their location is presented below in **Appendix E** and displayed on **Plan 1**.

1. DEVELOPMENT ASSESSMENT



Notes:
The information on this plan is not suitable for any purpose other than the expressed use of the Client. Property dimensions, areas, numbers of lots and contours and other physical features may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of Saunders Havill.Unless a development approval states otherwise, this is not an approved plan.

Layer Sources
© State of Queensland (Department of Resources) 2025.
Updated data available at
http://qldspatial.information.qld.gov.au/catalogue/
* Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

LEGEND

- Qld DCDB
- Site boundary
- Confirmed waterway values / supporting habitat areas
- Steep Terrain
- Scenic Amenity / Ridgeline - Round Mountain
- Of Concern Riparian Vegetation
- Development Zone [147.5 ha]
- Future open space (functionally lost) [39.6 ha]
- Vegetation Retention Zone [59.7 ha]

Tree Plot (GPS & Survey accuracy)

- Habitat Tree to remove [196]

AMENDMENTS

Issue	Date	Description	Drawn	Checked
A	5/12/2025	PRELIMINARY	TC	KR

N

0 100 200 300 400 m

1:8,500 @ A3 | Transverse Mercator | GDA 2020 | Zone 56

Address / RPD: 4SP332712

5/12/2025

10941 E 01 SMP Development Assessment A

Saunders Havill
BOWENHILLS | SPRINGFIELD
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FRASERS PROPERTY
NEW BEITH PTY LTD

ROUND MOUNTAIN PROJECT

3. Impact Management Plan

This Impact Management Plan has been prepared in accordance with Section 355 of the NCAR.

3.1. Nature of the Impact

To facilitate the approved residential development of the project, within the GFPDA, vegetation clearing of predominately isolated, disturbed and fragmented patches of native vegetation is to occur.

As part of the approval process, extensive field surveys were conducted, including vegetation assessments where hollow-bearing trees were located and detailed (refer **Plan 1**). The remaining vegetation to be cleared within the project impact area (187.1 ha) is also displayed on **Plan 1** and contains a number of hollow-bearing trees and eucalypt vegetation. The clearing of the identified hollow-bearing trees and eucalypt vegetation has potential to qualify as tampering with animal breeding habitat**.** The following subsections detail the general impacts to highlighted species, **Section 3.2.12** includes the species-specific nature of the impact and management measures.

3.1.1 Potential Construction Impacts

Vegetation Clearing

Measures taken to minimise habitat loss were implemented at the approval stage, when the eastern conservation area was established, which includes a large area of remnant vegetation that is to be retained. However, to facilitate the residential development, portions of site vegetation clearing is still to occur. Detailed on **Plan 1** are habitat features recorded in the impact area by SH Ecologists. The features identified within the impact area are to be directly impacted, however, features identified within the conservation area will be retained. While extensive fauna surveys have been and continue to be conducted, including fauna pre-clearance surveys, none of the four (4) identified threatened fauna species have been recorded on-site.

Vehicle Movements

During construction, additional vehicles will be required within the subject site. Direct impact from vehicle movements on threatened species and vegetation communities include:

- Damage or destruction of vegetation or fauna habitat by vehicles traversing these areas; and
- Fauna strike.

Indirect impacts include:

- Interference of fauna through visual and noise impacts. This in turn can affect feeding, roosting, breeding, or nesting behaviour.
- Introducing and/or spreading weeds or feral animals carried on or in vehicles, resulting in deterioration or loss of vegetation and important fauna habitat; and
- Damage or destruction of vegetation and fauna habitat through smothering by dust generated by vehicles traversing the project area.

The site is situated within an already urbanised area, surrounded by relatively well used roads and existing construction activities. As a result, vehicle movement is relatively high at present. With the implementation of standard mitigation measures, the project is likely to result in a reduced impact to ecological values due to vehicular movements. Further, ecological field surveys confirmed that most fauna species present on-site are common or highly mobile avifauna.

Weeds

Increased vehicle movement during the vegetation clearing phase has the potential to increase the spread of weeds in the area, however, adjacent land holdings are highly modified or completely cleared. Therefore, with the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the potential introduction/spread of weeds.

Earthworks

Construction activities have the potential to generate dust emissions. Dust emissions during construction will be temporary. The main sources of dust will be generated via:

- Wheel-generated dust from the haul roads created for the construction phase;
- Dust lift-off from exposed surfaces (e.g., construction roads and pads);
- Earthworks, including construction of the embankments, and moving, dumping, and shaping material; and
- Vegetation and soil clearing of the land.

Excessive deposition of dust on leaves of plants can suppress their growth and photosynthesis, resulting in reduced habitat quality for fauna. High levels of airborne dust can irritate the respiratory systems of fauna and potentially result in ingestion of dust-coated seeds and other foods. Excessive deposition of dust on open water bodies may also degrade water quality and overall habitat quality for fauna. Notably the site exists within a relatively urbanised environment with surrounding areas developed for residential purposes. Surrounding properties are highly modified or completely cleared, with the implementation of standard mitigation measures, the project is likely to result in a temporary and minor impact to ecological values due to the generation of dust.

Light Emissions during Construction

Artificial light can affect both nocturnal and diurnal animals by disrupting behavioural patterns, with quality of light (e.g., wavelength, colour), intensity and duration potentially evoking different faunal responses. Impacts from increased light levels include disorientation from, or attraction toward, artificial sources of light; mortality from collisions with structures; and effects on light-sensitive cycles of species (e.g., breeding and migration for fauna and flowering in plants). An artificial increase in lighting can also affect abundance of predators.

Presence and intensity of artificial light in the project area will temporarily increase during the construction phase; however, night works will not be common. Lighting will be directed to construction areas within the project site. Some light spillage will be inevitable and is likely to be contained. Potential impacts associated with light emissions will be temporary and are unlikely to be significant given the general lack of

surrounding vegetation. With the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the use of light pollution during construction.

Noise and Vibration

Noise levels greater than existing ambient noise levels are expected during the construction within the project area. Sources of noise are likely to consist of noise in short, intense pulses from mobile plant equipment, and more prolonged noise, with consistent vibration, pitch and volume from generators, excavators, and pumps, in addition from noise from vehicles.

Both steady continuous and single noise events have the potential to lead to ecological impacts. Construction noise is expected to elicit some avoidance response from fauna using the surrounding vegetation though, with consideration of the extent of habitat available in the to be retained eastern area, this is likely to be a temporary and negligible to minor impact.

Waste Disposal

Inappropriate disposal of non-hazardous wastes can attract vermin and other wildlife to site. This may exacerbate potential impacts (e.g., road mortality). Litter may also enter surrounding environments. With the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the generation and handling of waste. Due to the temporary nature of the construction phase, waste generation opportunities will be limited.

Hazardous and Dangerous Goods

Spills and leaks from transfers (fuel, chemicals) and inadequate storage of dangerous goods and hazardous wastes could result in point-source contamination of surrounding land. Direct adverse impacts could include toxic impacts on vegetation (resulting in degradation or loss of vegetation and habitats), direct toxic impacts on fauna (from contact, inhalation, or ingestion) or indirect impacts on threatened and migratory species from habitat loss. Direct adverse impacts on surface and groundwater quality are also possible.

With the application of standard mitigation and management measures, impacts from liquid and solid waste disposal will be avoided or localised and small in scale. Further to this, the likelihood of significant spillages is considered low. Therefore, the project is likely to result in a negligible impact to ecological values due to potential spills and leaks.

Increased Human Presence

Increased human activity during construction has the potential to disturb fauna within adjacent habitat areas. Examples of impacts included heightened vigilance and predator avoidance, which can disrupt foraging and roosting efficiency, or deter wildlife from using particular areas. Impacts essentially represent a reduction in core habitat due to edge effects. Given the site is situated centrally in the GFPDA and adjacent to current residential developments, it is likely that the increase in human presence will be negligible on fauna.

3.1.2 Potential Ongoing Disturbances

After completion of construction, the ongoing presence of infrastructure and increased human activity can continue to have potential for adverse direct and indirect impacts. The key continuing risks to ecological values include:

- Weed incursion;
- Vehicle movements;
- Noise and light; and
- Increased human presence.

Each potential impact associated with ongoing use of the site is described in detail in the following sections.

Weed Incursion

Landscaped gardens will introduce a variety of new and exotic species to the area. Garden escapes have the potential to be introduced into adjacent bushland areas through vectors such as birds, wind, and runoff. Weed incursion will be ongoing and can be difficult to prevent. Nonetheless, the problem is often mostly constrained to edges of bushland that abut gardens and along urban drainage features.

With the implementation of standard mitigation measures, the project is likely to result in a minor impact to ecological values due the introduction and spread of weeds.

Vehicle Strike

Upon completion of the development, there will be a significant increase of vehicle traffic (compared to baseline conditions), and this will increase the likelihood of fauna strike. The probability of fauna strike is reduced due to the fact that most fauna will generally avoid urban areas. Further, ecological field surveys confirmed that most fauna species present on-site are common or highly mobile avifauna. Notwithstanding this, a low number of macropods, as well as reptiles (i.e., snakes and lizards attracted to heat on roads) may occasionally enter the area and be at risk of vehicular strike. However, given the retention conservation area within the eastern extent of the project it is unlikely macropods will enter the development area and risk of vehicle strike is considered to be negligible. Further, the area is already subject to heavy vehicular traffic due to surrounding land uses.

Nosie and Light

Noise levels are likely to increase once the development is complete as there will be increased vehicular and pedestrian traffic. Road noise will be the primary source of noise impact. The establishment and use of garden paths through landscaped areas will also provide a source of noise and light due to pedestrian traffic. This is however expected to be minor.

Artificial light from residences may affect nocturnal and diurnal animals by disrupting patterns, with quality of light (e.g., wave length, colour), intensity and duration potentially evoking different responses. Impacts from increased light levels include disorientation from or attraction toward artificial sources of light;

mortality from collisions with structures; and effects on light-sensitive cycles of species (e.g., breeding and migration for fauna and flowering in plants).

Artificial light would most likely affect fauna on the edges of adjacent vegetation however, given the existing already urbanised surrounding environment and current construction in the areas nearby, the small additional increase in light and noise as a result of the proposed development is considered likely to result in a negligible impact to wildlife due to light spillage.

Increased Human Presence

Increased human activity associated with land uses within the development has the potential to disturb fauna that exist within the broader area. Examples of impacts included heightened vigilance and predator avoidance, which can disrupt foraging and roosting efficiency, or deter wildlife from using particular areas.

Given the site is situated centrally in the GFPDA and adjacent to current residential developments, increased human presence is expected to have a negligible impact to wildlife and vegetation.

3.2. Avoidance, Mitigation and Management Measures

General mitigation measures to be implemented during the construction and operational phase of the project are outlined below. It is understood that the impact area will be securely fenced for security purposes during construction. The following measures and plans will be implemented to ensure best practice operation of the development.

The proposed development is located within an area that has a long-standing commitment to development. While the development is located within eucalypt vegetation, ecological surveys confirmed a dominance of lower order remnant and non-remnant vegetation that has been subject to historical disturbance within the impact area, which reduces the value of the vegetation for a variety of fauna species, including Greater Glider and Yellow-bellied Glider (south-eastern) that are well-documented to be highly sensitive to disturbance and have low-persistence in urban fragments.

The location of the impact site, being adjacent to a variety of already urbanised environments, potentially limits the value of the land for long-term fauna persistence. Connectivity potential is highly compromised to the south by existing infrastructure land uses. Notably, the vegetation retention zones provide a substantial habitat patch that contributes significantly to the relative habitat value connectivity to the southern Flagstone Creek and western adjacent vegetation.

3.2.1 Site Selection and Design

While it is acknowledged lower order remnant vegetation is present within the proposed impact area, all areas mapped on-site and confirmed as containing significant vegetation are proposed for retention and enhancement. By retaining the areas of remnant vegetation within the central and southern extent of the site, this eucalypt vegetation will continue to mature and provide habitat value in the form of hollow-bearing trees. The retention of more mature vegetation within these retention areas provides the potential for hollow growth, which the Glossy-black Cockatoo, Powerful Owl, Yellow-bellied Glider, Greater Glider and White-striped Free-tail Bat rely on for breeding.

3.2.2 Vegetation Clearing and Fauna Management Plan (VCFMP)

A Vegetation Clearing and Management Plan (VCFMP) will form part of the broader management document for the proposed action. The VCFMP will cover clearing of all vegetation within the site and include details on:

- Clearly show all trees to be removed and retained.
- Include details of all civil works likely to impact on existing vegetation.
- Temporary and permanent exclusion and protection fencing tor riparian corridors, significant habitat to retain, and parklands.
- Roles and responsibilities for site contractors, developer and the consultant group.
- Stockpiling and site access locations.
- A clearing sequencing plan showing the commencement of clearing and direction of removal (this will be in conjunction with the fauna management protocols to allow for the appropriate flushing of fauna towards surrounding safe haven areas.
- Links to weed management and revegetation proposals.
- The stock piling and reuse of cleared vegetation.
- Specific details on the removal of previously identified potential fauna habitat trees.
- Where trees are shown to be retained occur within disturbance zones they will be accompanied by necessary arborist specifications incorporated into the VCFMP.
- Designation of trees to be protected for the on-going life of the proposal which may require both immediate remedial works (Crown thinning, coppicing) and long-term monitoring for the potential of future works.

Under Queensland's Nature Conservation Act 1992, all native fauna are protected and as such the following activities are required to ensure that vegetation removal and construction does not adversely affect native fauna species:

- Immediately prior to the commencement of clearing of native vegetation, a daily visual inspection of the area must be carried out;
- In the event of an animal being located, a proptection area (as defined below in the management actions) will be established around the tree, excluding machinery from this area until the animal has relocated (usually overnight); or
- If an animal requires relocating, this must be undertaken by a suitable qualified fauna expert (e.g. Fauna Spotter-Catcher) recognised by the DETSI.
- Any native fauna orphaned or injured by the development process must be reported to the Queensland Parks and Wildlife Service.
- The site supervisor is responsible for the safe management of site fauna and implementation of these specific fauna requirements.

Fauna management information included in the VCFMP will include:

- Species surveyed as using the site with a focus on those most likely impacted by development works.
- A list of relevant State and Commonwealth legislation constraints and controls for the above listed fauna.
- A plan showing existing habitat opportunities and locations.
- Details of the threats to existing fauna species.
- Clearing sequence plan from the VCFMP.
- Management and mitigation measures i.e., temporary use of fauna exclusion fencing.
- Fauna spotter role, contacts and certification.
- Specific fauna management procedures for potential or known habitat trees.

3.2.3 Works Period

Clearing and construction works are only scheduled for daylight hours, between 6am and 6pm. Nocturnal disturbance is not anticipated.

3.2.4 Sequential Clearing

Cleaning processes included in the VCFMP adhere to sequential clearing requirements under the *South East Queensland Koala Conservation Strategy 2020-2025* and *Nature Conservation (Koala) Conservation Plan 2017.*

3.2.5 Fauna Spotter Catcher

A registered and suitability qualified Fauna Spotter Catcher will be engaged for the construction phase of the proposed action to implement a protocol of best management practises as required under State legislation.

This role is mandated for any clearing of native vegetation in Queensland. The role of the Fauna Spotter Catcher is to complete an assessment of the works area no more than two weeks prior to clearing and present a report to the proponent on the findings and how the proposed clearing is to be managed. The Fauna Spotter Catcher is required at the pre-start meeting and to be on-site during all times of clearing.

Significant habitat features, should any be identified on-site, will be flagged prior to clearing events and these areas supervised by an appropriately experienced Fauna Spotter Catcher. Identified within the clearing supervision protocols will be flagging of hollow bearing trees, if present.

Under the *Nature Conservation Act 1992* registered Fauna Spotter Catchers must complete a return of operations report to the Queensland State Government stating all fauna encountered and the specific management measures used to ensure the safety of native animals.

3.2.6 Hollow Occupancy Inspections

Where possible the use of an unmanned aerial vehicle (UAV) is to be used as the starting point for determining hollow occupancy. This survey is to be conducted in the 24-hour lead up to clearing, (either the night before or morning of) by the Fauna Spotter Catcher of the proposed clearing area for the day. This infrared UAV will have the capacity to inspect the identified hollow via thermal imaging. These surveys are to be conducted daily, where clearing is proposed over multiple days. Each hollow identified as reflecting a potential breeding place for listed species as defined in this SMP by the Fauna Spotter Catcher is to be inspected to determine occupancy.

If the occupancy of a hollow is unable to be determined via thermal imaging, more intensive surveys will be required, including the use of an Elevated Work Platform (EWP) to inspect the hollow. If ground conditions do not allow for the use of an EWP, a tree climber is to be used. These surveys allow for the close inspection with a torch for shallow hollows, under the aid of an endoscope/borescope technology for deeper hollows.

If a hollow is deemed not to reflect a breeding place listed in this SMP or is considered not to contain listed species by the Fauna Spotter Catcher, clearing can continue as per the VCFMP and Fauna Spotter Catcher pre-clearance documentation.

If a hollow is identified as housing a listed species, the appropriate exclusion zone is to be installed. Exclusion zones for each of the listed species identified in this SMP are defined in **Section 3.2.12.**

3.2.7 Burrow/Den Occupancy Inspection

During the Fauna Spotter Catcher pre-clearance inspection any habitat features described as den breeding places in this SMP will be flagged. Where possible the use of an unmanned aerial vehicle (UAV) is to be used to identify if the species utilising the den habitat is present within the clearing area. This survey is to be conducted in the 24-hour lead up to clearing, (either the night before or morning of) utilising an infrared UAV by the Fauna Spotter Catcher of the proposed clearing area for the day. These surveys are to be conducted daily, where clearing is proposed over multiple days.

Where a burrow/den feature has been identified, an intensive inspection with a torch for shallow dens, or borescope technology for deeper dens is to be used to determine occupancy.

If a den is deemed not to reflect a breeding place listed in this SMP or is considered not to contain listed species by the Fauna Spotter Catcher, clearing can continue as per the VCFMP and Fauna Spotter Catcher pre-clearance documentation.

If a den is identified as housing a listed species, the appropriate exclusion zone is to be installed. Exclusion zones for each of the listed species identified in this SMP are defined in **Section 3.2.12.**

3.2.8 Staged Clearing

By utilising the most appropriate machinery and equipment during vegetation clearing, the probability of injury or death of wildlife during clearing can be significantly reduced or eliminated while still maintaining an efficient vegetation removal process.

The use of bulldozers to clear vegetation is limited to vegetation that has been thoroughly inspected by a Fauna Spotter Catcher and is found to contain no fauna or potential habitat. If occupancy of any hollow within the clearing area was not able to be determined via methods outlined in **Section 3.2.5** clearing in the area should be avoided until occupancy can be determined. If occupancy of a hollow was confirmed as containing a listed species, clearing is not to occur within the exclusion zones identified in **Section 3.2.12**. Bulldozers are not to be used to push over large trees that contain hollows or other habitat features.

3.2.9 Fauna Handling

All clearing works are to be administered by a DETSI endorsed Fauna Spotter Catcher. The clearing management documentation also includes contact details for local Veterinary services.

3.2.10 Rehabilitation

The area set aside for vegetation retention includes is to be rehabilitated under existing approvals prior to hand over to Council. Rehabilitation is to include the installation of nest boxes to mitigate potential impacts from hollow removal. This will ensure ongoing habitat and connectivity value is enhanced, including for the species identified.

3.2.11 Staff Training

Clearing cannot commence on-site until a pre-clearing environmental package has been reviewed and signed off by all parties involved. The package includes a copy of all existing approvals and requirements for clearing, and will include this SMP once approved.

3.2.12 Species Specific Management Measures

Refer **Table 4 – Table 9** below where the key threats, potential impacts, management actions and reporting requirements associated with the clearing are discussed.

Table 4: Nature of the Proposed Impact and Avoidance and Minimisation Measures - Glossy-black Cockatoo

Proposed Impact	Avoidance and Minimisation Measures
Loss of Glossy-black Cockatoo breeding place (hollow-bearing trees) within the impact area, via vegetation clearing. Vegetation clearing – removal of hollow-bearing trees which have the potential to provide breeding habitat for the Glossy-black Cockatoo. The vegetation clearing of hollow-bearing trees within the identified impact area has been identified to have a temporary negative impact to the surrounding environment. However, through the provision of offset requirements to be conditioned under the EPBC referral process and the to be retained areas within the project site, the overall direction of the nature of the impact has been deemed positive.	**Avoidance Measures** Initial Field Surveys • During the approval phase of this project, SH Ecologists conducted extensive site surveys to determine the potential for breeding habitat for the Glossy-black Cockatoo, including vegetation assessments, observations for significant fauna habitat presence, GPS tree plot of habitat trees (hollow-bearing) and motion sensor camera detection. These results were incorporated into the approvals process where potential impacts to threatened species were discussed. • SH Ecologists carried out targeted species surveys (refer **Section 2.2.3**) within the timeframes outlined in the Queensland Government survey guidelines detailed in **Section 2.1.2.** Where at the time of surveys, while potential breeding habitat was identified (large hollow-bearing eucalypts, refer **Plan 1** – Habitat Tree) were present, no evidence of the Glossy-back Cockatoo was recorded. • The initial field surveys identified areas of high order remnant vegetation within the proposed impact area, which has now been deemed as a retention area under the proposed development. Vegetation within this retention area was identified as remnant status and therefore contains more mature trees which have a higher potential for hollow-bearing trees and therefore Glossy-black Cockatoo breeding places. Through the initial field surveys, retention and therefore avoidance of these remnant areas and potential breeding places for the Glossy-black Cockatoo have been avoided. Site Selection and Design • From these extensive surveys an area of 'conservation' was established which excluded areas of the southern and central portion of the site from development (refer **Plan 1**). This conservation area contains the high order remnant vegetation identified on-site via the vegetation assessments conducted by SH Ecologists. These areas of high order remnant vegetation contain older growth and therefore retain the potential for a higher number of hollow-bearing trees and thus ability for Glossy-black Cockatoo breeding habitat. Whereas, areas of lower order fragmented remnant, and non-remnant vegetation were included within the impact area.

Proposed Impact	Avoidance and Minimisation Measures
	Minimisation Measures VCFMP • Prior to any clearing activities a VCFMP is to be prepared (as outlined in **Section 3.2.2**), this document will detail each tree within the proposed clearing area, and any habitat features (hollow-bearing trees) as well as the direction the clearing is to be conducted. • This document will be issued to site contractors prior to clearing and discussed at the pre-clearance meeting. This document along with the Fauna Spotter Catcher reporting outlined in the below section is to ensure all Glossy-black Cockatoo potential breeding sites are flagged and identified if present. • Tree protection fencing is to be installed at the boundary of each staged area as per the VCFMP, this fencing is then checked by the Environmental Coordinator prior to the clearing event. This step reduces the likelihood of impact outside of the approved clearing extent where adjacent potential breeding places are located. Sequential Clearing • Sequential clearing of the site will allow any transient or foraging Glossy-black Cockatoo individuals to relocate away from the clearing areas or avoid areas where clearing is underway. • During the peak breeding season for the Glossy-black Cockatoo (March to August) clearing of potential habitat trees (large old growth trees (living or dead), with hollows used for nesting between 10-20 metres above the ground in vertical or near vertical areas of the tree) should be avoided where possible. Fauna Spotter Catcher and Arborist • A suitably qualified Fauna Spotter Catcher will conduct pre-clearance surveys of the staged clearing area in the days leading up to the clearing activities. During these surveys, potential fauna habitat including hollow-bearing trees (Glossy-black Cockatoo breeding places) will be identified, flagged and included into pre-clearance reporting (Wildlife Protection and Management Plan and Wildlife and Habitat Impact Mitigation Plan). Each flagged tree is then to be assessed in further detail prior to clearing. Fauna Spotter

Proposed Impact	Avoidance and Minimisation Measures

Catcher preclearance reporting will then be distributed to clearing contractors and associated personal prior to clearing.

- The appointed Fauna Spotter Catcher has the opportunity to discuss any identified habitat with clearing personnel at the pre-clearance meeting held on-site prior to clearing activities. Where if potential breeding places have been identified an exclusion zone can be installed prior to works commencing.
- In the 24-hour lead up to the clearing, (either the night before or morning of) infrared UAV surveys are to be conducted by the Fauna Spotter Catcher of the proposed clearing area for the day. These surveys are to be conducted daily, where clearing is proposed over multiple days.
- If hollow-bearing trees are identified as being present within the clearing area, the Fauna Spotter Catcher is to determine the occupancy of this potential breeding habitat feature and alignment with the breeding place type defined in **Section 2.1.2** prior to clearing commencing for the day, by methods outlined in **Section 3.2.6**.
    - If a hollow is confirmed unoccupied by Glossy-black Cockatoo proceed with clearing as per VCFMP and pre-clearance Fauna Spotter Catcher documentation.
    - If a hollow is confirmed as occupied by breeding Glossy-black Cockatoo, as per methods outlined in **Section 3.2.6** clearing within the area is to stop immediately. The hollow-bearing tree in which the breeding place is located as well as a 100 metre no clearing radius is to be established. Clearing is not to proceed within this 100 metre buffer area for a minimum of thirty days (incubation period) and cannot be resumed until a suitably qualified person has confirmed young have fledged or the nest is vacated. Refer to **Section 3.3** for reporting requirements. Once the nest has been confirmed as vacated, by a suitably qualified Fauna Spotter Catcher, clearing can re-commence within the exclusion zone. Where a Glossy-black Cockatoo breeding place has been identified within the clearing area and the nest since been vacated, the hollow is to be removed and relocated to a host tree within the on-site conservation area.
    - If hollow occupancy is unable to be determined, more intensive surveys will be required, including the use of an EWP to inspect the hollow. If ground conditions do not allow for the use of an EWP,

Proposed Impact	Avoidance and Minimisation Measures
	a tree climber is to be used. These surveys allow for the close inspection with a torch for shallow hollows, or fibre-optic cameras/bore scopes for deeper hollows. • The appointed suitably qualified Fauna Spotter Catcher is required to be on-site during all clearing activities. <u>Education</u> • Ensure employees and contractors are aware of environmental values – included in site induction. • Pre-clearance Meeting: In the lead up to staged clearing all clearing contractors are to attend. <u>Limit Artificial Light</u> • Consider placement, configuration and direction of lighting – while the Glossy-black Cockatoo is not a traditional nocturnal species, they are most active during the first or last two (2) hours of daylight. While works are not expected to occur during nocturnal hours, the lighting requirements should be adhered to. It is recommended that the National Light Pollution Guidelines for Wildlife (CoA 2020) be implemented.

Table 5: Nature of the Proposed Impact and Avoidance and Minimisation Measures - Powerful Owl

Proposed Impact	Avoidance and Minimisation Measures
Loss of Powerful Owl breeding place (hollow-bearing trees) within the impact area, via vegetation clearing. Vegetation clearing – removal of hollow-bearing trees which have the potential to provide breeding habitat for the Powerful Owl. The vegetation clearing of hollow-bearing trees within the identified impact area has been identified to have a temporary negative impact to the surrounding environment. However, through the provision of offset requirements to be conditioned under the EPBC referral process and the to be retained areas within the project site, the overall direction of the nature of the impact has been deemed positive.	**Avoidance Measures** Initial Field Surveys • During the approval phase of this project, SH Ecologists conducted extensive site surveys to determine the potential for breeding habitat for the Powerful Owl, including vegetation assessments, observations for significant fauna habitat presence, GPS tree plot of habitat trees (hollow bearing), motion sensor camera detection, targeted bird surveys and nocturnal searches. These results were incorporated into the approvals process where potential impacts to threatened species were discussed. • SH Ecologists carried out targeted species surveys (refer **Section 2.2.3**) within the timeframes outlined in the survey guidelines detailed in **Section 2.1.3.** Where at the time of surveys, while potential breeding habitat was identified (hollow-bearing trees, refer **Plan 1** – Habitat Tree) were present, no evidence of the Powerful Owl was recorded. • The initial field surveys identified areas of high order remnant vegetation within the proposed impact area, which has now been deemed as a retention area under the proposed development. Vegetation within this retention area was identified as remnant status and therefore contains more mature trees which have a higher potential for hollow-bearing trees and therefore Powerful Owl breeding places. Through the initial field surveys, retention and therefore avoidance of these remnant areas and potential breeding places for the Powerful Owl have been avoided. Site Selection and Design • From these extensive surveys an area of 'conservation' was established which excluded areas of the southern and central portion of the site from development (refer **Plan 1**). This conservation area contains the high order remnant vegetation identified on-site via the vegetation assessments conducted by SH Ecologists. These areas of high order remnant vegetation contain older growth and therefore retain the potential for a higher number of hollow-bearing trees and thus ability for Powerful Owl breeding habitat. Whereas, areas of lower order fragmented remnant, and non-remnant vegetation were included within the impact area.

Proposed Impact	Avoidance and Minimisation Measures
	Minimisation Measures VCFMP • Prior to any clearing activities a VCFMP is to be prepared (as outlined in **Section 3.2.2**), this document will detail each tree within the proposed clearing area, and any habitat features (hollow-bearing trees) as well as the direction the clearing is to be conducted. • This document will be issued to site contractors prior to clearing and discussed at the pre-clearance meeting. This document along with the Fauna Spotter Catcher reporting outlined in the below section is to ensure all Powerful Owl potential breeding sites are flagged and identified if present. • Tree protection fencing is to be installed at the boundary of each staged area as per the VCFMP, this fencing is then checked by the Environmental Coordinator prior to the clearing event. This step reduces the likelihood of impact outside of the approved clearing extent where adjacent potential breeding places are located. Sequential Clearing • Sequential clearing of the site will allow any transient or foraging Powerful Owl individuals to relocate away from the clearing areas or avoid areas where clearing is underway. • During the peak breeding season for the Powerful Owl (May to August) clearing of potential habitat trees (vertical hollow within a large, mature tree used for nesting and rearing young) should be avoided where possible. Fauna Spotter Catcher and Arborist • A suitably qualified Fauna Spotter Catcher will conduct pre-clearance surveys of the staged clearing area in the days leading up to the clearing activities. During these surveys, potential fauna habitat including hollow-bearing trees (Powerful Owl breeding places) will be identified, flagged and included into pre-clearance reporting (Wildlife Protection and Management Plan and Wildlife and Habitat Impact Mitigation Plan). Each flagged tree is then to be assessed in further detail prior to clearing. Fauna Spotter Catcher

Proposed Impact	Avoidance and Minimisation Measures
	preclearance reporting will then be distributed to clearing contractors and associated personal prior to clearing. • The appointed Fauna Spotter Catcher has the opportunity to discuss any identified habitat with clearing personnel at the pre-clearance meeting held on-site prior to clearing activities. Where if potential breeding places have been identified an exclusion zone can be installed prior to works commencing. • In the 24-hour lead up to the clearing, (either the night before or morning of) infrared UAV surveys are to be conducted by the Fauna Spotter Catcher of the proposed clearing area for the day. These surveys are to be conducted daily, where clearing is proposed over multiple days. • If hollow-bearing trees are identified as being present within the clearing area, the Fauna Spotter Catcher is to determine the occupancy of this potential breeding habitat feature and alignment with the breeding place type defined in **Section 2.1.3** prior to clearing commencing for the day, by methods outlined in **Section 3.2.6**. o If a hollow is confirmed unoccupied by Powerful Owl proceed with clearing as per VCFMP and pre-clearance Fauna Spotter Catcher documentation. o If a hollow is confirmed as occupied by Powerful Owl, as per methods outlined in **Section 3.2.6** clearing within the area is to stop immediately. The hollow-bearing tree in which the breeding place is located as well as a 100 metre no clearing or loud machinery radius is to be established. Clearing or loud machinery works are not to proceed within this 100 metre buffer while the nest is active, or during breeding window. Works cannot be resumed until a suitably qualified person has confirmed young have fledged or the nest is vacated. Refer to **Section 3.3** for reporting requirements. Once the nest has been confirmed as vacated by a suitably qualified Fauna Spotter Catcher, clearing can re-commence within the exclusion zone. Where a Powerful Owl breeding place has been identified within the clearing area and the nest since been vacated, the hollow is to be removed and relocated to a host tree within the on-site conservation area. o If hollow occupancy is unable to be determined, more intensive surveys will be required, including the use of an EWP to inspect the hollow. If ground conditions do not allow for the use of an EWP, a

Proposed Impact	Avoidance and Minimisation Measures
	tree climber is to be used. These surveys allow for the close inspection with a torch for shallow hollows, or fibre-optic cameras/bore scopes for deeper hollows. • The appointed suitably qualified Fauna Spotter Catcher is required to be on-site during all clearing activities. <u>Education</u> • Ensure employees and contractors are aware of environmental values – included in site induction. • Pre-clearance Meeting: In the lead up to staged clearing all clearing contractors are to attend. <u>Limit Artificial Light</u> • Consider placement, configuration and direction of lighting – the Powerful Owl is a nocturnal species. While works are not expected to occur during nocturnal hours, the lighting requirements should be adhered to. It is recommended that the National Light Pollution Guidelines for Wildlife (CoA 2020) be implemented.

Table 6: Nature of the Proposed Impact and Avoidance and Minimisation Measures – Yellow-bellied Glider

Proposed Impact	Avoidance and Minimisation Measures
Loss of Yellow-bellied Glider breeding place (hollow-bearing trees) within the impact area, via vegetation clearing. Vegetation clearing – removal of hollow-bearing trees which have the potential to provide breeding habitat for the Yellow-bellied Glider. The vegetation clearing of hollow-bearing trees within the identified impact area has been identified to have a temporary negative impact to the surrounding environment. However, through the provision of offset requirements to be conditioned under the EPBC referral process and the to be retained areas within the project site, the overall direction of the nature of the impact has been deemed positive.	**Avoidance Measures** <u>Initial Field Surveys</u> • During the approval phase of this project, SH Ecologists conducted extensive site surveys to determine the potential for breeding habitat for the Yellow-bellied Glider, including vegetation assessments, observations for significant fauna habitat presence, GPS tree plot of habitat trees (hollow bearing), motion sensor camera detection and nocturnal searches. These results were incorporated into the approvals process where potential impacts to threatened species were discussed. • SH Ecologists carried out targeted species surveys (refer **Section 2.2.3**) within the timeframes outlined in the survey guidelines detailed in **Section 2.1.4.** Where at the time of surveys, while potential breeding habitat was identified (hollow-bearing trees, refer **Plan 1** – Habitat Tree) were present, no evidence of the Yellow-bellied Glider was recorded. • The initial field surveys identified areas of high order remnant vegetation within the proposed impact area, which has now been deemed as a retention area under the proposed development. Vegetation within this retention area was identified as remnant status and therefore contains more mature trees which have a higher potential for hollow-bearing trees and therefore Yellow-bellied Glider breeding places. Through the initial field surveys, retention and therefore avoidance of these remnant areas and potential breeding places for the Yellow-bellied Glider have been avoided. <u>Site Selection and Design</u> • From these extensive surveys an area of 'conservation' was established which excluded areas of the southern and central portion of the site from development (refer **Plan 1**). This conservation area contains the high order remnant vegetation identified on-site via the vegetation assessments conducted by SH Ecologists. These areas of high order remnant vegetation contain older growth and therefore retain the potential for a higher number of hollow-bearing trees and thus ability for Yellow-bellied Glider breeding habitat. Whereas, areas of lower order fragmented remnant, and non-remnant vegetation were included within the impact area.

Proposed Impact	Avoidance and Minimisation Measures
	Minimisation Measures VCFMP • Prior to any clearing activities a VCFMP is to be prepared (as outlined in **Section 3.2.2**), this document will detail each tree within the proposed clearing area, and any habitat features (hollow-bearing trees) as well as the direction the clearing is to be conducted. • This document will be issued to site contractors prior to clearing and discussed at the pre-clearance meeting. This document along with the Fauna Spotter Catcher reporting outlined in the below section is to ensure all Yellow-bellied Glider potential breeding sites are flagged and identified if present. • Tree protection fencing is to be installed at the boundary of each staged area as per the VCFMP, this fencing is then checked by the Environmental Coordinator prior to the clearing event. This step reduces the likelihood of impact outside of the approved clearing extent where adjacent potential breeding places are located. Sequential Clearing • Sequential clearing of the site will allow any transient or foraging Yellow-bellied Glider individuals to relocate away from the clearing areas or avoid areas where clearing is underway. • Given the Yellow-bellied Glider has the potential to undertaken breeding through the year in South-east Queensland, avoidance of clearing during a particular breeding season is difficult. Therefore, clearing of smooth-barked hollow-bearing eucalypt species (living or dead) over 500 mm DSH should be undertaken with caution. Fauna Spotter Catcher and Arborist • A suitably qualified Fauna Spotter Catcher will conduct pre-clearance surveys of the staged clearing area in the days leading up to the clearing activities. During these surveys, potential fauna habitat including hollow-bearing trees (Yellow-bellied Glider breeding places) will be identified, flagged and included into pre-clearance reporting (Wildlife Protection and Management Plan and Wildlife and Habitat Impact Mitigation Plan). Each flagged tree is then to be assessed in further detail prior to clearing. Fauna Spotter

Proposed Impact	Avoidance and Minimisation Measures
	Catcher preclearance reporting will then be distributed to clearing contractors and associated personal prior to clearing. • The appointed Fauna Spotter Catcher has the opportunity to discuss any identified habitat with clearing personnel at the pre-clearance meeting held on-site prior to clearing activities. Where if potential breeding places have been identified an exclusion zone can be installed prior to works commencing. • In the 24-hour lead up to the clearing, (either the night before or morning of) infrared UAV surveys are to be conducted by the Fauna Spotter Catcher of the proposed clearing area for the day. These surveys are to be conducted daily, where clearing is proposed over multiple days. • If hollow-bearing trees are identified as being present within the clearing area, the Fauna Spotter Catcher is to determine the occupancy of this potential breeding habitat feature and alignment with the breeding place type defined in **Section 2.1.4** prior to clearing commencing for the day, by methods outlined in **Section 3.2.6**. ○ If a hollow is confirmed unoccupied by Yellow-bellied Glider proceed with clearing as per VCFMP and pre-clearance Fauna Spotter Catcher documentation. ○ If a hollow is confirmed as occupied by Yellow-bellied Glider, as per methods outlined in **Section 3.2.6** clearing within the area is to stop immediately. The hollow-bearing tree in which the breeding place is located as well as a 100 metre no clearing or loud machinery radius is to be established. Clearing works are not to proceed within this 100 metre buffer while the hollow is active within the breeding window. While Yellow-bellied Gliders may be actively breeding in Winter months, however may also occur all year round. Works cannot be resumed until a suitably qualified person has confirmed the hollow is no longer active. Refer to **Section 3.3** for reporting requirements. Once the hollow has been confirmed as vacated by a suitable qualified Fauna Spotter Catcher, clearing can re-commence within the exclusion zone. Where a Yellow-bellied Glider breeding place has been identified within the clearing area and the hollow since been vacated, the hollow is to be removed and relocated to a host tree within the on-site conservation area.

Proposed Impact	Avoidance and Minimisation Measures
	○ If hollow occupancy is unable to be determined, more intensive surveys will be required, including the use of an EWP to inspect the hollow. If ground conditions do not allow for the use of an EWP, a tree climber is to be used. These surveys allow for the close inspection with a torch for shallow hollows, or fibre-optic cameras/bore scopes for deeper hollows. • The appointed suitably qualified Fauna Spotter Catcher is required to be on-site during all clearing activities. <u>Education</u> • Ensure employees and contractors are aware of environmental values – included in site induction. • Pre-clearance Meeting: In the lead up to staged clearing all clearing contractors are to attend. <u>Limit Artificial Light</u> • Consider placement, configuration and direction of lighting – the Yellow-bellied Glider is a nocturnal species. While works are not expected to occur during nocturnal hours, the lighting requirements should be adhered to. It is recommended that the National Light Pollution Guidelines for Wildlife (CoA 2020) be implemented.

Table 7: Nature of the Proposed Impact and Avoidance and Minimisation Measures – Greater Glider

Proposed Impact	Avoidance and Minimisation Measures
Loss of Greater Glider breeding place (hollow-bearing trees) within the impact area, via vegetation clearing. Vegetation clearing – removal of hollow-bearing trees which have the potential to provide breeding habitat for the Greater Glider. The vegetation clearing of hollow-bearing trees within the identified impact area has been identified to have a temporary negative impact to the surrounding environment. However, through the provision of offset requirements to be conditioned under the EPBC referral process and the to be retained areas within the project site, the overall direction of the nature of the impact has been deemed positive.	**Avoidance Measures** Initial Field Surveys • During the approval phase of this project, SH Ecologists conducted extensive site surveys to determine the potential for breeding habitat for the Greater Glider, including vegetation assessments, observations for significant fauna habitat presence, GPS tree plot of habitat trees (hollow bearing), motion sensor camera detection and nocturnal searches. These results were incorporated into the approvals process where potential impacts to threatened species were discussed. • SH Ecologists carried out targeted species surveys (refer **Section 2.2.3**) within the timeframes outlined in the survey guidelines detailed in **Section 2.1.5.** Where at the time of surveys, while potential breeding habitat was identified (hollow-bearing trees, refer **Plan 1** – Habitat Tree) were present, no evidence of the Greater Glider was recorded. • The initial field surveys identified areas of high order remnant vegetation within the proposed impact area, which has now been deemed as a retention area under the proposed development. Vegetation within this retention area was identified as remnant status and therefore contains more mature trees which have a higher potential for hollow-bearing trees and therefore Greater Glider breeding places. Through the initial field surveys, retention and therefore avoidance of these remnant areas and potential breeding places for the Greater Glider have been avoided. Site Selection and Design • From these extensive surveys an area of 'conservation' was established which excluded areas of the southern and central portion of the site from development (refer **Plan 1**). This conservation area contains the high order remnant vegetation identified on-site via the vegetation assessments conducted by SH Ecologists. These areas of high order remnant vegetation contain older growth and therefore retain the potential for a higher number of hollow-bearing trees and thus ability for Greater Glider breeding habitat. Whereas, areas of lower order fragmented remnant, and non-remnant vegetation were included within the impact area.

Proposed Impact	Avoidance and Minimisation Measures

Minimisation Measures

VCFMP

- Prior to any clearing activities a VCFMP is to be prepared (as outlined in **Section 3.2.2**), this document will detail each tree within the proposed clearing area, and any habitat features (hollow-bearing trees) as well as the direction the clearing is to be conducted.
- This document will be issued to site contractors prior to clearing and discussed at the pre-clearance meeting. This document along with the Fauna Spotter Catcher reporting outlined in the below section is to ensure all Greater Glider potential breeding sites are flagged and identified if present.
- Tree protection fencing is to be installed at the boundary of each staged area as per the VCFMP, this fencing is then checked by the Environmental Coordinator prior to the clearing event. This step reduces the likelihood of impact outside of the approved clearing extent where adjacent potential breeding places are located.

Sequential Clearing

- Sequential clearing of the site will allow any transient or foraging Greater Glider individuals to relocate away from the clearing areas or avoid areas where clearing is underway.
- During the peak breeding season for the Greater Glider (March to June) clearing of potential habitat trees (hollow-bearing tree (living or dead) used for nesting and rearing young) should be avoided where possible.

Fauna Spotter Catcher and Arborist

- A suitably qualified Fauna Spotter Catcher will conduct pre-clearance surveys of the staged clearing area in the days leading up to the clearing activities. During these surveys, potential fauna habitat including hollow-bearing trees (Greater Glider breeding places) will be identified, flagged and included into pre-clearance reporting (Wildlife Protection and Management Plan and Wildlife and Habitat Impact Mitigation Plan). Each flagged tree is then to be assessed in further detail prior to clearing. Fauna Spotter Catcher preclearance reporting will then be distributed to clearing contractors and associated personal prior to clearing.

Proposed Impact	Avoidance and Minimisation Measures

- The appointed Fauna Spotter Catcher has the opportunity to discuss any identified habitat with clearing personnel at the pre-clearance meeting held on-site prior to clearing activities. Where if potential breeding places have been identified an exclusion zone can be installed prior to works commencing.
- In the 24-hour lead up to the clearing, (either the night before or morning of) infrared UAV surveys are to be conducted by the Fauna Spotter Catcher of the proposed clearing area for the day. These surveys are to be conducted daily, where clearing is proposed over multiple days.
- If hollow-bearing trees are identified as being present within the clearing area, the Fauna Spotter Catcher is to determine the occupancy of this potential breeding habitat feature and alignment with the breeding place type defined in **Section 2.1.5** prior to clearing commencing for the day, by methods outlined in **Section 3.2.6**.
    - If a hollow is confirmed unoccupied by Greater Glider proceed with clearing as per VCFMP and pre-clearance Fauna Spotter Catcher documentation.
    - If a hollow is confirmed as occupied by breeding Greater Glider, as per methods outlined in **Section 3.2.6** clearing within the area is to stop immediately. The hollow-bearing tree in which the breeding place is located as well as a 100 metre no clearing or loud machinery radius is to be established. Clearing works are not to proceed within this 100 metre buffer while the hollow is active within breeding window. Works cannot be resumed until a suitably qualified person has confirmed the hollow is no longer active. Refer to **Section 3.3** for reporting requirements. Once the hollow has been confirmed as vacated by a suitable qualified Fauna Spotter Catcher, clearing can re-commence within the exclusion zone. Where a Greater Glider breeding place has been identified within the clearing area and the hollow since been vacated, the hollow is to be removed and relocated to a host tree within the on-site conservation area.
    - If hollow occupancy is unable to be determined, more intensive surveys will be required, including the use of an EWP to inspect the hollow. If ground conditions do not allow for the use of an EWP, a tree climber is to be used. These surveys allow for the close inspection with a torch for shallow hollows, or fibre-optic cameras/bore scopes for deeper hollows.

Proposed Impact	Avoidance and Minimisation Measures
	• The appointed suitably qualified Fauna Spotter Catcher is required to be on-site during all clearing activities. Education • Ensure employees and contractors are aware of environmental values – included in site induction. • Pre-clearance Meeting: In the lead up to staged clearing all clearing contractors are to attend. Limit Artificial Light • Consider placement, configuration and direction of lighting – the Greater Glider is a nocturnal species. While works are not expected to occur during nocturnal hours, the lighting requirements should be adhered to. It is recommended that the National Light Pollution Guidelines for Wildlife (CoA 2020) be implemented.

Table 8: Nature of the Proposed Impact and Avoidance and Minimisation Measures – White-striped Free-tail Bat

Proposed Impact	Avoidance and Minimisation Measures
Loss of White-striped Free-tail Bat breeding place (hollow-bearing trees) within the impact area, via vegetation clearing. Vegetation clearing – removal of hollow-bearing trees which have the potential to provide breeding habitat for the White-striped Free-tail Bat. The vegetation clearing of hollow-bearing trees within the identified impact area has been identified to have a temporary negative impact to the surrounding environment. However, through the provision of offset requirements to be conditioned under the EPBC referral process and the to be retained areas within the project site, the overall direction of the nature of the impact has been deemed positive.	**Avoidance Measures** <u>Initial Field Surveys</u> • During the approval phase of this project, SH Ecologists conducted extensive site surveys to determine the potential for breeding habitat for the White-striped Free-tail bat, including vegetation assessments, observations for significant fauna habitat presence, GPS tree plot of habitat trees (hollow bearing), motion sensor camera detection, nocturnal searches and Ultrasonic Bat Detection. • SH Ecologists carried out targeted species surveys (refer **Section 2.2.3**) within the timeframes outlined in the survey guidelines detailed in **Section 2.1.6.** Where at the time of surveys, potential breeding habitat was identified (hollow-bearing trees, refer **Plan 1** – Habitat Tree) were present, as well as sightings of the species was recorded. While this species is not listed as threatened, colonial breeding fauna are protected under the high-risk species management plan. No evidence of breeding was observed at the time of surveys. • The initial field surveys identified areas of high order remnant vegetation within the proposed impact area, which has now been deemed as a retention area under the proposed development. Vegetation within this retention area was identified as remnant status and therefore contains more mature trees which have a higher potential for hollow-bearing trees and therefore White-striped Free-tail Bat breeding places. Through the initial field surveys, retention and therefore avoidance of these remnant areas and potential breeding places for the White-striped Free-tail Bat have been avoided. • Colony collapse or abandonment will be avoided by the ceasing of vegetation clearing activities if the species is identified within the area. The intention of this is to maintain the population and ensure safe movement of the species from the site. If this species habitat is observed within the vegetation clearing area, the hollow/feature is to be translocated to the on-site 'conservation area' for future use. <u>Site Selection and Design</u> • From these extensive surveys an area of 'conservation' was established which excluded areas of the southern and central portion of the site from development (refer **Plan 1**). This conservation area contains the high order remnant vegetation identified on-site via the vegetation assessments conducted by SH

Proposed Impact	Avoidance and Minimisation Measures

Ecologists. These areas of high order remnant vegetation contain older growth and therefore retain the potential for a higher number of hollow-bearing trees and thus ability for White-striped Free-tail Bat breeding habitat. Whereas, areas of lower order fragmented remnant, and non-remnant vegetation were included within the impact area.

Minimisation Measures

VCFMP

- Prior to any clearing activities a VCFMP is to be prepared (as outlined in **Section 3.2.2**), this document will detail each tree within the proposed clearing area, and any habitat features (hollow-bearing trees) as well as the direction the clearing is to be conducted.
- This document will be issued to site contractors prior to clearing and discussed at the pre-clearance meeting. This document along with the Fauna Spotter Catcher reporting outlined in the below section is to ensure all White-striped Free-tail Bat potential breeding sites are flagged and identified if present.
- Tree protection fencing is to be installed at the boundary of each staged area as per the VCFMP, this fencing is then checked by the Environmental Coordinator prior to the clearing event. This step reduces the likelihood of impact outside of the approved clearing extent where adjacent potential breeding places are located.

Sequential Clearing

- Sequential clearing of the site will allow any transient or foraging White-striped Free-tail Bat individuals to relocate away from the clearing areas or avoid areas where clearing is underway.
- Given the White-striped Free-tail Bat breeding and birthing season occurs between August and January, followed by a weaning stage of four to five months (January to June) vegetation clearing of potential breeding habitat (large over-mature to dead eucalypts with diameter greater than 89 cm) should be avoided during this period, where possible.

Fauna Spotter Catcher and Arborist

Proposed Impact	Avoidance and Minimisation Measures

- A suitably qualified Fauna Spotter Catcher will conduct pre-clearance surveys of the staged clearing area in the days leading up to the clearing activities. During these surveys, potential fauna habitat including hollow-bearing trees (White-striped Free-tail Bat breeding places) will be identified, flagged and included into pre-clearance reporting (Wildlife Protection and Management Plan and Wildlife and Habitat Impact Mitigation Plan). Each flagged tree is then to be assessed in further detail prior to clearing. Fauna Spotter Catcher preclearance reporting will then be distributed to clearing contractors and associated personal prior to clearing.
- The appointed Fauna Spotter Catcher has the opportunity to discuss any identified habitat with clearing personnel at the pre-clearance meeting held on-site prior to clearing activities. Where if potential breeding places have been identified an exclusion zone can be installed prior to works commencing.
- In the 24-hour lead up to the clearing, (either the night before or morning of) infrared UAV surveys are to be conducted by the Fauna Spotter Catcher of the proposed clearing area for the day. These surveys are to be conducted daily, where clearing is proposed over multiple days.
- If large (greater than 89 cm very mature or dead) hollow-bearing trees are identified as being present within the clearing area, the Fauna Spotter Catcher is to determine the occupancy of this potential breeding habitat feature and alignment with the breeding place type defined in **Section 2.1.6** prior to clearing commencing for the day, by methods outlined in **Section 3.2.6**.
    - If a hollow of a mature eucalypt (89 cm DSH) is confirmed unoccupied by White-striped Free-tail Bat proceed with clearing as per VCFMP and pre-clearance Fauna Spotter Catcher documentation.
    - If a hollow is confirmed as occupied by breeding or non-breeding day roosting White-striped Free-tail Bat, as per methods outlined in **Section 3.2.6** clearing within the area is to stop immediately. The hollow-bearing tree in which the breeding place is located as well as a 100 metre no clearing is to be established. Clearing works are not to proceed within this 100 metre buffer while the hollow is active within breeding, birthing and weaning window. Works cannot be resumed until a suitably qualified person has confirmed the hollow is no longer being used as a maternity roost. Refer to **Section 3.3** for reporting requirements. Once the hollow has been confirmed as vacated by a

Proposed Impact	Avoidance and Minimisation Measures

suitable qualified Fauna Spotter Catcher, clearing can re-commence within the exclusion zone. Where a White-striped Free-tail Bat breeding place has been identified within the clearing area and the hollow since been vacated, the hollow is to be removed and relocated to a host tree within the on-site conservation area. This removal and relocation of the roost reduces the risk of colony collapse or abandonment. Given this species are known to switch between multiple roost sites in an area, and has been found roosting in building/dwelling voids, the relocation of already established hollows to nearby host trees is believed to be an effective management measure.

  - Roost replacement for this species has been found to be highly effective.
  - While the species, does not undergo prolonged torpor periods, If a hollow is confirmed as occupied by torpor individuals typically during cooler months, clearing within the area is to cease immediately. Works may resume in the area once a suitably qualified individual has confirmed the habitat tree is no longer being used for torpor.
  - If hollow occupancy is unable to be determined, more intensive surveys will be required, including the use of an EWP to inspect the hollow. If ground conditions do not allow for the use of an EWP, a tree climber is to be used. These surveys allow for the close inspection with a torch for shallow hollows, or fibre-optic cameras/bore scopes for deeper hollows.

- The appointed suitably qualified Fauna Spotter Catcher is required to be on-site during all clearing activities.

<u>Education</u>

- Ensure employees and contractors are aware of environmental values – included in site induction.
- Pre-clearance Meeting: In the lead up to staged clearing all clearing contractors are to attend.

<u>Limit Artificial Light</u>

Consider placement, configuration and direction of lighting – the White-striped Free-tail Bat is a nocturnal species. While works are not expected to occur during nocturnal hours, the lighting requirements should be adhered to. It is recommended that the National Light Pollution Guidelines for Wildlife (CoA 2020) be implemented

Table 9: Nature of the Proposed Impact and Avoidance and Minimisation Measures – Short-beaked Echidna

Proposed Impact	Avoidance and Minimisation Measures
Loss of Short-beaked Echidna breeding place (nursery burrow) within the impact area, via vegetation clearing. Vegetation clearing – removal of burrowing habitat which provides the potential breeding habitat for the Short-beaked Echidna. The vegetation clearing of burrowing habitat within the identified impact area has been identified to have a temporary negative impact to the surrounding environment. However, through the provision of offset requirements to be conditioned under the EPBC referral process and the to be retained areas within the project site, the overall direction of the nature of the impact has been deemed positive.	**Avoidance Measures** Initial Field Surveys • During the approval phase of this project, SH Ecologists conducted extensive site surveys to determine the potential for breeding habitat for the Short-beaked Echidna, including vegetation assessments, observations for significant fauna habitat presence, motion-sensor camera detection and nocturnal searches. • SH Ecologists carried out targeted species surveys (refer Section 2.2.3) within the timeframes outlined in the survey guidelines detailed in Section 2.1.7. At the time of surveys, potential breeding habitat was identified (eucalypt vegetation), as well as sightings of the species were recorded. No evidence of breeding was observed at the time of surveys. • The initial field surveys identified areas of high order remnant vegetation within the proposed impact area, which has now been deemed as a retention area under the proposed development. Vegetation within this retention area was identified as remnant status and therefore contains higher value eucalypt vegetation. Site Selection and Design • From these extensive surveys an area of 'conservation' was established which excluded areas of the southern and central portion of the site from development (refer Plan 1). This conservation area contains the high order remnant vegetation identified on-site via the vegetation assessments conducted by SH Ecologists. These areas of high order remnant vegetation contain older growth and therefore retain the potential more established eucalypt forests. Whereas, areas of lower order fragmented remnant, and non-remnant vegetation were included within the impact area. **Minimisation Measures** VCFMP

Proposed Impact	Avoidance and Minimisation Measures

- Prior to any clearing activities a VCFMP is to be prepared (as outlined in Section 3.2.2), this document will detail each tree within the proposed clearing area, and any habitat features as well as the direction the clearing is to be conducted.
- This document will be issued to site contractors prior to clearing and discussed at the pre-clearance meeting. This document along with the Fauna Spotter Catcher reporting outlined in the below section is to ensure all Short-beaked Echidna potential breeding sites are flagged and identified if present.
- Tree protection fencing is to be installed at the boundary of each staged area as per the VCFMP, this fencing is then checked by the Environmental Coordinator prior to the clearing event. This step reduces the likelihood of impact outside of the approved clearing extent where adjacent potential breeding places are located.

Sequential Clearing

- Sequential clearing of the site will allow any transient or foraging Short-beaked Echidna individuals to relocate away from the clearing areas or avoid areas where clearing is underway.
- Given the Short-beaked Echidna breeding season occurs between June to August, vegetation clearing should be cautious during this period. However, given nursery burrows are used from egg hatching to weaning (which could last up to 12 months), avoidance of clearing during use of these features is difficult. Therefore, clearing of areas with potential burrows/dens where the Short-beaked Echidna has been identified during thermal surveys should be avoided where possible until absence of nursery burrows can be confirmed.

Fauna Spotter Catcher

- A suitably qualified Fauna Spotter Catcher will conduct pre-clearance surveys of the staged clearing area in the days leading up to the clearing activities. During these surveys, potential fauna habitat including dens/burrows (Short-beaked Echidna breeding places) will be identified, flagged and included into pre-clearance reporting (Wildlife Protection and Management Plan and Wildlife and Habitat Impact Mitigation Plan). Each flagged burrow/den is then to be assessed in further detail prior

Proposed Impact	Avoidance and Minimisation Measures

to clearing. Fauna Spotter Catcher preclearance reporting will then be distributed to clearing contractors and associated personal prior to clearing.

- The appointed Fauna Spotter Catcher has the opportunity to discuss any identified habitat with clearing personnel at the pre-clearance meeting held on-site prior to clearing activities. Where if potential breeding places have been identified an exclusion zone can be installed prior to works commencing.
- In the 24-hour lead up to the clearing, (either the night before or morning of) infrared UAV surveys are to be conducted by the Fauna Spotter Catcher of the proposed clearing area for the day. These surveys are to be conducted daily, where clearing is proposed over multiple days.
- If any burrows/dens are identified as being present within the clearing area, the Fauna Spotter Catcher is to determine the occupancy of this potential breeding habitat feature and alignment with the breeding place type defined in **Section 2.1.7** prior to clearing commencing for the day, by methods outlined in **Section 3.2.7**.
    - If a nursery den/burrow is confirmed unoccupied by Short-beaked Echidna proceed with clearing as per VCFMP and pre-clearance Fauna Spotter Catcher documentation.
    - If a den/burrow is confirmed as occupied by lactating Short-beaked Echidna or puggle, as per methods outlined in **Section 3.2.6** clearing within the area is to stop immediately. A 100 metre no clearing buffer area around the identified and confirmed nursery burrow is to be established. . Clearing works are not to proceed within this 100 metre buffer while the nursery burrow is active. Works cannot be resumed until a suitably qualified person has confirmed the burrow is no longer active, which may require the Fauna Spotter Catcher re-checking the burrow on a monthly basis for up to a year or until confirmed empty. Refer to **Section 3.3** for reporting requirements. Once the burrow has been confirmed as vacated by a suitable qualified Fauna Spotter Catcher, clearing can re-commence within the exclusion zone. Given this species does not return to previous burrow breeding habitat, the retention of these areas is not deemed necessary.

Proposed Impact	Avoidance and Minimisation Measures
	○ If burrow occupancy is unable to be determined, more intensive surveys will be required, including the use of a torch for shallow burrows, or borescopes technology for deeper burrows. <u>Education</u> • Ensure employees and contractors are aware of environmental values – included in site induction. • Pre-clearance Meeting: In the lead up to staged clearing all clearing contractors are to attend. <u>Limit Artificial Light</u> • Consider placement, configuration and direction of lighting – the Short-beaked Echidna during the warmer months may forage during nocturnal hours. While works are not expected to occur during nocturnal hours, the lighting requirements should be adhered to. It is recommended that the National Light Pollution Guidelines for Wildlife (CoA 2020) be implemented.

3.3. Reporting Requirements

If any of the species identified within this SMP are identified on-site undergoing reproduction, the Fauna Spotter Catcher must immediately report the finding to DETSI and the local council. See the below list of obligations under this SMP for the avoidance and mitigation measures for each relevant party involved in the proposed vegetation clearing.

3.3.1 Site Coordinator

- Clearly mark out the extent of clearing.
- Clearing only to occur within approved development footprint.
- Environmental awareness to be detailed in site induction procedure.
- No domestic animals are to be allowed onto the construction-site.

3.3.2 Environmental Coordinator

- Initials field surveys.
- Pre-clearance package including, checked clearing extent.
- Preparation and issue of VCFMP.

3.3.3 Fauna Spotter Catcher

- Pre-clearance surveys.
- Pre-clearance reporting.
- Presence on-site for all clearing activities.
- Post-clearance reporting as well as submission of the Animal Breeding Place Register to be updated post each staged clearing event. This register is to be submitted to DETSI on the annual anniversary of the date of approval.
- Notification of wildlife carers prior to the commencement of clearing activities.
- If species listed within this SMP is identified on-site, notification to DETSI and local council.
- Intact removal of tree hollows following positive identification of listed species, once breeding has concluded. Installation of tree hollow onto host tree in conservation corridor.
- Entities are obligated to maintain an electronic registry that documents any interference with animal breeding locations.
- Within six (6) months of any interactions with the species outlined in this SMP, the entity must submit a copy of the electronic registry to willdlife@des.qld.gov.au.
- Upon expiration of the SMP, the complete electronic registry must be submitted to DETSI. An example of this electronic registry is provided in **Appendix F**

3.3.4 Clearing Contractor

- Sensitive clearing techniques will be implemented, appropriate machinery used and sequential staged clearing is to be conducted.
- Tree hollows to be retained whenever they are intact following tree felling.

3.4. Contingency Planning

Extensive surveys in the lead up to the vegetation clearing associated with the project have not identified any evidence of the Greater Glider, Yellow-bellied Glider, Powerful Owl or Glossy-black Cockatoo on-site or within the project locality. Additionally, one (1) Special Least Concern species, Short-beaked Echidna (*Tachyglossus aculeatus*) and one (1) colonial breeder (*Austronomus australis*) White-striped Free-tail Bat were observed during extensive field surveys of the site. While impacts to potential breeding places is to occur within the development area, it is considered unlikely that the listed species utilise these habitat features, and even less so for breeding.

It is also unlikely unexpected impacts to animal breeding habitat places are to occur due to the rigorous pre-clearance procedure adopted by Frasers Property New Beith Pty Ltd, the Environmental Coordinator, Clearing Contractors and their Fauna Spotter Catchers. Tree protection fencing is installed prior to clearing events and is checked by the Environmental Coordinator. This step reduces the likelihood of impact to vegetation outside of approved extents.

4. Appendices

Appendix A

PMST

Appendix B

Wildnet Results

Appendix C

Ecological Assessment Report

Appendix D

Curriculum Vitae

Appendix E

Tree Plot – Hollow Bearing Tree Locations within Impact Area

Appendix F

Example of Electronic Registry

Appendix A

PMST

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: 18-Sep-2025

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:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	8
Listed Threatened Species:	53
Listed Migratory Species:	12

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:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	23
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:	2
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	32
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [Resource Information]

Ramsar Site Name	Proximity	Buffer Status
Moreton bay	20 - 30km upstream from Ramsar site	In feature area

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
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 likely to occur within area	In feature area
Grey box-grey gum wet forest of subtropical eastern Australia	Endangered	Community likely to occur within area	In feature area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area	In feature area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area	In feature area
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	Critically Endangered	Community likely to occur within area	In buffer area only
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may 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
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Geophaps scripta scripta](#) Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area
[Grantiella picta](#) Painted Honeyeater [470]	Vulnerable	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
[Lathamus discolor](#) Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
[Stagonopleura guttata](#) Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
[Turnix melanogaster](#) Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
FISH			
[Maccullochella mariensis](#) Mary River Cod [83806]	Endangered	Translocated population known to occur within area	In buffer area only
INSECT			
[Argynnis hyperbius inconstans](#) Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area	In feature area
MAMMAL			
[Chalinolobus dwyeri](#) Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[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
[Petauroides volans](#)			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely 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 buffer area only
[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
[Potorous tridactylus tridactylus](#)			
Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area	In feature area
[Pseudomys novaehollandiae](#)			
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Pteropus poliocephalus](#)			
Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
[Arthraxon hispidus](#)			
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Bosistoa transversa](#)			
Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Coleus habrophyllus listed as Plectranthus habrophyllus](#)			
[91378]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis tomentella Boonah Tuckeroo [3322]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fontainea venosa [24040]	Vulnerable	Species or species habitat may occur within area	In feature area
Leuzea australis listed as Rhaponticum australe Austral Cornflower, Native Thistle [9363]	Vulnerable	Species or species habitat may occur within area	In feature area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area	In feature area
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Notelaea x ipsviciensis listed as Notelaea ipsviciensis Cooneana Olive [93460]	Critically Endangered	Species or species habitat may occur within area	In feature area
Picris evae Hawkweed [10839]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Planchonella eerwah			
Shiny-leaved Condoo, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat likely to occur within area	In feature area
Rhodamnia rubescens			
Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rhodomyrtus psidioides			
Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In feature area
Samadera bidwillii			
Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Thesium australe			
Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
REPTILE			
Coeranoscincus reticulatus			
Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Delma torquata			
Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
Furina dunmalli			
Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area
Hemiaspis damelii			
Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area	In feature area

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			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[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
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Pandion haliaetus](#) Osprey [952]		Species or species habitat may occur within area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area
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]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 likely to occur within area overfly marine area	In feature area
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 may 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
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area	In feature area
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Sterna striata			
White-fronted Tern [799]		Migration route may occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In feature area
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	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
A and T Koala Billabong	Nature Refuge	QLD	In buffer area only
Koolena	Nature Refuge	QLD	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
130 Tully Road, New Beith, Residential Development	2020/8848		Completed	In buffer area only
Construction and Operation of Small Lot Industrial Development	2024/10069		Assessment	In buffer area only
DT0018 Matt Court Wastewater Conveyance	2023/09529		Completed	In buffer area only
Industrial Development	2023/09607		Assessment	In buffer area only
Kagaru Residential Development	2024/10083		Assessment	In buffer area only
Kagaru to Acacia Ridge and Bromelton Inland Rail Project	2021/8927		Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Mirvac Greater Flagstone Project - Master Planned Development, Greenbank, Qld	2016/7817		Post-Approval	In buffer area only
New Beith Road Upgrade	2023/09505		Assessment	In buffer area only
Proposed Industrial Development at North Maclean	2022/09304		Approval	In buffer area only
Controlled action				
130 Tully Road New Beith Residential Development v2	2021/8904	Controlled Action	Assessment Approach	In buffer area only
Bushman Drive Residential Development, Jimboomba, Qld	2018/8376	Controlled Action	Further Information Request	In buffer area only
Casino Ipswich Pipeline	2007/3877	Controlled Action	Completed	In buffer area only
Cedar Grove Connector Pipeline	2011/6013	Controlled Action	Completed	In buffer area only
Crowson Lane Road Upgrade	2021/9084	Controlled Action	Assessment Approach	In buffer area only
Flagstone West Urban Development Project, QLD	2014/7206	Controlled Action	Post-Approval	In feature area
Greater Flagstone master planned residential development, Undullah, Qld	2015/7530	Controlled Action	Post-Approval	In buffer area only
Industrial Development in the Greater Flagstone Urban Development Area 4499-4651 Mount Lindesay Hwy,	2013/6941	Controlled Action	Post-Approval	In buffer area only
Residential Development, Lot 4 RP45728, New Beith, Qld	2019/8398	Controlled Action	Further Information Request	In feature area
Residential development, Lots 3, 200 and 1, approx 6.5km SW Undullah, Qld	2016/7772	Controlled Action	Further Information Request	In buffer area only
Residential development, Teviot Road, north Beaudesert, Qld	2016/7724	Controlled Action	Post-Approval	In buffer area only
Residential Development (Lot30, SP309195) Mountain Ridge Rd, South Maclean, Qld	2019/8408	Controlled Action	Post-Approval	In buffer area only
Southern Regional Water Pipeline	2006/2593	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Tarnbrae Greater Flagstone Residential Development, New Beith, QLD	2019/8412	Controlled Action	Further Information Request	In feature area
Teviot Downs Residential Estate, Greenbank	2011/6106	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Construction and upgrade of approximately 7km of external road corridor, Flagstone, Qld	2014/7319	Not Controlled Action	Completed	In buffer area only
Flagstone Central to Cedar Grove WWTP Conveyance Pipeline	2018/8190	Not Controlled Action	Completed	In feature area
Greenbank to Flagstone Central Conveyance Pipeline Project, Qld	2018/8344	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
South West Pipeline and Wyaralong Tanks Project, Qld	2018/8320	Not Controlled Action	Completed	In buffer area only
Spring Mountain Park rural residential estate, stages 15-18, Greenbank/New Beith, Qld	2013/7030	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Construction & Operation 275/330kV Transmission Line	2006/2820	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Residential subdivision 348-434 Cusack Lane, Jimboomba, Qld	2015/7617	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only

Bioregional Assessments			[Resource Information]
SubRegion	BioRegion	Website	Buffer Status
Clarence-Moreton	Clarence-Moreton	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 is 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 on the contents of this report.

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 point locations and environmental data layers.

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 when time permits.

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 breeding sites; and
- 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 B

Wildnet Results

Queensland Government **WildNet**

Species & Sightings Search

Find a specific species, or a list of species based on location, status or taxonomy.

▼ Edit search filters

Species

Scientific name, common name or part of these names

Sensitive species: All

Conservation significant: Yes

Sighting Vetting stage: Confirmed records

Sighting Record period: Records since 1980

Location search by: Specified Central Point

Latitude: -27.7822
between -9 and -30
e.g. -25.5083

Longitude: 152.951
between 138 and 156
e.g. 146.5042

Distance (km): 5
between 1 and 100 kilometres
e.g. 30

Apply search filters | Clear all search filters | Show advanced search filters

SPECIES | SIGHTINGS

EXPORT AS CSV

Taxon ID	Kingdom	Class	Family	Scientific name	Common name	Superseded	NCA	EPBC	Conservation significant	Establishment	Sensitive species	Area survey lists	Sighting records	Specimen records	Total sightings
1971	Animalia	Aves	Apodidae	Hirundapus caudacutus	white-throated needletail	No	V	V	Yes	QAI			1	0	1
22494	Animalia	Aves	Cacatuidae	Calyptorhynchus lathami lathami	glossy black-cockatoo (eastern)	No	V	V	Yes	QA			1	0	1
1107	Animalia	Aves	Strigidae	Ninox strenua	powerful owl	No	V		Yes	QA			2	0	2
875	Animalia	Mammalia	Petauridae	Petaurus australis australis	yellow bellied glider (southern subspecies)	No	V	V	Yes	QA			2	0	2
860	Animalia	Mammalia	Phascolarctidae	Phascolarctos cinereus	koala	No	E	E	Yes	QA			94	0	94
2455	Animalia	Mammalia	Pseudocheiridae	Petauroides volans volans	southern greater glider	No	E	E	Yes	QA			1	1	1
962	Animalia	Mammalia	Pteropodidae	Pteropus poliocephalus	grey-headed flying-fox	No	C	V	Yes	QA			2	0	2
838	Animalia	Mammalia	Tachyglossidae	Tachyglossus aculeatus	short-beaked echidna	No	SL		Yes	QAI			2	0	2
13434	Plantae	Equisetopsida	Hydrocharitaceae	Najas marina		No	SL		Yes	NTQ			1	1	1
14365	Plantae	Equisetopsida	Hydrocharitaceae	Najas tenuifolia	water nymph	No	SL		Yes	NTQ			1	1	1

Appendix C

Ecological Assessment Report

Ecological Assessment Report

Lot 4, Olson Road, New Beith, QLD 4124

Greater Flagstone Priority Development Area

Prepared for Frasers Property New Beith Pty Ltd

05 December 2025

10941 E

Saunders Havill

PATHWAYS TO SUCCESS

Document Control

Document: Ecological Assessment Report – Lot 4, Olson Road, New Beith, Qld, 4128 prepared by Saunders Havill for Frasers Property New Beith Pty Ltd.

Document Issue

Issue	Date	Prepared By	Checked By
A	05/12/2025	KR	AD

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Acronyms and Abbreviations

DETSI	Department of Environment, Tourism, Science and Innovation
DSDIP	Department of State Development, Infrastructure and Planning
EDQ	Economic Development Queensland
EPBC Act	*Environment Protection and Biodiversity Act 1999* (Cth)
EVNT	Extinct, Endangered, Vulnerable and/or Near Threatened (as defined by the NCWR)
GFPDA	Greater Flagstone Priority Development Area
km	kilometres
LCC	Logan City Council
MSES	Matters of State Environmental Significance (as mapped by the SPP)
NCA	*Nature Conservation Act 1992* (Qld))
NCWR	*Nature Conservation (Wildlife) Regulation 2006* (Qld)
NESS	Natural Environment Site Strategy
PMAV	Property Map of Assessable Vegetation
PMST	Protected Matters Search Tool
PR	*Planning Regulation 2017* (Qld)
RE	Regional Ecosystem
SH	Saunders Havill
SMP	Species Management Program
SPP	State Planning Policy (July 2017) (Qld)
TEC	Threatened Ecological Community
UDA	Urban Development Area
ULDA Act	*Urban Land Development Authority Act 2007*
VCFMP	Vegetation Clearing and Fauna Management Plan
VMA	*Vegetation Management Act 1999* (Qld)
WWBW	Waterway barrier works

1. Introduction

Saunders Havill (SH) was engaged by Frasers Property New Beith Pty Ltd to prepare an Ecological Assessment Report to support a Species Management Program for clearing activities to be conducted across the proposed impact area (refer Figure 1 for Site Context and Figure 2 for Site Aerial).

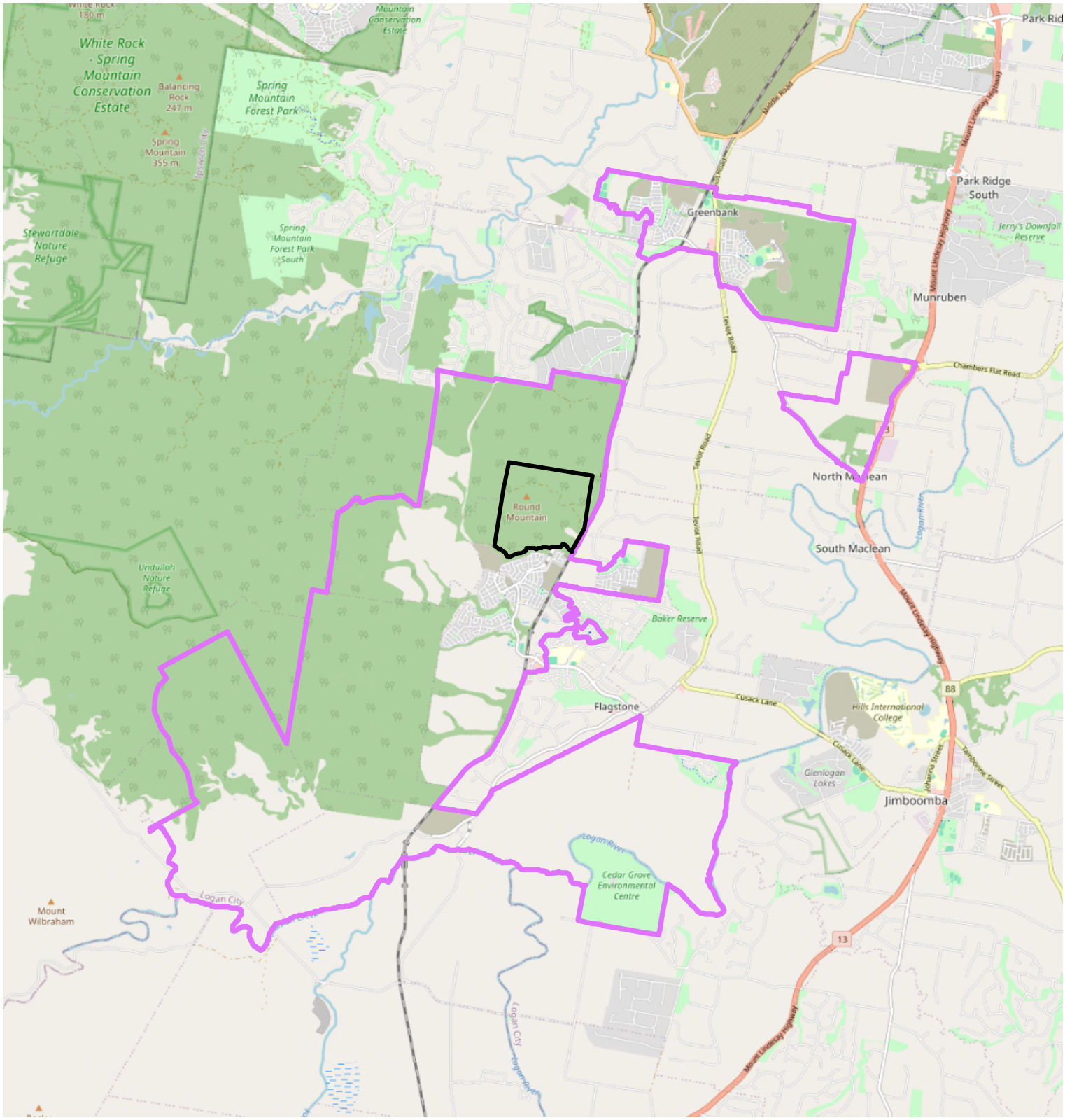
The broader project site is located within the northern extent of the Greater Flagstone Priority Development Area (GFPDA) and as such is governed by EDQ. Although being entirely included within the Logan City Council (LCC) Local Government Area, EDQ have jurisdiction for the implementation and enforcement of development applications in relation to the project as a key regulator of development within Priority Development Areas (PDA) for the Department of State Development, Infrastructure and Planning (DSDIP). Despite this legislative position on assessment, the majority of infrastructure assets, inclusive of open space and the proposed Conservation Area, ultimately transition to the ownership of LCC.

The site is located approximately 25.4 kilometres (km) south-east of Ipswich and approximately 14.7 km south-west of Logan Village. The subject site adjoins the Flagstone City development area and accounts for approximately 246.24 hectares of future residential development. The site is bound by Flagstone creek to the south, which adjoins a residential development as well as more broadly to the west where clearing has commenced. These areas form part of Flagstone City. The east of the site is bound by the Brisbane – Sydney Interstate Railway line with mixed density residential developments in the greater landscape. The site does not adjoin the Flinders-Karawatha Corridor, with the corridor located approximately 1.5 km to the west, with additional PDA land slated for development to the immediate north and west.

Table 1: Impact Area – Key Site Details

Address	Olson Road, New Beith, Queensland 4124
RPD	Lot 4 on SP332712
VMA 1999	PMAV (2018/0012365), formally PMAV (2010/007185) • Category X (non-remnant) – Cleared Land • Category B (remnant) Of Concern RE 12.3.11, RE 12.9-10.3, RE12.9-10.4 and Least Concern RE 12.3.7 and RE 12.9-10.2 • Essential Habitat
Fisheries Act 1994	• *Low risk* (Green) waterway for Queensland Waterway for Waterway Barrier Works • *High risk* (Red) waterway for Queensland Waterway for Waterway Barrier Works (Flagstone Creek)
MSES	• Wildlife Habitat (Koala habitat areas – core) • Regulated vegetation (Category B)

	• Regulated vegetation (Category C) • Regulated vegetation (essential habitat) • Regulated Vegetation (intersecting a watercourse)
Koala Habitat	• Within Koala Habitat Area (Core) • Not within Koala Priority Area
PDA	Greater Flagstone Priority Development Area
Local Government Area	Logan City Council (LCC)
Planning Scheme / Local Plan	Greater Flagstone Urban Development Area Development Scheme
Zoning	• Zone – Urban Living • Natural Values – Waterway, Ridgeline, Vegetation • Community Greenspace Network – Biodiversity Corridor, Potential Greenspace, Regional Recordation Park, District Sports Park, District Recreation Park
Existing Land Use	Vacant
Proposed Land Use	Urban



LEGEND

- Greater Flagstone Boundary
- Site boundary

Figure 1

Site Context

CLIENT

Frasers Property New Beith Pty Ltd

FILE REFERENCE
10941 E SMP EAR Figure 1 Site Context A
DATE
8/10/2025

Round Mountain Project

0 1 2 3 km

COORDINATE SYSTEM GDA 2020 MGA Z56
SCALE (A4) *1:100,000*

N

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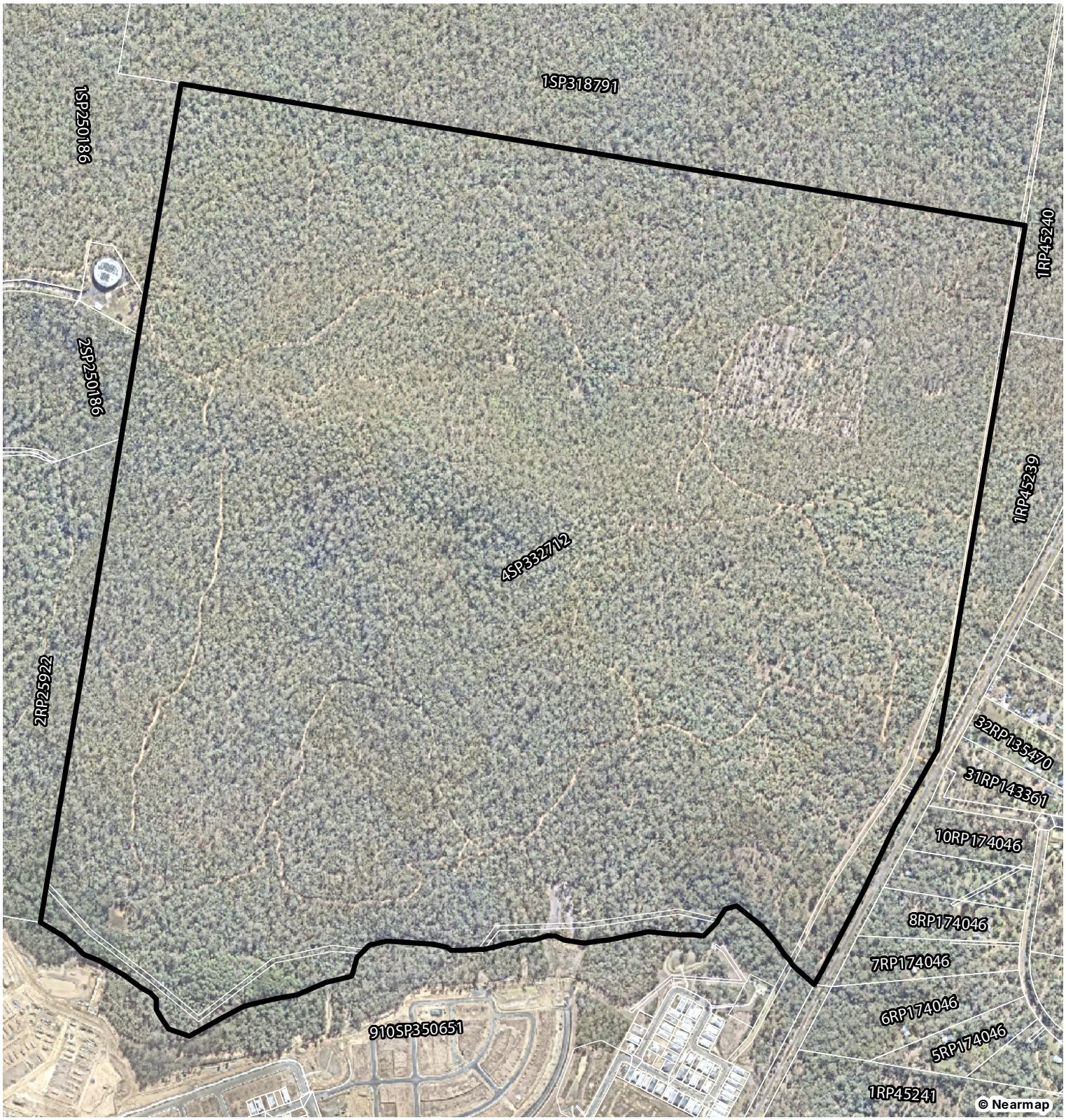

LEGEND

- Qld DCDB
- Site boundary

Figure 2

Site Aerial

CLIENT

Frasers Property New Beith Pty Ltd

FILE REFERENCE
10941 E SMP EAR Figure 2 Site Aerial A

DATE
8/10/2025

Round Mountain Project

0 100 200 300 400 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:10,000

N

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2. Context and Background

Contextually, the site is located within the Greater Flagstone PDA, approximately 25.4 kilometres (km) south-east of Ipswich and approximately 14.7 km south-west of Logan Village (refer Figure 1). The site is surrounded by bushland to the north, south and west which is earmarked for development with residential developments to the east bound by the Sydney-Brisbane Interstate Railway Line (refer Figure 2).

The proposed development includes mixed-density residential dwellings, open space for stormwater management, recreation and conservation, internal road networks and supporting infrastructure. The proposed development comprised approximately 153.37 ha of developable land, 36.14 ha for open space and parks and the remaining 57.73 ha will be retained for conservation and biodiversity corridors. Under the Flagstone City Natural Environment Site Strategy, a primary corridor is mapped along Flagstone Creek from West to East in the southern portion of the site. Round Mountain is mapped as a Scenic Amenity / Ridgeline Area with the vegetation to be retained. In the greater area, to the east of the site, the landscape is dominated by rural residential allotments with residential development of Flagstone City to the south-east of the site.

The proposal (action) is currently being assessed under the EPBC Act (ref: EPBC 0219/8398). It should be noted that impacts on Koala habitat values will not be managed through the measures outlined under the EDQ's Implementation Guidelines as the development, management and offset of site Koala Habitat values will be governed through the approval from the Commonwealth Department of Climate Change, Energy, the Environment and Water, which is principally interested in achieving the same outcomes for the site.

The project site will be developed in accordance with the proposed Development Master Plan (refer Section 4.1.10). The Development Context Plan refines outcomes of the site in alignment with the Development Scheme and endorsed NESS.

3. Ecological Assessment Methodology and Process

The following steps were undertaken in the preparation of this assessment:

1. Desktop Analysis,
2. Legislation and Policy Review,
3. Field Survey,
4. Impact Assessment and Development Analysis, and
5. Conclusion and Recommendations.

Details of the methodology undertaken for each of the assessment phases is provided in the following sections.

3.1. Desktop Analysis Methodology

3.1.1 Database Searches

Prior to the commencement of field surveys, a desktop analysis was conducted of Commonwealth, State and Local environmental databases and overlay mapping, and included the following:

- Commonwealth Matters of National Environmental Significance (MNES) protected under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) on and around the site using the Protected Matters Search Tool (PMST) with a 5 km radius applied;
- *Nature Conservation Act 1992* (NC Act) listed threatened species on and around the site using the Wildlife Online Database search tool with a 5 km radius applied;
- public environmental databases including Atlas of Living Australia (ALA), BioMaps and the Australian Koala Foundation (AKF); and
- State Government Environmental Overlay Mapping including;
    - Regulated Vegetation Maps under the *Vegetation Management Act 1999* (VMA);
    - Flora Survey Trigger Areas under the NC Act;
    - Fish habitat under the *Fisheries Act 1994;*
    - Watercourses under the *Water Act 2000;*
    - Weeds under the *Biosecurity Act 2014;*
    - Matters of State Environmental Significance (MSES) under the State Planning Policy (SPP) (i.e. wetland protection areas, koala habitat etc.);
- PDA Planning Scheme documents and maps; and
- Logan City Council (LCC) Planning Scheme documents and maps.

3.1.2 Likelihood of Occurrence Assessment

The likelihood of occurrence assessment was based upon publicly available species records and/or other information sources, such as field guides and web-based species profiles, including but not limited to:

- Commonwealth Government's *Species Profile and Threats Database* (SPRAT) for the threatened species and ecological communities listed under the EPBC Act; and
- The Queensland Department of Environment, Science and Innovation (DESI) threatened species website.

The likelihood of occurrence assessment was also informed by field survey results, including an appreciation, and understanding of the species habitats within the subject site.

The likelihood of threatened fauna species occurring on-site has been assessed against the criteria outlined in Table 2.

Table 2: Likelihood of occurrence assessment criteria

Likelihood of occurrence	Assessment criteria[1]
Unlikely	One or more of: • The investigation area is beyond the known geographic range of the species. • The investigation area does not contain critical habitat types[2] or resources known to be utilized by the species during any stage of its lifecycle. • The investigation area is highly disturbed[3]. • For plant, mammal and reptile species - no contemporary[4] species observations or records of use within 5 km of the investigation area. • For avian and bat species - no contemporary species observations or records of use within 20 km of the investigation area.
Possible	For plant, mammal and reptile species - There are contemporary species observations or records of use within 5 km of the investigation area, and it contains habitat types or resources known to be utilized by the species. For avian and bat species - There are contemporary species observations or records of use within 20 km of the investigation area, and it contains habitat types or resources known to be utilized by the species. OR There are contemporary species observations or records of use more than 5 km but within 20 km of the investigation area and the following criteria are met: • The investigation area contains habitat types or resources known to be utilized by the species; AND • No major barriers to dispersal[5] for the species exist between the location of the record and the investigation area.
Known / Likely	There are contemporary species records within 2 km of the investigation area and the following criteria are met: • The investigation area contains critical habitat types or resources known to be utilized by the species; AND • No major barriers to dispersal for the species between the location of the record and the investigation area. OR There are multiple contemporary species records within the investigation area and the site has not been highly disturbed after the records. OR Species was observed or records of use identified during field surveys within or adjacent to the investigation area.

[1] Criteria should be used as a guide only. Site- and species-specific factors should be considered by the assessment.
[2] As defined by the species conservation advice or recovery plan.
[3] Contains minimal vegetation cover with a land use incompatible with conservation such as development, extractive industries, agriculture or intensive grazing.
[4] Within 20 years of the date of the assessment.
[5] Barriers to dispersal will be species specific, but for tree or ground dwelling fauna may include major roads with no fauna crossing features or dense development.

3.1.3 Historical Aerial Analysis

A review of aerial photography history was undertaken via Q-Imagery to assist with the broad delineation of vegetation communities. The assessment of historical aerial imagery allows historical patterns impacting vegetation communities to be identified, this includes clearing activities, land use, regrowth vegetation and general vegetation age. The results of the historical aerial imagery assessment are detailed in Section 4.2.

3.2. Terrestrial Field Survey Methodology

Extensive ecological field surveys have been conducted across the development site utilising methods outlined below to describe ecological value. Ecological field surveys were conducted on the subject site from 6th – 15th November 2018 and more recently, 18th, 23rd and 24th February 27th, 29th April 19th, 20th, 24th May and 1st June 2021, 19th, 22nd, 27th, 29th September 2023 and 31st July and 3rd October 2024. Field surveys were completed in the attempt to confirm presence or absence of potential matters of ecological significance (MNES and MSES).

3.2.1 Animal Ethics Permits

SH holds the relevant permits that are required from Department of Agriculture and Fisheries (DAF) Animal Ethics and Animal Ethics Committee (AEC) to conduct fauna surveys for environmental consulting (CA 2020/06/1387).

Ecological field surveys were conducted across the study area in the attempt to confirm suitability of contemporary values present for potential matters of ecological significance (MNES, MSES and Matters of Local Environmental Significance (MLES)). Surveys were conducted in accordance with the following permits held by SH:

- Scientific Purposes Permit WA0022007 granted under Section 12(f) of *Nature Conservation (Administration) Regulation 2017.*
- DAF Ethics clearance - CA 2020/02/1355.
- Scientific User Registration - SUR000451.
- Research Permit (Scientific) – P-SPP-100794835

3.2.2 Survey Guidelines

All survey methods undertaken have been guided by best practice and where applicable, Commonwealth and State survey guidelines for threatened species. This includes the following methodologies:

- *Terrestrial Vertebrate Fauna Survey Guidelines.*
- *Survey guidelines for Australia's Threatened Bats.*
- *Survey Guidelines for Australia's Threatened Mammals.*
- *Survey Guidelines for Australia's Threatened Birds.*

3.2.3 Ground-truthing of Vegetation Communities

Vegetation was ground-truthed and assessed against current and pre-clear VMA Regional Ecosystem (RE) mapping and the PMAV. This included reviewing the accuracy and extent of mapped RE types in addition

to the broad vegetation condition. Particular attention was paid to identifying whether or not threatened ecological communities (TECs) identified as having the potential to occur on or proximal to the site were present during field survey.

3.2.4 Property Map of Assessable Vegetation (PMAV)

Each Regional Ecosystem community had been previously accurately surveyed, including producing detailed floristic lists, and checks for any threatened species, or habitat that may support these species. The PMAV process produced accurate data on projected foliage cover and age structure of each vegetation community. Detailed data sheets and GPS markings were recorded within each site using the Queensland Herbarium Map Assessment Request forms. Significant changes from the mapped 'endangered' composite Category C (high-value regrowth) RE occurred within the eastern portion of the site. The results of these changes are detailed in Section 4.1.3 of this report.

3.2.5 Observational Survey for Significant Flora and Fauna, Habitat Trees and Biodiversity Values

The site was walked several times where possible to ensure all species (flora and fauna) were recorded and identified. Particular attention was paid to any threatened species that were listed as possibly occurring on or within the vicinity of the site and specific micro-assemblages which may support these threatened species. This included observations for vertebrate fauna present on or that may utilise the site, including faunal lists and significance status of species under the Commonwealth's EPBC Act including the JAMBA, CAMBA, ROKAMBA and the Bonn Convention, and Queensland's NC Act.

For the purposes of this report, a significant flora and fauna species has been defined as a species that is scheduled as 'critically endangered', 'endangered', 'vulnerable' or conservation dependent under the Commonwealth EPBC Act or Nature Conservation Act.

The observational survey included identification of ecological features and values such as broad vegetation communities, fauna habitats, and connectivity. Specific attention was paid to threatened flora and fauna species. Recording fauna habitat features within the application area included identification of habitat trees present.

3.2.6 Waterway Assessment

Data recording sheets were completed at regular intervals along the State mapped watercourses where the following information was collected:

- general description;
- channel shape and modifications;
- in-stream habitat;
- vegetation quality and cover (embankments, channel and overall corridor);
- bed, bank and bar conditions (erosion, scouring, sediment); and
- weed cover.

A total of sixty-one (61) waterway assessments were conducted across the site to describe the presence and absence of waterway features within the mapped watercourses/drainage features and the potential that they may provide habitat. Noteworthy habitat within the waterways was largely restricted to Flagstone

Creek and portions of the tributaries immediately adjoining it. Semi-permanent pools, bank overhangs and woody debris form habitat features for a variety of small aquatic fauna and associated vegetation provides habitat for terrestrial species. A detailed review of the on-site waterways is provided in Section 5.3.

3.2.7 GPS Tree Plot

A tree plot survey was conducted through a portion of and along the boundary of the site to locate and describe the vegetation values, namely the native mature tree specimens (≥ 300mm DBH) and those considered to contain habitat features. A handheld GPS device was used to record locations (accuracy ±1 m), and the following parameters of each tree specimen were recorded: tree species, via a combination of observations of the gum nuts, buds, leaves, bark and growth form;

- diameter of the trunk of the tree measured using the standard method of Diameter at Breast Height (DBH);
- height of the tree measured using a laser rangefinder with three-point measurement capability (inclinometer);
- canopy spread;
- health assessment (canopy, trunk); and
- habitat values (for example, presence and/or number of hollows, nests, termites, scratches and scats).

3.2.8 Spot Assessment Technique (SAT) Koala surveys

Spot Assessment Technique (SAT) surveys were conducted across the site with the aim to assess Koala usage. SAT surveys follow the methodology designed by Phillips and Callaghan (2011). It involves a single ecologist combing the ground under Koala food plant trees (or non-food plant trees if necessary) for a 1-metre radius around the trunk searching for scats. Each tree searched must be greater or equal to 100 mm diameter at breast height (DBH) and search of each tree continues for up to 2 minutes. The search can cease prior to the 2-minute limit if scats are detected. Thirty trees meeting the specifications are analysed during each SAT survey.

Fifteen (15) Koala SAT surveys were conducted in November 2018 in a grid setting and another sixteen (16) were undertaken in May 2021 associated with Federal habitat quality assessment transects.

3.2.9 Motion Sensor Camera Detection

Camera trapping involves setting up a fixed digital camera to capture images or video of animals that pass in front of a camera with an infrared trigger. It is a non-invasive technique designed to detect medium to large sized animals as they pass, although it is possible to detect smaller animals depending on the set-up. This method identifies fauna activity beyond the scope of direct observational studies and with the absence of potential observer impacts.

Six (6) cameras were installed across the referral area between 6 - 15 November 2018. Another five (5) cameras were installed between 27 April and 1 June 2021. Cameras were located in watercourses, on the summit of Round Mountain and at two of the on-site dams. Cameras were attached to a tree 30-50 cm from the ground and directed towards an area likely to be used by fauna. The cameras were left to record for as long as possible within the survey period, recording a total of 35 nights between 2018 and 2021.

exceeding the survey guidelines for Australia's threatened mammals recommended 14 nights. The cameras were baited to detect native fauna and also target evidence of wild dogs and other potential threats to MNES in the Greater Flagstone PDA area.

Six (6) motion sensor camera traps were installed during 2018 surveys and five (5) motion sensor camera traps were installed for the duration of the 2021 survey period.

3.2.10 Ultrasonic Bat Detection

Active ultrasonic monitoring of potential ultrasonic batt flyways was conducted utilising the Wildlife Acoustics 'Echo Meter Touch' on an iOS platform which readily allows for the identification of ultrasonic bat species. Notably, *Chalinolobus dwyeri* emits a characteristic frequency between 21.5 and 25.5 kHz and is curved with up sweeping, down sweeping or no tail. It can easily be distinguished from other species by the combination of the low frequencies and distinct pattern of alternation present in search phase calls (refer Pennay et al. 2004).

3.2.11 Nocturnal Active Searches and Spotlighting

A combination of high-powered spotlights and head torches were used to detect nocturnal mammals, birds, reptiles within the site. This non-intrusive technique is the most effective method to obtain estimates of nocturnal arboreal mammal incidence and abundance in wooded habitats. Spotlighting also targets medium to large terrestrial nocturnal mammals, and can detect other nocturnal taxon groups (e.g., frogs, geckoes, nocturnal snakes, nocturnal birds, spiders).

A combination of high-powered spotlights and head torches were used to sample for nocturnal mammals, birds, reptiles and frogs across the proposed action area. This technique involved detecting eye shine, and a record of vegetation density was taken. Additional information recorded included the prevailing conditions and search effort.

A spotlight meander was completed initially in 2018 as well as the 29 April, 20 May and 1 June 2021.

3.2.12 Flying-fox Roost Searches

This search was conducted via walking transects during the day within the survey area, watching for flying bats and listening for their distinctive calls. This search is not only for flying fox camps, but the presence of food plants to assess the potential importance of the survey area to the species. At night, spotlighting whilst walking transects surveyed for individuals using the site for foraging.

3.2.13 Diurnal Active Searches

Active searching primarily focusses on detecting reptiles and amphibians yet will also detect small terrestrial mammals and signs of other cryptic species.

This technique involved scanning for active animals as well as turning rocks and logs, raking through leaf litter, looking under bark and in crevices and other suitable microhabitat for cryptic animals. During these searches, other signs were also recorded (when observed) where they could confidently be attributed to species (e.g. tracks, scats, nests and feeding signs). During searches, habitat was reinstated, such as re-rolling logs and rocks back into place and avoiding the removal of whole sheets of exfoliating bark.

3.2.14 Targeted Bird Surveys

This technique is a non-intrusive active area search that provides a direct census of bird species occurrence and abundance. Inclement weather was avoided as this greatly reduces the detection of bird species. Particular attention was paid to the detection of EPBC Act listed Critically Endangered species, *Anthochaera phrygia* (Regent Honeyeater) and *Lathamus discolor* (Swift Parrot) as they were identified by the Likelihood of Occurrence Assessment as having a moderate potential to occur. Although *Erythrotriorchis radiatus* (Red Goshawk), was not identified as having a moderate potential to occur within the Likelihood of Occurrence Assessment, targeted bird surveys in combination with diurnal observation surveys would be appropriate in the detection of this species.

Diurnal bird surveys were conducted as per relevant guidelines early morning and late afternoon at specified locations across the referral area in November 2018 and between April and May 2021. All bird species observed during the assessment period were recorded. Birds were also opportunistically surveyed across the referral area for the duration of the entire survey period including additional survey works conducted in February and June 2021. A total of 179 person hours of survey works were completed over the referral area. Birds were identified from either direct observation or by their calls.

3.2.15 Modified Habitat Quality Assessment

The subject site was separated into assessment units (AU) for Modified Habitat Quality Assessments (MHQA) supporting the EPBC Act assessment. Vegetation was categorised according to status, remnant and non-remnant. Within each of these categories each regional ecosystem (remnant or pre-clear) is a separate AU. The referral area was separated into AUs to ensure each habitat type was assessed to provide results that are representative of the entire subject area.

The referral area consists of six (6) AUs, five (5) within remnant vegetation and one (1) within non-remnant vegetation (refer Table A7). In order to determine the quantum and quality of the habitat suitable for Koala within the referral area, vegetation/habitat quality was derived from the MHQA tool. This assessment approach utilises the Queensland BioCondition Assessment method combined with site context and species stocking rate assessments to determine the habitat quality of the referral area.

The MHQA methodology was utilised to assess the referral area condition, site context and species stocking rate.

Site Condition (30%)

Assessing site condition is an integral step in determining specific quantification of impacts, while also determining whether an offset site is suitable to establish a desired capacity to support the prescribed environmental matters being offset. The within the referral area condition is a key element of habitat quality and has a direct influence on the biodiversity it supports. Site condition is assessed using a suite of attributes to describe the structure and function of the vegetation community, and is benchmarked against the expected range for a relatively undisturbed community.

The referral area condition assessment under the MHQA is assessed using fifteen (15) condition characteristics being:

- recruitment of woody perennial species in EDL;

- native plant species richness – trees;
- native plant species richness – shrubs;
- native plant species richness – grasses;
- native plant species richness – forbs;
- tree canopy height;
- Sub-canopy cover;
- tree canopy cover;
- native grass cover;
- organic litter;
- large trees;
- coarse woody debris
- non-native plant cover;
- quality and availability of food and foraging habitat; and
- quality and availability of shelters.

Assessment methodology of the above condition characteristics do not differ from the traditional habitat quality assessment. In developing the MHQA to better incorporate MNES, two (2) species habitat index characteristics, being, quality and availability of food and foraging habitat and quality and availability of shelters have been added to the referral area condition indicator.

The referral area Condition characteristics have been given a 40% score weighting as the proposed residential development is considered to impact on critical habitat of the Koala, rather than species itself.

Site Context (30%)

The referral area context assessment deals with the referral area and its adjacent surroundings. Site context is measured using a suite of attributes to describe the location of the habitat within the surrounding landscape and the influence of its associated threats. This assessment also considers the influence of adjacent vegetated areas and ecological corridors. Under the MHQA, site context is measured using the following seven (7) characteristics:

- size of patch;
- connectedness;
- context;
- ecological corridors;
- role of site location to species overall population in the state;
- threats to the species; and
- species mobility capacity.

Unlike the traditional habitat quality assessment methodology where site connectedness is assessed against the surrounding remnant vegetation only, the MHQA site connectedness is assessed against the surrounding MNES habitat, in this instance, Koala habitat. Whilst remnant eucalypt forest vegetation is critical habitat for Koala, equally Koalas can utilise areas of non-remnant vegetation that does not yet achieve remnant status. Therefore, site context under the MHQA accounts for surrounding Koala habitat rather than remnant vegetation.

In developing the MHQA, three (3) species habitat index characteristics were nominated role of site location to overall species population in the state, threats to the species and species mobility capacity.

Species Stocking Rate (40%)

The MHQA incorporates species stocking rate as an attribute not discussed under the traditional terrestrial habitat assessment methodology. Species stocking rates are estimates of the Koala carrying capacity of the referral area at the time of undertaking the survey. Given the discreet nature of the Koala and limited to no published literature on habitat carrying capacity of the species, the species stocking rate scoring methodology has been derived through the collation of site specific surveys and surrounding contextual habitat analysis.

The habitat quality scores for each assessment unit, combining Site Condition, Site Context and Species Stocking Rate are reported in Section 4.4 The scores for Site Condition are derived directly from the MHQA tool data. These scores are then used to determine the scores for Quality and Availability of Food and Foraging Habitat, and Quality and Availability of Shelter.

4. Desktop Assessment Results

A detailed review of desktop environmental values has been conducted over the subject site. The following sections present results from the desktop analysis with a focus on potential MNES and MSES. Guidance for the field scope is also provided based on the findings of the desktop analysis. A complete set of searches is located at Appendix A.

4.1. Legislation, Policy and Planning Instruments

4.1.1 Environment Protection and Biodiversity Conservation Act 1999

The Australian Government's key piece of environmental legislation is the EPBC Act. The EPBC Act aims to protect and manage matters of environmental significance which include nationally and internationally important flora, fauna, ecological communities and heritage places.

Under the EPBC Act, MNES with the potential to occur are listed in the PMST obtained from the Department using an online function for the area of interest. For this project, a 5 km radius buffer from the edge of the project boundary as identified in Table 3. was included in the search function. The search provides a list of wetlands of international significance, threatened ecological communities and threatened species which have the potential to be temporarily or permanently located within a 5 km radius of the study area.

The Protected Matters Report (PMR) is provided in Appendix B, and the results are summarised in Table 3. Each record in the PMR has a type of presence nominated, and where the species, species habitat, foraging, feeding or related behaviour is known to occur within the search area (including the 5 km buffer area), an asterisk (*) is shown. A total of thirty-seven (37) listed threatened species, six (6) listed migratory species, and eight (8) listed TECs were identified as having the potential to occur on or proximal to the study area.

Table 3: EPBC Act PMST Search Results

Threatened Ecological Communities
Grey box-grey gum wet forest of subtropical eastern Australia – Endangered (community likely to occur within area)
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – Critically Endangered (community likely to occur within area)
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland – Critically Endangered (community likely to occur within area)
Poplar Box Grassy Woodland on Alluvial Plains – Endangered (community may occur within area)
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland – Endangered (community may occur within area)
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland – Endangered (community likely to occur within area)
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions – Endangered (community likely to occur within area)

Lowland Rainforest of Subtropical Australia – Critically Endangered (community may occur within area)		
Threatened Species		
Scientific Name	Common Name	Status
Birds		
Anthochaera phrygia	Regent Honeyeater	Critically Endangered
Botaurus poiciloptilus	Australasian Bittern	Endangered
Calidris acuminata	Sharp-tailed Sandpiper	Vulnerable
Calidris ferruginea	Curlew Sandpiper	Critically Endangered
Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo	Vulnerable
Charadrius leschenaultii	Greater Sand Plover	Vulnerable
Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)	Vulnerable
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	Critically Endangered
Erythrotriorchis radiatus	Red Goshawk	Endangered
Falco hypoleucos	Grey Falcon	Vulnerable
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	Vulnerable
Geophaps scripta scripta	Squatter Pigeon (southern)	Vulnerable
Grantiella picta	Painted Honeyeater	Vulnerable
Hirundapus caudacutus	White-throated Needletail	Vulnerable
Lathamus discolor	Swift Parrot	Critically Endangered
Rostratula australis	Australian Painted Snipe	Endangered
Stagonopleura guttata	Diamond Firetail	Vulnerable
Tringa nebularia	Common Greenshank, Greenshank	Endangered
Turnix melanogaster	Black-breasted Button-quail	Vulnerable
Fish		
Maccullochella mariensis	Mary River Cod	Endangered
Insects		
Argynnis hyperbius inconstans	Australian Fritillary	Critically Endangered
Mammals		
Chalinolobus dwyeri	Large-eared Pied Bat	Endangered
Dasyurus maculatus maculatus	Spotted-tailed Quoll	Endangered
Petauroides volans	Greater Glider	Endangered

Scientific Name	Common Name	Status
Petaurus australis australis	Yellow-bellied Glider (south-eastern)	Vulnerable
Petrogale penicillata	Brush-tailed Rock-wallaby	Vulnerable
Phascolarctos cinereus	Koala	Endangered
Potorous tridactylus tridactylus	Long-nosed Potoroo	Vulnerable
Pseudomys novaehollandiae	New Holland Mouse, Pookila	Vulnerable
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable
Plants		
Arthraxon hispidus	Hairy-joint Grass	Vulnerable
Bosistoa transversa	Three-leaved Bosistoa, Yellow Satinheart	Vulnerable
Coleus habrophyllus	-	Endangered (listed as Plectranthus habrophyllus)
Cryptostylis hunteriana	Leafless Tongue-orchid	Vulnerable
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	Vulnerable
Cupaniopsis tomentella	Boonah Tuckeroo	Vulnerable
Dichanthium setosum	bluegrass	Vulnerable
Fontainea venosa	-	Vulnerable
Leuzea australis	Austral Cornflower, Native Thistle	Vulnerable (listed as *Rhaponticum australe*)
Macadamia integrifolia	Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak	Vulnerable
Macadamia tetraphylla	Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut	Vulnerable
Notelaea lloydii	Lloyd's Olive	Vulnerable
Notelaea x ipsviciensis	Cooneana Olive	Critically Endangered (listed as *Notelaea ipsviciensis*)
Picris evae	Hawkweed	Vulnerable
Planchonella eerwah	Shiny-leaved Condoo, Black Plum, Wild Apple	Endangered
Rhodamnia rubescens	Scrub Turpentine, Brown Malletwood	Critically Endangered
Rhodomyrtus psidioides	Native Guava	Critically Endangered
Samadera bidwillii	Quassia	Vulnerable

Scientific Name	Common Name	Status
Thesium australe	Austral Toadflax, Toadflax	Vulnerable
Reptiles		
Coeranoscincus reticulatus	Three-toed Snake-tooth Skink	Vulnerable
Delma torquata	Adorned Delma	Vulnerable
Furina dunmalli	Dunmall's Snake	Vulnerable
Hemiaspis damelii	Grey Snake	Endangered

4.1.2 Nature Conservation Act 1992

The NC Act classifies and protects significant areas (Protected Areas) and protects threatened plant and animal species. The *Nature Conservation (Animals) Regulation 2020* (NCAR) and *Nature Conservation (Plants) Regulation 2020* (NCPR) lists plant and animal species presumed extinct, endangered, vulnerable, near threatened, least concern, international or prohibited. The schedules of this regulation were considered in this report using a Wildlife Online Database Search with a 5 km radius from the site. Species listed under the NCAR and NCPR with the potential to occur around the subject site are shown in Table 4. Refer to Appendix C for full search results.

Table 4: NCA Wildlife Online Search Results

Scientific Name	Common Name	Status
Adelotus brevis	Tusked Frog	Vulnerable
Calyptorhynchus lathami lathami	Glossy Black-cockatoo	Vulnerable
Hirundapus caudacutus	White-throated Needletail	Vulnerable
Ninox strenua	Powerful Owl	Vulnerable
Petauroides armillatus	Central Greater Glider	Endangered
Petaurus australis australis	Yellow-Bellied Glider (Southern Subspecies)	Vulnerable
Phascolarctos cinereus	Koala	Endangered
Melaleuca irbyana	-	Endangered

The Protected Plants regulatory framework under the NCA commenced on 31 March 2014, establishing approval triggers and processes for clearing protected plants. A Protected Plant is defined as all Extinct, Endangered, Vulnerable and/or Near Threatened (EVNT) plant species listed by name in Schedules 1-5 of the NCWR and Least Concern wildlife, not listed by name but identified as a plant indigenous to Australia in Schedule 6.

Under the amended NCA, a Protected Plant that is in the wild must not be 'taken', which includes being cleared, unless taking is under:

- a conservation plan applicable to the plant;

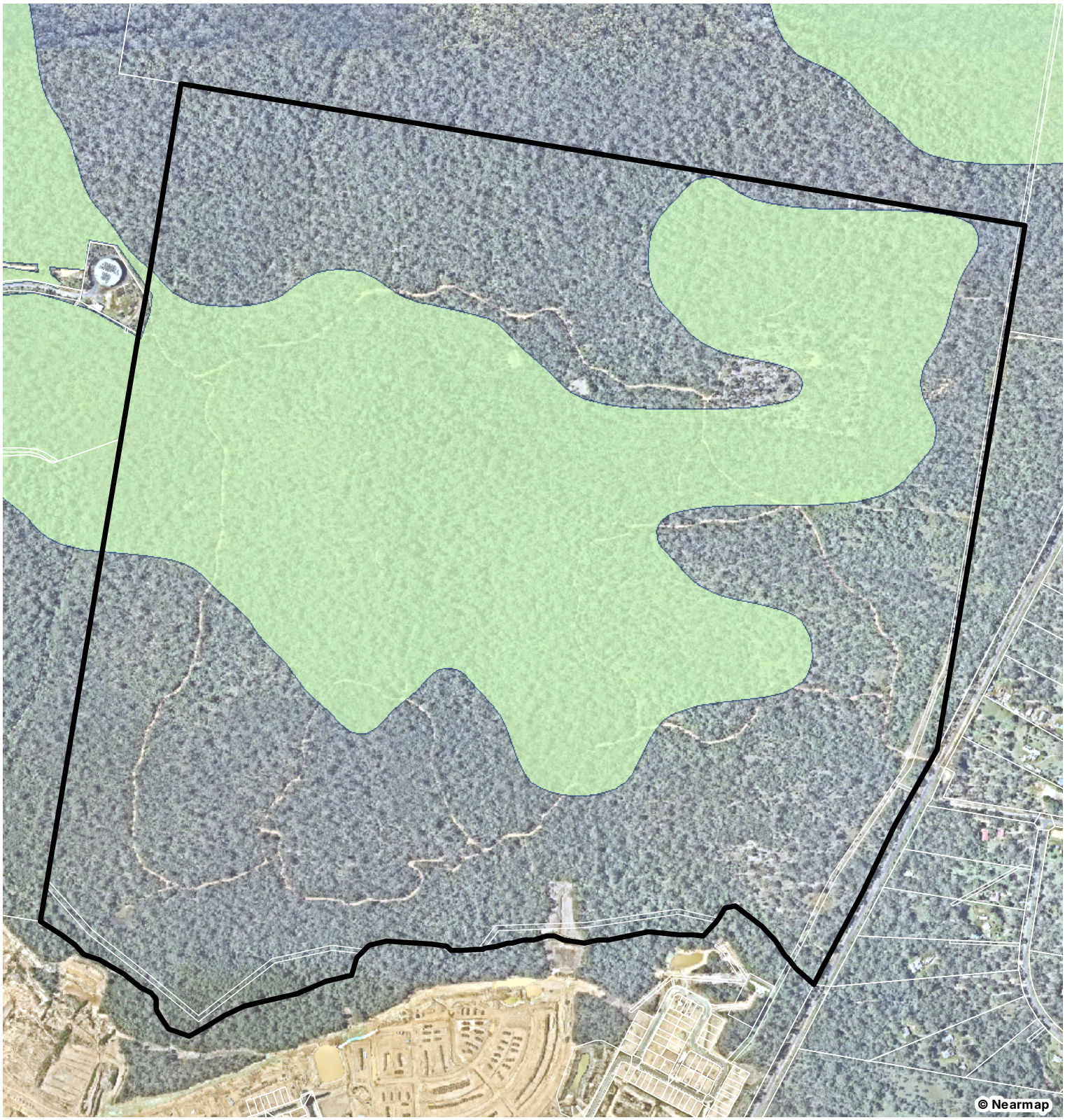
- a license, permit or other authority under a regulation; or
- an exemption under a regulation.

Under the NCA, a listed native plant is considered to be a protected plant if it is in the wild, defined in the NCA as 'in an independent state of natural liberty', with further explanation under Department of Environment and Heritage Protections Operational Policy Wildlife Management (OPWM). An authority or permission is not considered to be required for the taking of a native plant if it is not considered to fall within the definition of being *in the wild*.

The OPWM identifies a number of factors that may contribute to determining whether a protected plant is in the wild, as follows:

- the process by which the plant has become established, i.e., either initiated through human intervention or naturally occurring;
- the natural range of the plant species; and/or
- the ecological situation in which the plant is found.

A search of the Protected Plants Flora Survey Trigger Map identified that part of the site is located within a High Risk Area for Protected Plants (refer Figure 3).



LEGEND

- Qld DCDB
- Site boundary
- High risk area - flora survey trigger

Figure 3

NCA Protected Plants -
Flora Survey Trigger Area

CLIENT

Frasers Property
New Beith Pty Ltd

FILE REFERENCE
10941 E SMP EAR Figure 3 NCA A
DATE
8/10/2025

Round Mountain Project

0 100 200 300 400 m

N

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:10,000

Saunders Havill
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Layer Source: © State of Queensland 2025

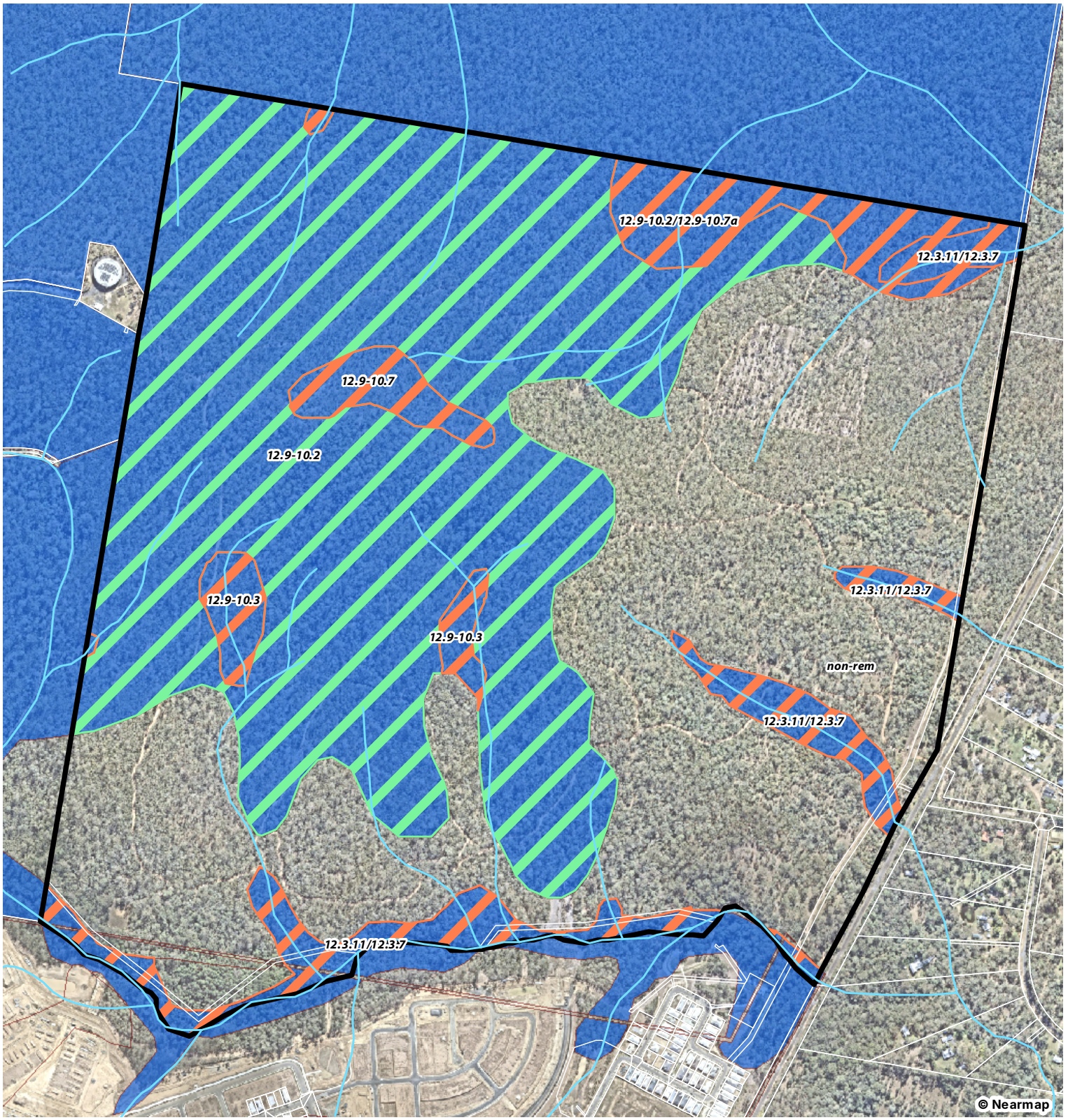
4.1.3 Vegetation Management Act 1999

The *Vegetation Management Act 1999* (VMA) is the key mechanism by which the Queensland Government protects the State's environmental resources pertaining to vegetation. Under the VMA, a series of maps delineate vegetation features across the landscape, which are each assigned a conservation value directly related to the remaining extent of these features in the landscape. The VMA also protects 'essential habitat' vegetation where listed threatened species have been known to occur.

Regulated Vegetation Management Mapping (shows vegetation categories used to determine clearing requirements. While areas shown on the map as Category X are not regulated under the VMA, those shown as Category A, B, C or R are subject to clearing requirements. The latter vegetation categories can only be cleared in accordance with an exemption, self-assessable vegetation clearing code, area management plan or development approval. A Supporting Map defining REs, wetlands, watercourses and essential habitat, is provided with the Regulated Vegetation Management Map. Outside of a PDA, approval for clearing of native vegetation is required under the *Planning Act 2016*, specifically assessment is required against *State Code 16: Native Vegetation Clearing* of the State Development Assessment Provisions (SDAP) which are administered by the State Referral Assessment Agency (SARA). PDA are exempt from the provisions of the VMA under the Planning Regulation.

Two Property Map of Assessable Vegetation (PMAV) assessments have been conducted over the site (PMAV 2018/001365, formally PMAV 2010/007185). Under the VMA, the majority of the site is mapped predominately as Category B (remnant) vegetation, encompassing 141.88 ha. The remainder of the site is comprised of approximately 109.77 ha of Category X (non-remnant). The Regional Ecosystem mapped within the subject site include Least Concern RE12.3.7, RE12.3.6, RE12.9-10.2, and Of Concern RE12.9-10.3, RE12.9- 10.7 and RE12.3.11 (refer Figure 4). The remnant habitat on-site is recognised as essential habitat for *Phascolarctos cinereus* (Koala). While the provisions of the VMA do not apply within a PDA, the mapping provides guidance with respect to areas of potential significance.

GIS scale State mapped watercourses are also presented in Figure 4 for reference. These drainage lines were subject to detailed site assessment of relative waterway value and rectified on-ground (refer Section 5.3.2 and Section 5.3.3). Notably, other than Flagstone Creek, all site flow paths have been designated as drainage features and not watercourses for the purposes of the Water Act 2000 as recognised by the definition under the VMA.



LEGEND

- Qld DCDB
- Site boundary
- VM Watercourses

Site Regional Ecosystems

- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem

VMA PMAV

- Category A
- Category B
- Category C
- Category R
- Water
- Category X

Figure 4

Property Map of Assessable Vegetation

FILE REFERENCE
10941 E SMP EAR Figure 4 PMAV Vegetation A

DATE
8/10/2025

Round Mountain Project

0 100 200 300 400 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:10,000

N

CLIENT

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4.1.4 PMAV Regional Ecosystems

The site has been subject to two Property Map of Assessable Vegetation (PMAV) assessments which have been certified by the Department of Natural Resources, Mines and Energy (DNRME) (PMAV 2018/001365, formally PMAV 2010/007185).

The following Regional Ecosystem categories have been rectified on-ground:

- Category B (Least Concern)
- Category B (Of Concern)
- Category X (non-remnant)

The majority of the eastern and northern portion of the site is mapped as Category B (remnant) vegetation with areas of Category X (non-remnant). The Category B vegetation as rectified by PMAV consists of a mix of Regional Ecosystems, including Least Concern RE12.3.7 and RE12.9-10.2, as well as Of Concern RE12.9-10.3, RE12.9-10.7, and RE12.3.11 (refer Table 5).

As per Schedule 21, Part 2 (e) of the Planning Regulation 2017 (PR), the clearing of regulated vegetation on freehold land that is PDA-related development is exempt. Further, without this provision (*i.e.,* in the absence of a PDA), the clearing of Least Concern and Of Concern regulated vegetation is exempt for an urban purpose in an urban area (refer PR Schedule 21, Part 2 [g]). Potential remnant vegetation State interests are therefore not considered strictly relevant to the site.

The Regional Ecosystems are summarised in the below table:

Table 5: Mapped Regional Ecosystem Descriptions

Regional Ecosystem	Structure Category	Description
Least Concern RE12.3.7	Sparse	Narrow fringing woodland of *Eucalyptus tereticornis, Casuarina cunninghamiana* subsp. *cunninghamiana +/- Melaleuca viminalis*. Other species associated with this RE include *Melaleuca bracteata, M. trichostachya, M. linariifolia.* North of Brisbane *Waterhousea floribunda* commonly occurs and may at times dominate this RE. *Melaleuca fluviatilis* occurs in this RE in the north of the bioregion. *Lomandra hystrix* often present in stream beds. Occurs on fringing levees and banks of rivers and drainage lines of alluvial plains throughout the region. (BVG1M: 16a)
Least Concern RE12.9-10.2	Mid-dense	*Corymbia citriodora* subsp. *variegata* open forest or woodland usually with *Eucalyptus crebra*. Other species such as *Eucalyptus tereticornis, E. moluccana, E. acmenoides* and *E. siderophloia* may be present in scattered patches or in low densities. Understorey can be grassy or shrubby. Shrubby understorey of *Lophostemon*

Regional Ecosystem	Structure Category	Description
		confertus (whipstick form) often present in northern parts of bioregion. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 10b)
Of Concern RE12.3.11	Mid-dense	*Eucalyptus tereticornis +/- E. siderophloia* and *Corymbia intermedia* open forest to woodland. *Corymbia tessellaris, Lophostemon suaveolens* and *Melaleuca quinquenervia* frequently occur and often form a low tree layer. Other species present in scattered patches or low densities include *Angophora leiocarpa, E. exserta, E. grandis, C. trachyphloia, C. citriodora* subsp. *variegata, E. latisinensis, E. tindaliae, E. racemosa* and *Melaleuca sieberi. E. seeana* may be present south of Landsborough and *Livistona decora* may occur in scattered patches or low densities in the Glenbar SF and Wongi SF areas. Occurs on Quaternary alluvial plains and drainage lines along coastal lowlands. Rainfall usually exceeds 1000 mm/y. (BVG1M: 16c)
Of Concern RE 12.9-10.3	Mid-dense	*Eucalyptus moluccana* open forest. Other canopy species include *Eucalyptus siderophloia* or *E. crebra, E. tereticornis* and *Corymbia citriodora* subsp. *variegata.* Understorey generally sparse but can become shrubby in absence of fire. Occurs on Cainozoic and Mesozoic sediments, especially shales. Prefers lower slopes. (BVG1M: 13d)
Of Concern RE12.9-10.7	Sparse	*Eucalyptus crebra +/- E. tereticornis, Corymbia tessellaris, Angophora leiocarpa, E. melanophloia woodland*. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 13c)

4.1.5 Biosecurity Act 2014

The *Biosecurity Act 2014*, which commenced on 1 July 2016, establishes a framework to regulate and control invasive plants and animals. Under the *Biosecurity Act 2014*, land owners are responsible for taking all reasonable and practical steps to minimise the risks associated with invasive plants and animals under their control. This is known as the general biosecurity obligation (GBO).

The *Biosecurity Act 2014* categorises restricted matter (restricted plants and animals) into the following:

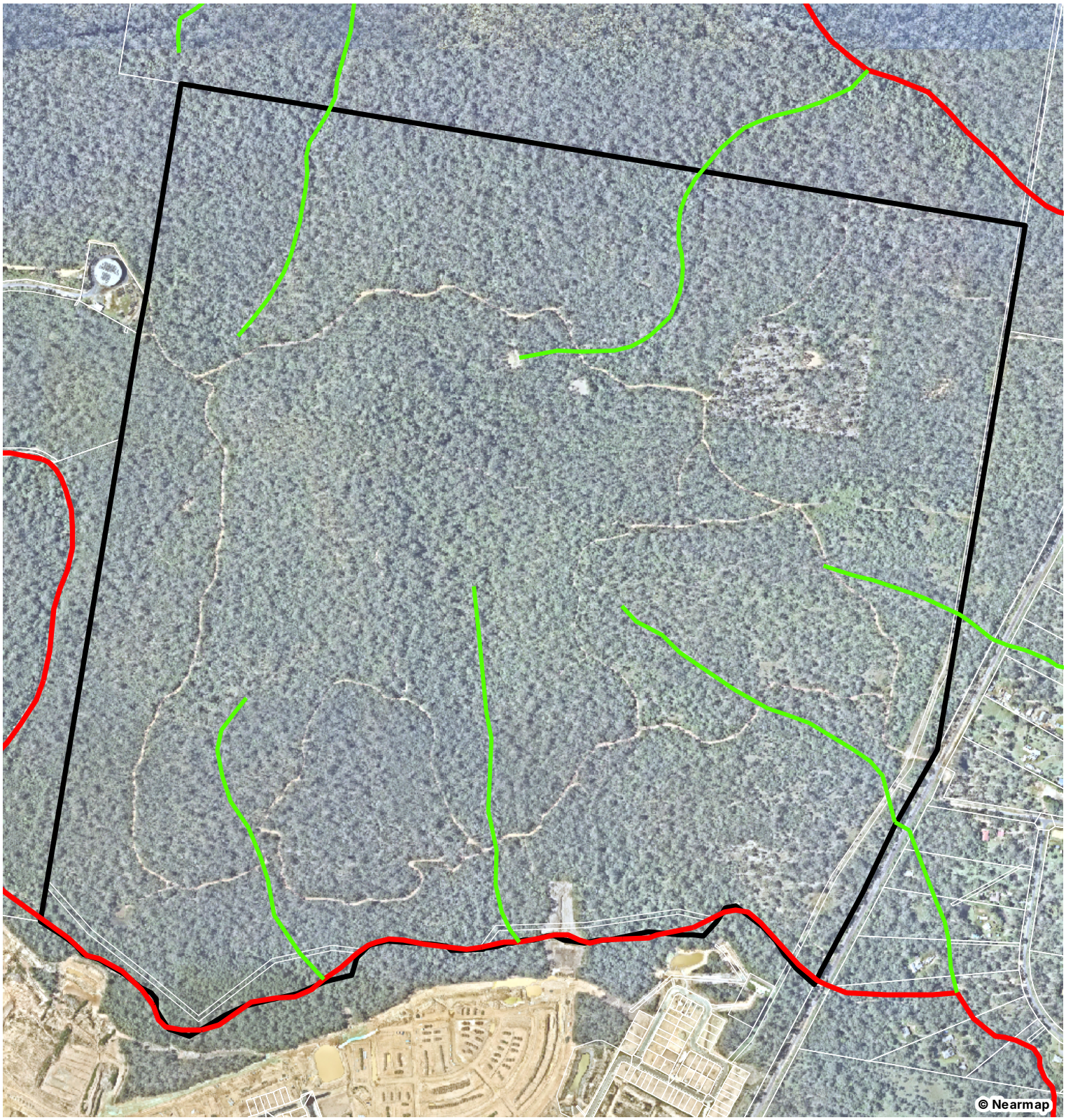
- Category 1: must be reported to an inspector within 24 hours (includes Red Imported Fire Ants, amongst others)
- Category 2: must be reported within 24 hours Biosecurity Queensland on 13 25 23.
- Category 3: must not be distributed either by sale or gift, or released into the environment.

- Category 4: must not be moved.
- Category 5: must not be kept.
- Category 6: must not be fed (animals).
- Category 7: Must be euthanised (animals).

4.1.6 Fisheries Act 1994

The *Fisheries Act 1994* deals with the use, conservation and improvement of Queensland's fisheries resources and fish habitats. The legislation deals with the impact from coastal development on marine fish habitat, including protected marine plants, and declared fish habitat areas. Development proposals that modify or have a temporary or permanent loss of fish habitat are assessed by the Department of Agriculture and Fisheries (DAF).

The site is mapped as containing a *high risk* waterways for waterway barrier works (WWBW) in association with Flagstone Creek and the upper catchments of smaller *low risk* waterways under SARA's Development Mapping Assessment System (DAMS) (refer Figure 5). These areas are proposed to be retained in Vegetation Retention Zone and Open space areas where required noting a waterway determination has been provided. Should any works be undertaken within the rectified waterways that do not meet Accepted Development Requirements, a response to *State Code 18: Waterway Barrier Works* and referral may be required.



LEGEND

- Qld DCDB
- Site boundary

Waterways

Risk of Impact

- 1 - Low
- 2 - Moderate
- 3 - High
- 4 - Major

Figure 5

Fisheries - Waterways for Waterway Barrier Works

FILE REFERENCE
10941 E SMP EAR Figure 5 Fisheries Waterways A

DATE
8/10/2025

Round Mountain Project

0 100 200 300 400 m

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COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
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CLIENT

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4.1.7 Other Queensland Environmental Legislation

Other Queensland environmental legislation has been reviewed in the context of the proposed development. Table 6 below provides a review of contemporary legislative provisions that are not triggered by the proposed development, the purpose of the legislation, and its relevance to the proposed development site.

Table 6: Contemporary review of other Queensland environmental legislation relevant to the site.

Legislation	Purpose	Contemporary Site Relevance
Koala priority areas and koala habitat areas (administered under the *Planning Regulation 2017* (PR))	The PR deals with development within mapped Koala habitat areas by regulating the clearing of mapped Koala habitat and stipulating how it must be cleared. The new mapping, implemented in February 2020 uses mapped Koala Priority Areas and Koala habitat areas to determine the response or referral pathway required for the site. Koala Habitat Areas are Matters of State Environmental Significance (MSES) and are reflected in the State Planning Policy. The LCC Planning Scheme mapping has not been updated to reflect these changes. Under Koala habitat mapping, Schedule 11, Part 2 of the PR is not applicable as the premises on which the development is carried out is within a PDA. As such, no State Code 25 response or referral is required for the site.	While the site is predominately mapped as being within the Koala habitat areas, it is wholly outside of the Koala priority area (KPA). However, as the site falls within the GFPDA, the Koala Habitat triggers do not apply.
Coastal Hazards (*Coastal Protection and Management Act 1995*)	The *Coastal Protection and Management Act 1995* seeks to protect the coastal resources of the coastal zone under State Code 8: Coastal development and tidal works. It establishes a framework for the protection, conservation, rehabilitation and management of the coastal zone with regard to the core objectives of the national strategy for ecologically sustainable development in the use of the Coastal Zone. It also ensures	No areas subject to coastal hazards are mapped within the site, and the site is not located within a Coastal Management Area.

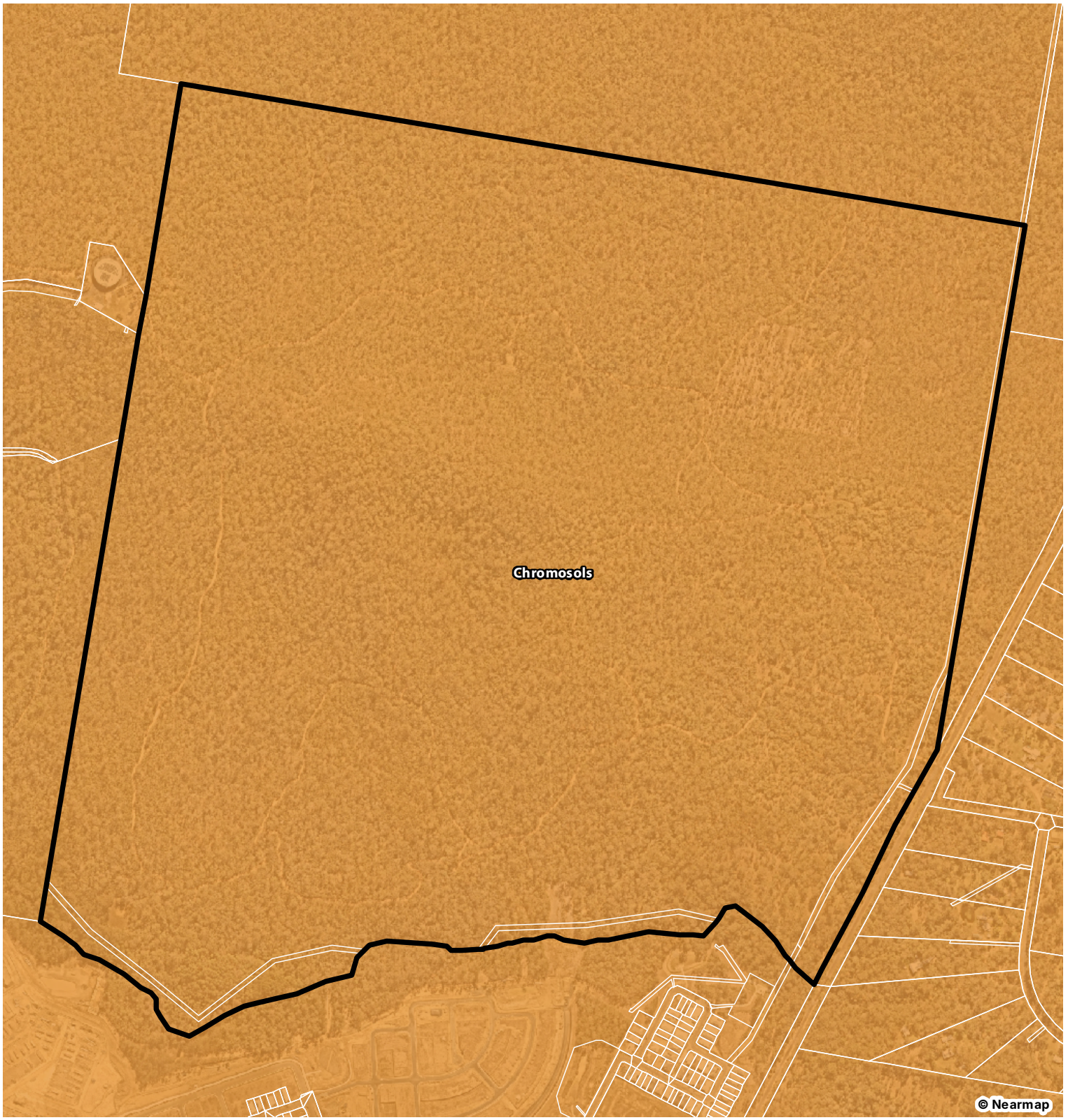
Legislation	Purpose	Contemporary Site Relevance
	decisions about land use and development safeguard life and property from the threat of coastal hazards.	
State Planning Policy 2014 (SPP)	Provides interim development assessment requirements which ensures that state interests are considered by local government when assessing development applications where the local government planning scheme does not yet integrate the State interests in the SPP. MSES include Biodiversity, Coastal Environment, and Water Quality.	Areas of the site are mapped as containing several MSES including, regulated vegetation (defined watercourse, category B – endangered or of concern, category C – endangered or of concern, essential habitat) and wildlife habitat (endangered or vulnerable, species least concern animal, SEQ koala habitat – core). However, regulated vegetation and State Koala provisions do not apply in a PDA.
Water Act 2000	Interfering with watercourses may be regulated under the *Water Act 2000*, which sets out requirements for Riverine Protection (Part 4 d (1) s218). The Water Act provides a framework for the sustainable management of Queensland's water resources and quarry material. Under the Act, a Riverine Protection Permit is required to be obtained if works within a watercourse result in filling, excavation or clearing unless these works meet an exemption.	Several drainage features are mapped as being present across the site as well as one watercourse along the southern border. Drainage features are not relevant for the purposes of the water act, and the southern watercourse is located within an aera proposed to be retained in Vegetation Retention Zone and Open space areas. Should any works be undertaken within the mapped watercourse that are not exempt, a Riverine Protection Permit is required under the water act.

4.1.8 Australian Soil Resource Information System

The Australian Soil Resource Information System (ASRIS) collates and maintains the best available, nationally consistent soil and land resource information for Australia. It provides a scientific information infrastructure for assessing and monitoring the condition of Australia's soil and land resources and contains a set of spatial and temporal databases that maintain national soil and land information in a consistent and usable format. The ASRIS soil classification maps the site as containing chromosols (refer Figure 6). Descriptions of these soils are provided in Table 7.

Table 7: Soil Description

Soil Classification	Soil Description
Chromosol	Chromosols have a strong contrasting texture. They are not strongly acidic or sodic in the upper B horizon. The parent material of Chromosols ranges from highly siliceous, siliceous to intermediate in composition. These soils are found in imperfectly drained sites (yellow and grey chromosol) where rainfall is between 250 mm and 900 mm. They are also found in well-drained sites (brown and red chromosol) with rainfall between 350 mm and 1400 mm. These soils have moderate agricultural potential with moderate chemical fertility and water-holding capacity. They can be susceptible to soil acidification and soil structure decline.



LEGEND

- Qld DCDB
- Site boundary

Australian Soil Classification

- Chromosols

Figure 6

ASRIS Soil Classification

FILE REFERENCE
10941 E SMP EAR Figure 6 ASRIS Soils A

DATE
8/10/2025

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GDA 2020 MGA Z56

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4.1.9 Town Planning Instruments

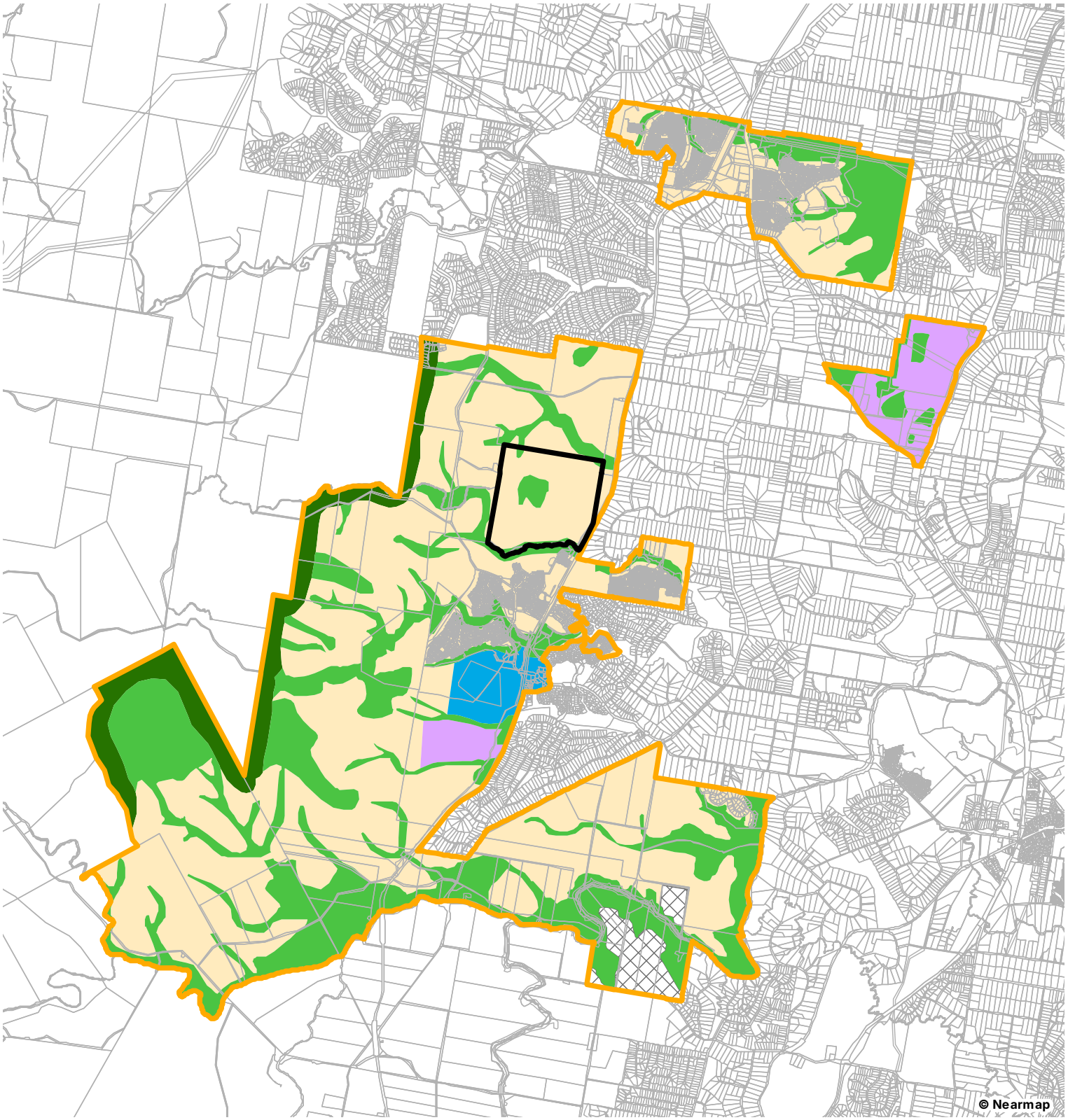
The site is located within the jurisdiction of LCC but not subject to the provisions of the LCC Planning Scheme. Importantly, the site is located within the GFPDA and as such is governed by EDQ. Although being entirely included within the LCC Local Government Area, EDQ have jurisdiction for the implementation and enforcement of development applications in relation to the project as a key regulator of development within a PDA for the DSDI.

4.1.10 Greater Flagstone Priority Development Area

The development proposal occurs within the Greater Flagstone Urban Development Area, declared under the *Urban Land Development Authority Act 2007* (ULDA Act). This legislation superseded the requirements of local government planning provisions (in this case, LCCs *Logan Planning Scheme 2015*) and selective other state legislation (e.g. *Planning Act 2016*, VMA and others).

The Greater Flagstone Urban Development Area Development Scheme was approved in October 2011 and regulates development within the PDA. The Development Scheme is the primary planning instrument which regulates development within the Greater Flagstone PDA.

The Scheme identifies the site as being predominately within the Urban Living Zone, with areas of Greenspace (refer Figure 7). The Urban Living Zone applies to a large portion of the area intended for urban development in the PDA and has been rectified under the Master Plan (refer Figure 8). The majority of the zone is intended to be developed as neighbourhoods focused on identifiable and accessible centres comprising a mix of residential including houses, multiple residential and other residential and live work opportunities through home-based business. Development applications referred to EDQ for assessment against the Development Scheme will be assessed against the EDQ's Implementation Guidelines. Specifically, IG 14 and in this case, criteria as specified in the endorsed Natural Environment Site Strategy (refer Section 6).



LEGEND

- Qld DCDB
- Site boundary
- Conservation
- Greenspace
- Industry & Business
- Major Centre
- Urban Living
- Utilities

Figure 7

EDQ Zoning and Community Greenspace Network

FILE REFERENCE
10941 E SMP EAR Figure 7 EDQ Zoning A

DATE
8/10/2025

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0 1,000 2,000 3,000 m

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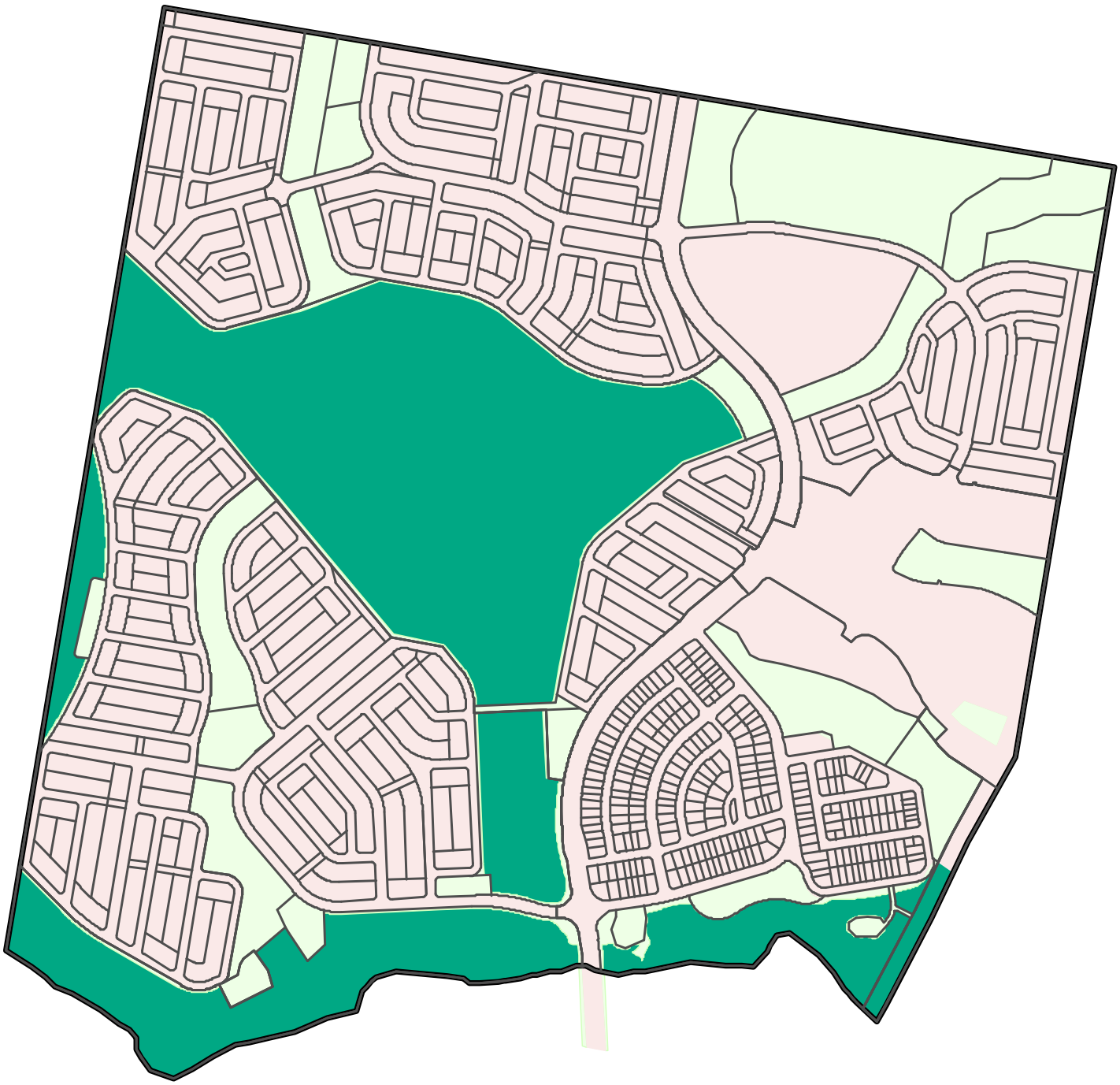

LEGEND

- Qld DCDB
- Site boundary
- Development area
- Open Space area
- Vegetation Retention area
- Master Plan Layout

Figure 8

Master Plan

FILE REFERENCE
10941 E SMP EAR Figure 8 Master Plan A

DATE
9/10/2025

Round Mountain Project

0 100 200 300 400 m

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GDA 2020 MGA Z56

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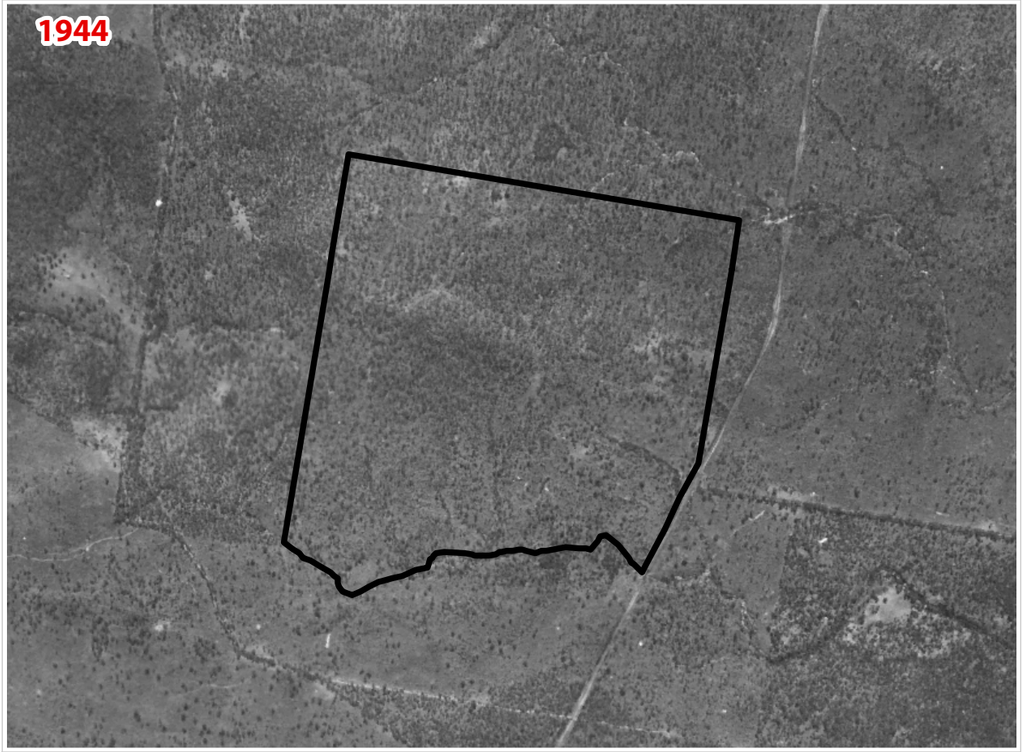
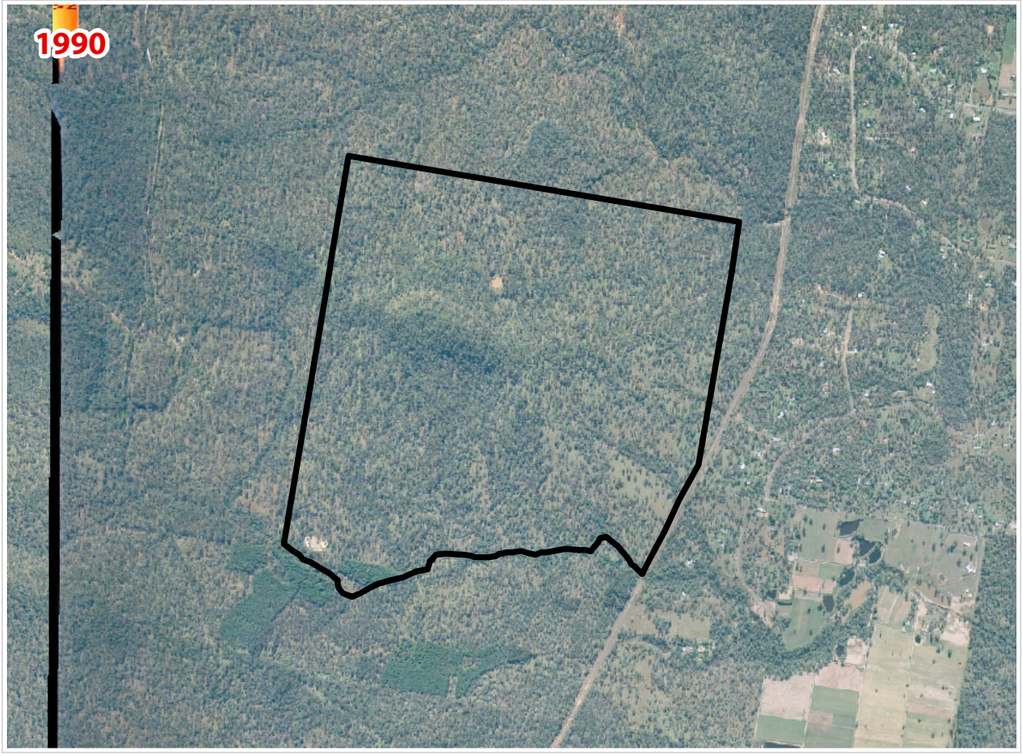
4.2. Historical Aerial Analysis

A review of historical aerial imagery over the balance impact area dating from 1944 to 2002 identifies the periodical changes which have occurred in the local landscape (refer Plan 1). General observations include:

- Aerial photography from 1944 shows the proposed impact area was predominately composed of varied vegetation, with what looks to be of a scattered density in the southern region.
- Imagery from 1978 shows overall growth across the site, with the density of vegetation increasing within the southern portion. This is presumably due to tree growth over the forty-four years. Rural residential lots located to the southern and eastern direction of the site had commenced since the 1940's.
- Aerial imagery from 1990 displays the continued growth of the vegetation within the proposed impact area since the late 1970s. Rural-residential development has continued over adjoining properties to the east of the proposed impact area.
- Imagery from 2002 shows areas of continued vegetation regrowth across the proposed impact area. Residential development has also continued to the east of the site, as well as thinning of vegetation more broadly to the west of the site.

1. HISTORICAL AERIAL IMAGERY





Notes:
The information on this plan is not suitable for any purpose other than the expressed use of the Client. Property dimensions, areas, numbers of lots and contours and other physical features may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of Saunders Havill.Unless a development approval states otherwise, this is not an approved plan.

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Updated data available at
http://qldspatial.information.qld.gov.au/catalogue/

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LEGEND

Site Boundary

AMENDMENTS				
Issue	Date	Description	Drawn	Checked
A	8/10/2025	PRELIMINARY	TC	KR

N

0 200 400 600 800 1,000 m

1:25,000 @ A3 | Transverse Mercator | GDA 2020 | Zone 56

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ROUND MOUNTAIN PROJECT

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8/10/2025

10941 E 01 SMP EAR Aerial History A

4.3. Likelihood of Occurrence Assessment

Based upon the database searches, MNES identified as being of potential relevance to the proposed development include TECs and threatened flora and fauna species and migratory species. The following findings of the desktop assessment further narrow those MNES having the potential to occur within the impact area.

4.3.1 Threatened Ecological Communities

The PMST (refer Appendix B) returned the following eight (8) TECs, listed under the EPBC Act as having potential to occur within 5 km of the site:

- Grey Box-grey Gum Wet Forest of Subtropical Eastern Australia,
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland,
- Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland,
- Poplar Box Grassy Woodland on Alluvial Plains,
- Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community,
- Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland,
- Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions,
- Lowland Rainforest of Subtropical Australia.

The likelihood of occurrence for each TEC within the impact area, as presented in Table 8 referred to State Government Regional Ecosystem (RE) mapping within the locality and known distributions of the TECs, to identify those TECs with potential to occur in the subject site or recorded during field surveys. RE's associated with two (2) of the TEC's are mapped as being present on-site including the grey box-grey gum wet forest of subtropical eastern Australia community. These TECs have therefore been deemed as having a 'Possible' likelihood of occurrence. All other TEC's have been listed as having an 'Unlikely' likelihood of occurrence. Notably, Federal matters have been addressed under the EPBC Act assessment.

Table 8: Likelihood of occurrence of threatened ecological communities on-site

TEC	EPBC Act status	Likelihood of occurrence	Analysis
Grey box-grey gum wet forest of subtropical eastern Australia	Endangered	Possible	The site is mapped as containing RE 12.9-10.3 which is associated with this threatened ecological community.
White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Unlikely	The site is not mapped as containing any RE's associated with this threatened ecological community, nor does it contain features indicative of this TEC.

TEC	EPBC Act status	Likelihood of occurrence	Analysis
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	Critically Endangered	Unlikely	The site is not mapped as containing any RE's associated with this threatened ecological community, nor does it contain features indicative of this TEC.
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Unlikely	The site is not mapped as containing any RE's associated with this threatened ecological community, nor does it contain features indicative of this TEC.
Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community	Endangered	Unlikely	The site is not mapped as containing any RE's associated with this threatened ecological community, nor does it contain features indicative of this TEC.
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Unlikely	The site is not mapped as containing any RE's associated with this threatened ecological community, nor does it contain features indicative of this TEC.
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Possible	The site is mapped as containing RE 12.3.11/12.3.7 which is associated with this threatened ecological community.
Lowland Rainforest of Subtropical Australia	Critically Endangered	Unlikely	The site is not mapped as containing any RE's associated with this threatened ecological community, nor does it contain features indicative of this TEC.

4.3.2 Threatened Flora Species

Database searches identified nineteen (19) flora species, listed as threatened under the EPBC Act, as having been previously recorded or with potential to occur within 5 km of the study area, as presented in Appendix B. To increase the robustness of the desktop assessment, these PMST results are cross-checked with the NC Act records within proximity to the study area where an additional one (1) threatened species was identified and presented in Appendix C.

Based on the presence of species records within the locality and habitat identified on-site, a likelihood of occurrence assessment was completed to identify threatened species having the potential to occur on or proximal to the impact area. The desktop assessment determined one (1) of the identified threatened flora

species listed under the NC Act as having a 'likely' probability of occurrence within or adjacent the impact area, including *Melaleuca irbyana* (Swamp Tea-tree) (refer Table 9).

Table 9: Likelihood of occurrence of flora species on-site based on desktop assessment.

Scientific Name	Common Name	Likelihood of occurrence	Analysis
Melaleuca irbyana	Swamp Tea-tree	Likely	*Melaleuca irbyana* is known to occur within the locality. There is potential that this species could occur on-site.

The complete likelihood of occurrence assessment is presented in Appendix D.

4.3.3 Threatened Fauna Species

Database searches identified eighteen (18) fauna species, listed as threatened under the EPBC Act, as having been previously recorded or predicted to occur within 5 km of the subject site, as presented in Appendix B. These species have been captured within the buffer of the search tool. Habitat to support these species is limited to the vegetation mapped as being either Category B (remnant) and Category C (high-value regrowth). To increase the robustness of the desktop assessment, these PMST results are cross-checked with the NC Act records within proximity to the study area where an additional two (2) threatened fauna species were identified and are presented in Appendix C.

Based on the presence of species records within the locality and habitat identified within the impact area, a likelihood of occurrence assessment was completed to identify threatened species having the potential to occur on or proximal to the impact area. The desktop assessment determined eight (8) threatened fauna species listed under the EPBC Act or NC Act having a likelihood of occurrence of 'possible' or 'known/likely' including, *Anthochaera Phrygia* (Regent Honeyeater), *Calyptorhynchus lathami lathami* (Glossy Black-cockatoo), *Lathamus discolor* (Swift Parrot), *Ninox strenua* (Powerful Owl), *Petaurus australis australis* (Yellow-bellied Glider), *Phascolarctos cinereus* (Koala), *Pteropus poliocephalus* (Grey-headed Flying Fox) and *Adelotus brevis* (Tusked Frog). These species are listed in Table 10 below.

All other threatened fauna species were assessed as having an 'unlikely' likelihood of occurrence. Despite the *Petauroides volans* (Greater Glider) being deemed as having an 'unlikely' likelihood of occurring within the site, due to the focus on the conservation of these species within South-east Qld, a review of this species has been provided below to show the project has thoroughly considered the potential for impact on this species.

The complete likelihood of occurrence assessment is presented in Appendix D.

Table 10: Likelihood of occurrence of fauna species on-site based on desktop assessment.

Scientific name	Common name	Likelihood of occurrence	Analysis
Anthochaera phrygia	Regent Honeyeater	Possible	Potential habitat attributes to support the Regent Honeyeater are identified within the proposed impact area via the presence of mapped open eucalypt woodland. Under the VMA this includes mapped Category B (remnant) and Category C (high-value regrowth) Of Concern' RE 12.3.11, 12.9-10.3 and 12.9-10.7 as well as Least Concern RE 12.3.7 and 12.9-10.2. A review of the ALA database records confirmed that the species has been recorded within 5 km of the site. From a desktop perspective, the remnant vegetation is suitable foraging habitat for the Regent Honeyeater. In addition to the presence of foraging habitat on-site, the Regent Honeyeater was observed in 2019 approximately 9.7 km north of the site in the Springfield Lakes area. Given the large area and connectedness of the remnant vegetation on-site, there is potential for the Regent Honeyeater to utilise the vegetation during foraging periods. Due to the site's location adjoining existing infrastructure and disturbance to the south, the site may contain edge affected habitat areas which are more prone to supporting aggressive species such as such as Noisy Miner (*Manorina melanocephala*) and Noisy Friarbird *(Philemon corniculatus*) which are known to outcompete Regent Honeyeaters. Based on this desktop assessment, there is a possible likelihood for the species to occur on-site.
Calyptorhynchus lathami lathami	Glossy Black-cockatoo	Possible	Potential habitat attributes to support the Glossy Black-cockatoo are identified within the proposed impact footprint via the presence of open eucalypt woodland. Under the VMA this includes mapped Category B (remnant) and Category C (high-value regrowth) Of Concern RE 12.3.11, 12.9-10.3 and 12.9-10.7 as well as Least Concern RE 12.3.7 and 12.9-10.2. A review of the ALA database records confirmed that the species has been recorded within 5 km of the site.

Scientific name	Common name	Likelihood of occurrence	Analysis
			It is possible that the understorey contains Allocasuarina species which this species depends on, however, these are not identified as a key species of the mapped REs. Glossy Black-cockatoos are identified as occurring within the Flinders-Karawatha corridor which adjoins the site to the west. Based on this desktop assessment, there is a possible likelihood for the species to occur on-site.
Lathamus discolor	Swift Parrot	Possible	Potential foraging habitat attributes to support the Swift Parrot are identified within the proposed impact area via the presence of mapped open eucalypt woodland. Under the VMA this includes mapped Category B (remnant) and Category C (high-value regrowth) Of Concern RE 12.3.11, 12.9-10.3 and 12.9-10.7 as well as Least Concern RE 12.3.7 and 12.9-10.2. A review of the ALA database records confirmed that the species has been recorded within 5 km of the site. Given the large area of remnant habitat and, the connectedness of the vegetation on-site and the mapped REs dominated by favourable foraging species being *Corymbia citriodora*, there is a potential for the species may occur on-site. Due to the site's location adjoining existing infrastructure and disturbance, the site may contain edge affected habitat areas which are more prone to supporting aggressive species such as such as Noisy Miner (*Manorina melanocephala*) and Noisy Friarbird *(Philemon corniculatus*) which are known to outcompete Swift Parrots. Based on this desktop assessment, there is a 'possible' likelihood for the species to occur on-site.
Ninox strenua	Powerful Owl	Possible	Powerful owls prefer open forests and woodlands, as well as along sheltered gullies in wet forests with dense understoreys, especially along watercourses. The species are sometimes recorded in open areas near forests such as farmland, parks and suburban areas, as well as in remnant bushland patches. Powerful owls need old growth trees to nest.

Scientific name	Common name	Likelihood of occurrence	Analysis
			The species has been recorded within close proximity of the site.
Petauroides volans	Greater Glider (central)	Unlikely	Despite the presence of potential foraging habitat, the Greater Glider has not been sighted within 5km of the site according to the ALA database. The impact area is surrounded by existing disturbance including residential development to the south. Given the species is highly susceptible to disturbance and edge avoidant behaviour, there is considered reduced potential for the species to occur on-site.
Petaurus australis australis	Yellow-bellied Glider	Possible	Potential habitat attributes to support the Yellow-bellied Glider are identified within the proposed impact footprint via the presence of open eucalypt woodland. Under the VMA this includes mapped Category B (remnant) and Category C (high-value regrowth) Of Concern' RE 12.3.11, 12.9-10.3 and 12.9-10.7 as well as Least Concern RE 12.3.7 and 12.9-10.2. A review of the ALA database records confirmed that the species has been recorded within 5 km of the site. Despite the presence of potential foraging habitat, the impact area contains predominately historically cleared vegetation, with a retained remnant patch of vegetation along within the central round mountain area as well as along the southern boundary. The impact area is surrounded by existing disturbance including residential development to the south of the site.
Phascolarctos cinereus	Koala	Likely	Potential habitat attributes to support the Koala has been identified within the proposed impact area via mapped regulated vegetation. A review of the ALA database confirms Koalas are known to occur within the surrounding locality. Given the presence of Koala habitat within and adjacent the impact area, there is presently a 'likely' chance of Koala presence.
Pteropus poliocephalus	Grey-headed Flying-fox	Possible	Potential habitat attributes to support the Grey-headed Flying Fox are present within the proposed impact area in the form of eucalypt woodland. Under the VMA this includes mapped Category B (remnant) and Category C (high-value regrowth) Of Concern' RE 12.3.11, 12.9-

Scientific name	Common name	Likelihood of occurrence	Analysis
			10.3 and 12.9-10.7 as well as Least Concern RE 12.3.7 and 12.9-10.2. A review of the ALA database records confirmed that the species has been recorded within 5 km of the site. A Grey-headed Flying Fox roost is located on in Cedar Grove, approximately 7.9 km south-east of the site.
Adelotus brevis	Tusked Frog	Possible	Tusked frogs can be found in a range of habitats including open grasslands, large swamps, low woodlands, dry and wet sclerophyll forests and rainforests. They are not recorded to be concerned about artificial or highly disturbed sites. Tusked frogs rarely occur above 400m above sea level and are known to breed in a range of sites. The presence of dams within the subject site provides potential aquatic habitat. The species has been recorded approximately 4.6 km north of the site along Pub Lane, Greenbank. Potential habitat for this species is being avoided.

4.3.4 Migratory Species

Database searches returned six (6) migratory fauna species listed as threatened under the EPBC Act as having been previously recorded or predicted to occur within 5 km of the subject site.

Based on the presence of species records within the locality and habitat identified on-site, a likelihood of occurrence assessment was conducted to identify migratory species having the potential to occur on or proximal to the site. The desktop assessment determined three (3) threatened migratory fauna species listed under the EPBC Act as having a likelihood of occurrence of 'possible' including, *Hirundapus caudacutus* (White-throated Needletail). These species are listed in Table 11 below.

The complete likelihood of occurrence assessment is presented in Appendix D.

Table 11: Likelihood of occurrence of migratory species on-site based on desktop assessment.

Scientific name	Common name	Likelihood of occurrence	Analysis
Hirundapus caudacutus	White-throated Needletail	Possible	The species is considered almost exclusively aerial and is known to occur over most habitat types.

5. Terrestrial Assessment Results

Ecological field surveys were conducted on the subject site from 6th – 15th November 2018 and more recently, 18th, 23rd and 24th February 27th, 29th April 19th, 20th, 24th May and 1st June 2021, 19th, 22nd, 27th, 29th September 2023 and 31st July and 3rd October 2024, with specific days and weather conditions from 2021 and 2024 are detailed in Table 12. The entire site was walked to ensure all vegetation communities and species were recorded. Particular attention was paid to any threatened flora and habitat for any threatened fauna species that were listed as potentially occurring within the vicinity of the application area, and specific micro assemblage which may support these threatened species.

Table 12: Ecological survey dates and weather conditions

Date	Weather Conditions	Low (°C)	High (°C)	Rain (mm)
18 February 2021	Overcast with light showers	19.2	28.3	1.6
23 February 2021	Overcast with light showers	21.8	34.4	5.0
24 February 2021	Overcast with light showers	18.9	29.9	14.4
27 April 2021	Fine and sunny	11.9	25.9	0
29 April 2021	Fine and sunny	10.7	25.4	0.4
19 May 2021	Fine and sunny	11.1	22.3	0
20 May 2021	Fine and sunny	8.0	24.2	0
24 May 2021	Fine and sunny	8.3	23.5	0
1 June 2021	Fine and sunny	5.2	23.3	0
3 October 2024	Fine and sunny	11.2	24	0

Source: Bureau of Meteorology, Greenbank (Defence) Station 140009

5.1. Vegetation Assessment Results

5.1.1 Flora Observations

Field surveys address the relevant desktop analysis conducted at the time of survey. The key findings from the field surveys as well as a current desktop study are as follows:

- The PMST identified nineteen (19) flora species as possibly occurring within 5 km of the site. No threatened flora species listed under the EPBC Act were recorded within the site during field surveys.
- A Wildlife Online Search listed one (1) protected flora species as possibly occurring within 5 km of the site including *Melaleuca irbyana* (Swamp Tea-tree). One (1) specimen of *Melaleuca irbyana* was identified during field surveys along the access track on the eastern boundary and this has now been cleared. No additional threatened flora species listed under the NCA were recorded within the site during field surveys.

- The PMST identified eight (8) TECs as having potential to occur within 5 km of the site (refer Section 4.3). Additionally, 16 threatened plant species were identified as potentially occurring within and/or in the vicinity of the site. No flora species listed as threatened under the EPBC Act were recorded throughout the site.
- A total of one-hundred and twenty-eight (128) flora species were recorded through the site during field surveys. This consisted of seventy-seven (77) native species and fifty-one (51) introduced / weed species (refer Table 13 and Table 14).

Table 13: Native flora species recorded within the site.

Scientific name	Common name
Acacia concurrens	Black Wattle
Acacia disparrima	Hickory Wattle
Acacia fimbriata	Fringed Wattle
Acacia leiocalyx	Early Flowering Black Wattle
Adiantum atroviride	Maidenhair Fern
Allocasuarina littoralis	Black She Oak
Alloteropsis semialata	Cockatoo Grass
Alphitonia excelsa	Soap Tree
Angophora leiocarpa	Smooth Bark Apple
Aristida calycina	Dark Wiregrass
Banksia integrifolia	Coastal Banksia
Breynia oblongifolia	Coffee Bush
Brunoniella australis	Blue Trumpet
Cassytha glabella	Devil's Twine
Centella asiatica	Pennywort
Cheilanthes distans	Bristle Cloak Fern
Chrysocephalum apiculatum	Yellow Buttons
Corymbia intermedia	Pink Bloodwood
Corymbia tessellaris	Moreton Bay Ash
Cupaniopsis anacardoides	Tuckeroo
Cymbopogon refractus	Barbed Wire Grass
Cyndon dactylon	Common Couch
Dianella caerulea	Blueberry Lily
Drosera spatulata	Spoon-leaved Sundew
Eleocharis dulcis	Water Chestnut
Eragrostis brownii	Brown's Lovegrass
Erythrina vespertilio	Bat Wing Coral Tree
Eucalyptus crebra	Narrow Leaf Ironbark
Eucalyptus seeana	Narrow Leaf Red Gum

Scientific name	Common name
Eucalyptus siderophloia	Grey Ironbark
Eucalyptus tereticornis	Forest Red Gum
Eustrephus latifolius	Wombat Berry
Ficus coronata	Sand Paper Fig
Ficus rubiginosa	Port Jackson Fig
Fimbristylis ferruginea	A Fringe Rush
Gahnia aspera	Sawsedge
Geitonoplesium cymosum	Scrambling Lily
Glochidion sumatranum	Large-leaved Cheese Tree
Grevillea banksii	Red Silky Oak
Grewia latifolia	Dog's Balls
Goodenia rotundifolia	Star Goodenia
Grevillea robusta	Silky Oak
Haemodorum austroqueenslandicum	Blood Root
Hardenbergia violacea	Native Sarsaparilla
Heteropogon contortus	Black Speargrass
Imperata cylindrica	Blady Grass
Juncus usitatus	Common Rush
Jagera pseudorhus	Foambark
Lobelia purpurascens	White Root
Lomandra hystrix	Creek Mat Rush
Lomandra multiflora	Many Flowered Mat Rush
Ludwigia octovalvis	Native Willow Primrose
Lygodium microphyllum	Climbing Maidenhair Fern
Melaleuca irbyana	Swamp Tea-tree
Melaleuca linariifolia	Snow in Summer
Melaleuca quinquenervia	Broad Leaved Paperbark
Melaleuca saligna	Willow Bottlebrush
Melaleuca viminalis	Weeping Bottlebrush
Melia azedarach	White Cedar
Murdannia graminea	Slug Herb
Nymphoides indica	Water Snowflakes
Ozothamnus diosmifolius	Sago Flower
Parsonsia strainea	Monkey Rope Vine
Patersonia fragilis	Swamp Iris
Patersonia glabrata	Native Iris
Persicaria decipiens	Slender Knotweed
Persicaria hydropiper	Water Pepper

Scientific name	Common name
Petalostigma pubescens	Quinine Bush
Philydrum lanuginosum	Woolly Frogmouth
Pomax umbellata	Pomax
Pteridium esculentum	Bracken
Stephania japonica	Tape Vine
Themeda triandra	Kangaroo Grass
Trema tomentosa	Poison Peach
Vigna vexillata	Wild Cowpea
Viola banksii	Ivy-leaf Violet
Whalenbergia queenslandica	Bluebell

Table 14: Introduced / weed flora species recorded within the site.

Scientific Name	Common Name	Weed Restriction *Biosecurity Act 2014*
Ageratum houstonianum	Blue Billygoat Weed	
Ambrosia artemisiifolia	Annual Ragweed	Restricted Invasive Plant
Andropogon virginicus	Whisky Grass	
Asclepias currassavica	Red-head Cotton Bush	
Asparagus aethiopicus	Climbing Asparagus Fern	Restricted Invasive Plant
Baccharis halimifolia	Groundsel Bush	Restricted Invasive Plant
Bidens pilosa	Cobbler's Pegs	
Celtis sinensis	Chinese Elm	Restricted Invasive Plant
Chloris gayana	Rhodes Grass	Other Invasive Plant
Chloris virgata	Feathertop Rhodes Grass	
Cinnamomum camphora	Camphor Laurel	Restricted Invasive Plant
Commelina diffusa	Wandering Jew	
Conyza bonariensis	Flaxleaf Fleabane	
Corymbia torelliana	Cadaghi	
Cyperus polystachyos	Bunchy Sedge	
Eragrostis curvula	African Lovegrass	Other Invasive Plant
Gomphocarpus physocarpus	Balloon Cotton Bush	
Heliotropium amplexicaule	Blue Heliotrope	
Hybanthus stellarioides	Spade Flower	
Jacaranda mimosifolia	Jacaranda	
Lantana camara	Lantana	Restricted Invasive Plant
Lantana montevidensis	Creeping Lantana	Restricted Invasive Plant
Ludwigia peploides	Water Primrose	

Scientific Name	Common Name	Weed Restriction *Biosecurity Act 2014*
Macfadyena unguis-cati	Cat's Claw Creeper	Restricted Invasive Plant
Megathyrsus maximus	Guinea Grass	
Melinis minutiflora	Molasses Grass	Other Invasive Plant
Melinis repens	Red Natal Grass	
Murraya paniculata	Mock Orange	Other Invasive Plant
Nymphaea caerulea	Blue Water Lily	
Ochna serrulata	Ochna	Other Invasive Plant
Oplismenus aemulus	Creeping Bear Grass	
Opuntia stricta	Prickly Pear	Restricted Invasive Plant
Oxalis corniculata	Yellow Wood-sorrel	
Paspalum dilatatum	Paspalum	
Passiflora suberosa	Corky Passion Vine	
Pinus elliotii	Slash Pine	
Pteridium esculentum	Bracken	
Schefflera actinophylla	Umbrella Tree	Other Invasive Plant
Schinus terebinthifolius	Broadleaved Pepper	Restricted Invasive Plant
Senecio madagascariensis	Fireweed	Restricted Invasive Plant
Senna pendula	Easter Cassia	Other Invasive Plant
Setaria spacelata	Setaria	
Sida cordifolia	Flannel Weed	
Solanum mauritianum	Wild Tobacco Tree	Other Invasive Plant
Solanum nigrum	Blackberry Nightshade	
Solanum seaforthianum	Brazilian Nightshade	
Solanum torvum	Devil's Fig	
Sporobolus pyramidalis	Giant Rat's Tail Grass	Restricted Invasive Plant
Syagrus romanzoffiana	Cocos Palm	Other Invasive Plant
Thunbergia alata	Black-eyed Susan	Other Invasive Plant

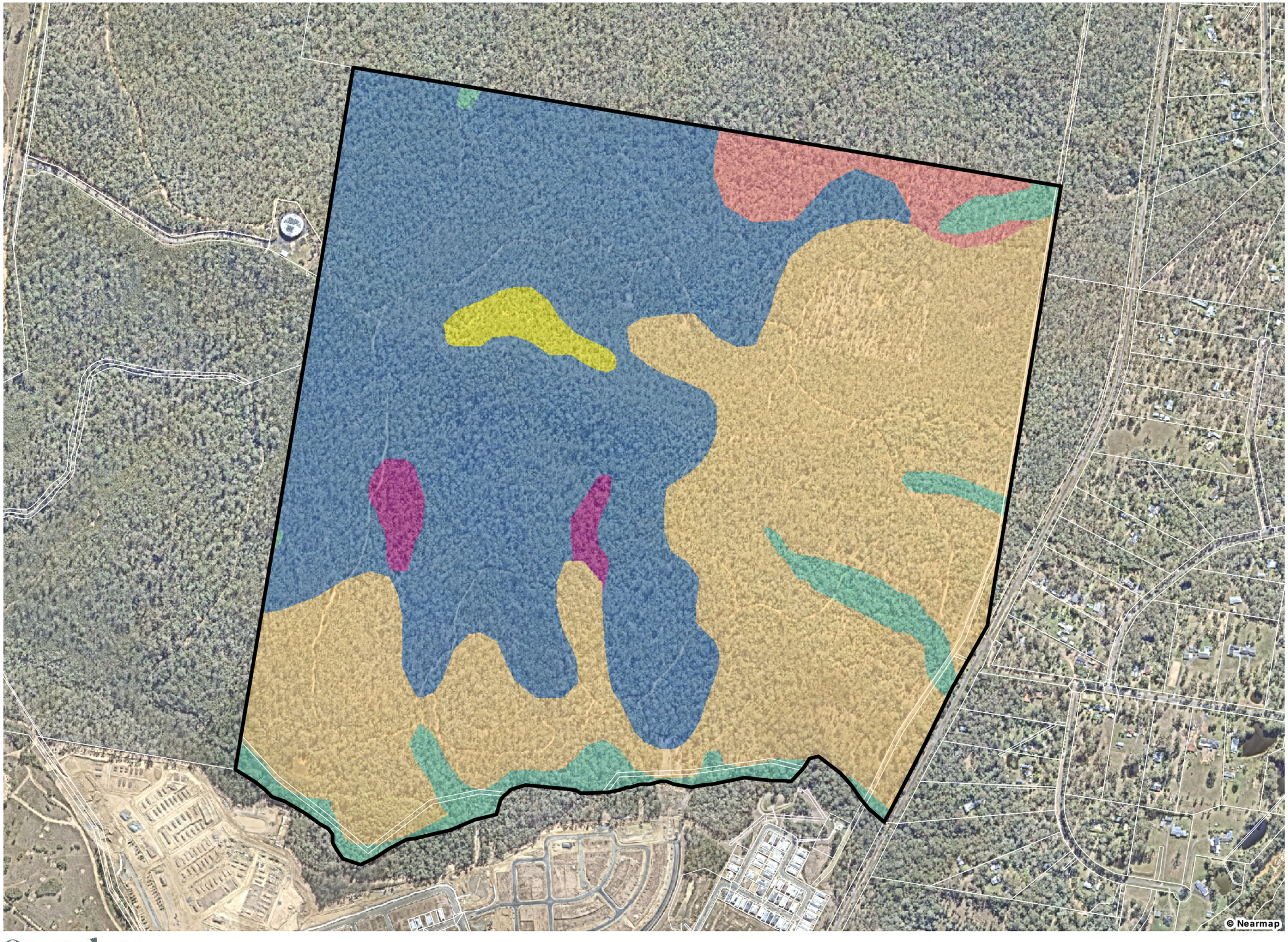
5.1.2 Assessment Units

The site was separated into five (5) assessment units based on the vegetation communities, waterway drainage corridors and land zone characteristics. These include:

- Assessment Unit 1 – RE 12.3.11/12.3.7,
- Assessment Unit 2 – RE 12.9-10.2,
- Assessment Unit 4 – RE 12.9-10.7,
- Assessment Unit 5 – RE 12.9-10.3,
- Assessment Unit 6 – Non-remnant vegetation

Refer to Plan 2 for assessment units.

2. ASSESSMENT UNITS



Notes:
The information on this plan is not suitable for any purpose other than the expressed use of the Client. Property dimensions, areas, numbers of lots and contours and other physical features may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of Saunders Havill.Unless a development approval states otherwise, this is not an approved plan.

Layer Sources
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Updated data available at
http://qldspatial.information.qld.gov.au/catalogue/

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LEGEND

- Qld DCDB
- Site boundary

Assessment Units

- **AU-1** [14.27 ha] RE 12.3.11/12.3.7
- **AU-2** [110.08 ha] RE 12.9-10.2
- **AU-3** [3.37 ha] RE 12.9-10.7
- **AU-4** [3.51 ha] RE 12.9-10.3
- **AU-5** [8.06 ha] RE 12.9-10.2/12.9-10.7
- **AU-6** [106.95 ha] Non-remnant vegetation

AMENDMENTS

Issue	Date	Description	Drawn	Checked
A	8/10/2025	PRELIMINARY	TC	KR

N

0 100 200 300 400 m

1:8,500 @ A3 | Transverse Mercator | GDA 2020 | Zone 56

Saunders Havill
BOWENHILLS | SPRINGFIELD
1300 123 744 | mail@saundershavill.com

FRASERS PROPERTY
NEW BEITH PTY LTD

ROUND MOUNTAIN PROJECT

Address / RPD: 4SP332712

8/10/2025

10941 E 02 SMP EAR Assessment Units A

5.1.3 Ecological Assessment Areas

The site was divided into five (5) assessment units for EPBC Act habitat quality assessment purposes (refer Plan 2). A description of on-ground vegetation values is presented in the following subsections. In addition, to the vegetation communities for habitat quality assessments, more broadly the site can be separated into four (4) zones based on topography and habitat potential. These vegetation communities include,

- Zone 1 – Remnant vegetation surrounding Round Mountain,
- Zone 2 – Non-remnant vegetation on lower slopes in the east and south of the site,
- Zone 3 – Steeper slopes and summit of Round Mountain,
- Zone 4 – Flagstone creek, additional waterways / drainage features and dams.

Zone 1 –Remnant Vegetation Surrounding Round Mountain

The referral area contains mapped 'Least Concern' RE12.9-10.2 and Of Concern regional ecosystem communities. The Of Concern polygons are mapped within five (5) variations including three (3) composite regional ecosystem communities. These include Of Concern RE12.3.11 / 12.3.7 (80/20), Of Concern RE12.3.11 / 12.3.7 (90/10), Of Concern RE12.9-10.2 / 12.9-10.7a (60/40), Of Concern RE12.9-10.3 and Of Concern RE12.9-10.7.

Least Concern Regional Ecosystem Communities

- The largest regional ecosystem represented throughout the mapped remnant area is 'least concern' RE12.9-10.2 comprising almost 78% of the total remnant area. Canopy species observed throughout this polygon are dominated by *Corymbia citriodora* (Spotted Gum), which is consistent with the VMA mapping. The majority of this polygon is heavily logged and due to these disturbances contains a dense layer of *Lantana camara* (Lantana) and lacks old growth trees. Other canopy species recorded throughout the remnant polygon identified *Eucalyptus crebra* (Narrow-leaved Ironbark), *Corymbia intermedia* (Pink Bloodwood) and *Corymbia tessellaris* (Moreton Bay Ash).
    - The subcanopy layer is dominated by *Acacia disparrima* (Hickory Wattle) with *Acacia leiocalyx* (Early Flowering Black Wattle), *Alphitonia excelsa* (Soap Tree) and *Allocasuarina littoralis* (Black She Oak). The occasional small patch of *Petalostigma pubescens* (Quinine Bush) was also noted throughout the survey area.
- The Least Concern RE12.9-10.2 largely encompasses the western portion of the property and includes both north and south facing slopes with a ridge line extending west to east throughout the central portion of the remnant polygon.
- Due to a history of logging practices, very few old growth trees were identified throughout the Least Concern remnant polygon. As a result, there are limited notable habitat features including trees with hollows.

Of Concern Regional Ecosystem Communities

- The remnant polygons that contain Of Concern regional ecosystem communities are largely associated with mapped waterways, including Flagstone Creek as well as three (3) isolated polygons located within the larger Least Concern RE12.9-10.2.
    - Of Concern RE12.9-10.3 is mapped across two polygons on the south facing slopes towards the tops of the gully lines leading to Flagstone Creek. *Eucalyptus moluccana* (Gum-topped Box) is the dominant species recorded throughout these polygons.
    - Of Concern RE12.9-10.7 is mapped on the upper north facing slop towards the central portion of the Least Concern polygon. This area contains both *Eucalyptus crebra* (Narrow-leaved Ironbark) and *Eucalyptus tereticornis* (Forest Red Gum).
    - A composite RE mapped as containing Of Concern RE12.3.11 / 12.3.7 (80/20) is mapped along Flagstone Creek and the tributaries leading directly into the creek, as well as along the northern boundary and associated with Abrade Creek to the north.
    - Two waterways located along the eastern property boundary contain the same composite regional ecosystem community mapped as RE 12.3.11 / 12.3.7 (90/10).
    - The remaining Of Concern vegetation is mapped as containing RE 12.9-10.2/12.9-10.7a (60/40) and is mapped along the site's northern property boundary. This vegetation community contains a mix of canopy species including *Corymbia citriodora* (Spotted Gum), *Eucalyptus tereticornis* (Forest Red Gum), and *Eucalyptus crebra* (Narrow-leaved Ironbark).

Photo set 1: Vegetation typical of the remnant vegetation to the north of Round Mountain.

Photo set 2: Vegetation typical of the remnant vegetation to the south of Round Mountain.

Zone 2 – Non-remnant Vegetation on Lower Slopes in the East and South

The balance of the site is mapped as non-remnant vegetation. These areas have been cleared of trees in the past and are located on the slopes associated with Flagstone Creek as well as a large portion of the eastern segment of the site.

- The lower slopes nearer each of the gully lines contain scattered Eucalyptus tereticornis (Forest Red Gum) and *Eucalyptus moluccana* (Gum-topped Box) specimens, while *Corymbia citriodora* (Spotted Gum), *Eucalyptus crebra* (Narrow-leaved Ironbark), *Corymbia tessellaris* (Moreton Bay Ash) and *Corymbia intermedia* (Pink Bloodwood) are found on the higher slopes. The majority of the area mapped as Category X non-remnant is dominated by Acacia species, including *Acacia disparrima* (Hickory Wattle) and *Acacia leiocalyx* (Early Flowering Black Wattle). Other species recorded are identified as *Alphitonia excelsa* (Soap Tree), *Allocasuarina littoralis* (Black She-oak), *Petalostigma pubescens* (Quinine Bush), *Lophostemon confertus* (Brush Box) and *Lophostemon suaveolens* (Swamp Box).
- *Lantana camara* (Lantana) dominated the shrub layer throughout the majority of the non-remnant areas.
- Habitat for fauna that utilise tree hollows and consolidated leaf litter is limited in the non-remnant areas. The majority of trees present are relatively young and are lacking notable habitat features. Habitat for nest building birds such as *Philemon corniculatus* (Noisy Friarbird) and grass eating fauna such as *Macropus giganteus* (Grey Kangaroo) was available.

Photo set 3: Vegetation typical of the non-remnant zone.

Zone 3 – Steeper Slopes and Summit of Round Mountain

Round Mountain is located to the northwest of the site. The north and western slopes are relatively step. The following general observations regarding the vegetation of Round Mountain were made:

- Slopes are generally vegetated and described as open forest dominated by *Corymbia citriodora* (Spotted Gum) and *Eucalyptus crebra* (Narrow-leaved Ironbark) with *Eucalyptus tereticornis* (Forest Red Gum) also present in the mature canopy.
- The slopes and summit are heavily infested with weeds in the shrub and ground layer. On the west and northern slope, that are very steep, *Lantana montevidensis* (Creeping Lantana) dominates the ground layer. *Lantana camara* (Lantana) is the dominate weed on the remaining slopes. *Passiflora suberosa* (Corky Passion Vine), also a weed, is present on the summit.
- Exposed rocks are present on the upper slopes forming minor rocky outcrops. Very little habitat is provided by the rocks as a result of heavy infestation of *Lantana montevidensis* (Creeping Lantana) and lack of rock overhangs or bouldering that would lead to gaps between rocks.
- Fauna observed on the slopes and summit of Round Mountain were restricted to relatively mobile bird species.

Photo set 4: Vegetation on summit of Round Mountain.

Photo set 5: Heavy infestation of Lantana montevidensis (Creeping Lantana) on the western slope (left) and summit (Right) of Round Mountain.

5.2. Fauna Assessment Results

5.2.1 Fauna Observations

Field surveys address the relevant desktop analysis conducted at the time of survey. The key findings from the field surveys as well as a current desktop study are as follows:

- The PMST identified eighteen (18) fauna species as possibly occurring within 5 km of the site.
- A Wildlife Online Search listed seven (7) protected fauna species as possibly occurring within 5 km of the site.
- Threatened species Grey-headed Flying-fox (*Pteropus poliocephalus*) was directly sighted within the site as well as evidence of *Phascolarctos cinereus* (Koala) were recorded during field surveys. No additional threatened fauna species listed under the EPBC Act nor the NCA have been recorded within the balance impact area.
- Field surveys observed ninety-two (92) fauna species throughout the site, of which includes sixteen (16) species of mammal, sixty-four (64) species of bird, three (3) species of amphibian and nine (9) species of reptile (refer Table 15).

Table 15: Fauna species recorded within the site during field surveys.

Scientific name	Common name	Native/Introduced
Birds		
Alectura lathami	Australian Brush-turkey	Native
Alisterus scapularis	Australian King Parrot	Native
Anas superciliosa	Pacific Black Duck	Native
Aquila audax	Wedge-tailed Eagle	Native
Cacatua galerita	Sulfur-crested Cockatoo	Native
Cacomantis flabelliformis	Fan-tailed cuckoo	Native
Calyptorhynchus banksii	Red-tailed Black Cockatoo	Native
Centropus phasianinus	Pheasant Coucal	Native
Chalcites basalis	Horsefield's Bronze Cuckoo	Native
Chenonetta jubata	Australian Wood Duck	Native
Climacteris picummus	Brown Treecreeper	Native
Coracina novaehollandiae	Black-faced Cuckoo-shrike	Native
Corvus orru	Torresian crow	Native
Coturnix ypsilophora	Brown quail	Native
Cracticus nigrogularis	Pied Butcherbird	Native
Cracticus tibicen	Australian Magpie	Native
Dacelo novaeguineae	Laughing Kookaburra	Native
Dendrocygna eytonii	Plumed Whistling Duck	Native
Dicrurus bracteatus	Spangled Drongo	Native

Scientific name	Common name	Native/Introduced
Egretta novaehollandiae	White-faced Heron	Native
Elanus axillaris	Black-shouldered Kite	Native
Entomyzon cyanotis	Blue-faced Honeyeater	Native
Eopsaltria australis	Eastern Yellow Robin	Native
Geopelia cuneata	Diamond Dove	Native
Geopelia humeralis	Bar-shoulder Dove	Native
Geopelia placida	Peaceful Dove	Native
Gerygone olivacea	White-throated Gerygone	Native
Gralllina cyanoleuca	Magpie-lark	Native
Hirundo neoxena	Welcome Swallow	Native
Lichenostomus chrysops	Yellow-faced honeyeater	Native
Macropygia amboinensis	Brown Cuckoo-Dove	Native
Malurus cyaneus	Superb fairy-wren	Native
Malurus lathami	Variegated Fairy-wren	Native
Malurus melanocephalus	Red-backed Fairy-wren	Native
Manorina melanocephala	Noisy Miner	Native
Meliphaga lewinii	Lewin's Honeyeater	Native
Melithreptus albogularis	White-throated Honeyeater	Native
Merops ornatus	Rainbow Bee-eater	Native
Microeca fascinans	Jacky Winter	Native
Milvus migrans	Black Kite	Native
Myzomela sanguinolenta	Scarlet Honeyeater	Native
Neochmia temporalis	Red-browed Finches	Native
Ocyphaps lophotes	Crested Pigeon	Native
Pachycephala pectoralis	Golden Whistler	Native
Pachycephala rufiventris	Rufous Whistler	Native
Pardalotus striatus	Striated pardalote	Native
Petroica rodinogaster	Pink Robin	Native
Philemon citreogularis	Little Friarbird	Native
Philemon corniculatus	Noisy Friarbird	Native
Platycercus adscitus	Pale-headed Rosella	Native
Podargus strigoides	Tawny Frogmouth	Native
Psophodes olivaceus	Eastern Whipbird	Native
Rhipidura albiscapa	Grey Fantail	Native
Rhipidura leucophrys	Willie Wagtail	Native
Scythrops novaehollandiae	Channel-billed Cuckoo	Native
Sphecotheres vieilloti	Fig bird	Native

Scientific name	Common name	Native/Introduced
Strepera graculina	Pied Currawong	Native
Taeniopygia bichenovii	Double-barred Finch	Native
Threskiornis Molucca	Australian White Ibis	Native
Todiramphus macleayii	Forest Kingfisher	Native
Trichoglossus chlorolepidotus	Scaly-breasted Lorikeet	Native
Trichoglossus moluccanus	Rainbow Lorikeet	Native
Vanellus miles	Masked Lapwing	Native
Zosterpos lateralis	Silvereye	Native
Amphibians		
Litoria fallax	Eastern Sedgefrog	Native
Litoria latopalmata	Broad-palmed rocket frog	Native
Rhinella marinus	Cane Toad	Introduced
Mammals		
Austronomus australis	White-striped Free-tailed Bat	Native
Canis familiaris	Domestic Dog	Introduced
Isoodon macrourus	Northern Brown Bandicoot	Native
Lepus europaeus	Hare	Introduced
Macropus giganteus	Grey Kangaroo	Native
Macropus rufogriseus	Red-necked Wallaby	Native
Macropus parryi	Whiptail Wallaby	Native
Phascogale tapoatafa tapoatafa	Brush-tailed Phascogale	Native
Pseudocheirus peregrinus	Common Ringtail Possum	Native
Pteropus poliocephalus	Grey-headed Flying Fox	Native – Vulnerable (EPBC)
Rattus rattus	Black Rat	Introduced
Tachyglossus aculeatus	Short-beaked Echidna	Native
Trichosurus vulpecula	Common Brushtail Possum	Native
Vulpes vulpes	Red Fox	Introduced
Wallabia bicolor	Swamp Wallaby	Native
Wallabia sp.	Wallaby sp.	Native
Austronomus australis	White-striped Free-tailed Bat	Native
Canis familiaris	Domestic Dog	Introduced
Isoodon macrourus	Northern Brown Bandicoot	Native
Reptiles		
Cryptoblepharus virgatus	Wall Skink	Native
Demansia psammophis	Yellow-face Whip Snake	Native
Diporiphora australis	Tommy Round Head	Native

Lampropholis delicata	Grass Skink	Native
Physignathus lesueurii	Eastern Water Dragon	Native
Pogona barbata	Common Bearded Dragon	Native
Pseudechis porphyiacus	Red-bellied Black Snake	Native
Pseudonaja textilis	Eastern Brown Snake	Native
Varanus varius	Lace Monitor	Native

5.3. Waterway Assessments

5.3.1 Waterway Determinations

All mapped drainage lines and watercourses on-site were assessed and were assigned a determination based on the presence or absence of certain features. Determination definitions including true waterway, degraded waterway values, eroded drainage feature, severely eroded drainage feature and flow path values absent are found in Table 16. A total of sixty-one (61) waterway assessments were conducted on-site across eighteen (18) mapped drainage lines with waterway 'assessment areas' numbered from A to R. Refer to Appendix H for full descriptions of individual assessment locations. Refer to Plan 3 for location of waterway assessments and assessment areas.

Table 16: Watercourse determination definitions

Determination Type	Definition
True waterway	Defined bed and bank features Permanent or intermittent flow Fish habitat Generally contains riparian vegetation and/or macrophytes
Degraded waterway values present	Inconsistent or eroded bed and bank features Intermittent flow path Dominance of weeds May contain riparian vegetation
Eroded drainage feature	Natural landscape feature including a gully, drainage depression or other erosion feature formed by the concentration of temporary overland flow water.
Severely eroded drainage feature	Natural landscape feature including a gully, drainage depression or other erosion feature with severe erosion. Amelioration through rehabilitation less suitable.
Flow path values absent	No evidence of drainage line.

5.3.2 Flagstone Creek

Flagstone Creek traverses the southern portion of the site flowing from the west to the east. On Plan 3 it is marked as assessment area A. The entire section of Flagstone Creek present on the site was walked and detailed waterway assessments were undertaken at two (2) locations along the waterway (refer Photo sets 6-9). The flowing observations can be made from the surveys:

- The waterway was not flowing at the time of survey, but pools of semi-permanent water were present providing potential fish habitat. No fish were observed during the survey.
- The channel forms a double U shape with the main channel ranging from 6 to 10 m wide with steep banks leading to floodplains before rising again to the top of the outer bank.
- Sand is the dominate substrate but exposed bedrock is present in sections of the waterway and this is where water has pooled.
- Riparian species such as *Casuarina cunninghamiana* (River She-oak), *Melaleuca viminalis* (Weeping Bottlebrush), *Ficus coronata* (Sandpaper Fig) and *Melaleuca quinquenervia* (Broad-leaved Paperbark) are present along the length of the waterway within the site.
- The flood plains sloping from the waterway are infested with a variety of weeds but are dominated by *Lantana camara* (Lantana). A heavy infestation of *Dolichandra unguis-cati* (Cat's Claw Creeper) approximately 50 m long and 20 m wide is present of the southern bank of Flagstone Creek.
- A *Pseudonaja textilis* (Eastern Brown Snake) and a variety of birds were observed associated with the waterway during the survey.

Photo set 6: Flagstone Creek at assessment site 1. Upstream (left) and Downstream (right).

Photo set 7: Flagstone Creek at assessment site 2. Upstream (left) and Downstream (right).

Photo set 8: Semi-permanent pool providing potential fish habitat in Flagstone Creek.

Photo set 9: Infestation of Dolichandra unguis-cati (Cat's Claw Creeper) on the southern bank of Flagstone Creek.

5.3.3 Drainage Lines and Constructed Dams

In addition to Flagstone Creek (assessment area A), four (4) small, constructed dams and seventeen (17) drainage lines traverse the site. A summary of the mapped drainage lines numbered from B to R is provided in Table 17. The following general statements regarding the drainage lines and dams can be made:

- The dispersive soils common in the area in conjunction with the historical logging over the majority of the site and broad scale clearing of vegetation on the lower slopes have resulted in the degradation of habitat within the gully lines and an increase in erosion.
- *Lantana camara* (Lantana) is present along the banks of the gully lines and is denser with increasing soil disturbance and erosion.
- There is limited to no habitat for aquatic species in the mapped drainage lines with the flow paths largely restricted to ephemeral water flow during times of rainfall. The majority of flow paths do not contain characteristics such as riparian vegetation and pooling water that suggest water retention after rain events. The downstream portions of gully lines that flow into Flagstone Creek were found to contain increasing waterway characteristics including aquatic habitat features and riparian vegetation (refer below).
- The four (4) constructed dams range in size, but all have hard banks with relatively little aquatic vegetation between the dam's edge and adjoining vegetation. Lack of defined channel and flow paths adjoining the dam suggests water is supplemented through general overland flow (refer Photo Set 10).

Table 17: Descriptions of Mapped drainage lines and watercourses.

Assessment Area	Assessment locations	General description
B	3-5	Drainage Line B is located in the southern portion of the site and flows from north to south, feeding Flagstone Creek. Upstream, the drainage line is described as an eroded drainage feature with discontinuous bed and bank features and partially eroded banks. These features diminish downstream with limited flow path values present, mostly indicative of an overland flow path. Slightly upstream from where the drainage feature joins Flagstone Creek, the flow path forms a more defined channel with continuous bed and bank features and semi-permanent water. The adjoining vegetation contains eucalypt woodland dominated by *Corymbia citriodora* (Spotted Gum) and a sub-canopy of *Acacia* sp.
C	6-9	Drainage Line C is located in the central to southern portion of the site and flows into Flagstone Creek. In this downstream portion, the drainage line contains defined bed and bank features with exposed rock within the channel. No pooling water was observed; however, damp areas of the bed were present indicating the presence of subsurface moisture. Riparian vegetation is present in the downstream portion, including *Casuarina cunninghamiana* (River She-oak). *Lantana camara* (Lantana) infestation is heavy along the drainage line. Approximately 200 m from the intersection

Assessment Area	Assessment locations	General description
		with Flagstone Creek a vehicle track crosses the waterway. Upstream from the vehicle track the channel narrows and the bed and banks become less defined. Small pools on patches of exposed bedrock were observed and *Juncus usitatus* (Common Rush) and *Casuarina cunninghamiana* (River She-oak) was present. Significant erosion was present on the banks of the flow path. Approximately 350 m upstream from the vehicle track the flow path was observed to transition into a drainage feature with heavy Lantana through the channel and on adjoining banks. The portion (approximately 50 m) of this drainage line that is upstream from Flagstone Creek is more indicative of a true waterway with continuous defined bed and banks. A predominantly sandy bed was interspersed by exposed bedrock with semi-permanent pools. Other aquatic habitat included banks overhangs and woody debris. Riparian vegetation in this portion of the flow path was restricted to *Casuarina cunninghamiana* (River She-oak) with a very heavy *Lantana camara* (Lantana) infestation dominating the shrub layer on the banks and adjoining slopes. Upstream, the drainage line forms a narrow-eroded channel lacking in aquatic habitat features and indicators of water retention such as riparian vegetation.
D	10-16	Drainage Line D is located in the central to southern portion of the site, flowing into Flagstone Creek. Field surveys found flow path features to be lacking in the upstream mapped portion. Downstream and where the drainage line joins with Flagstone Creek, it forms an eroded drainage channel characterised by discontinuous bed and bank features. Ephemeral pooling was present at the time of survey. The bank height where present is variable along the length of the drainage line, ranging from 0.5 to 2 m. Average bank width is 1.5 m. *Lomandra longifolia* (Long-leaved Matrush), *Alphitonia excelsa* (Soap Tree) and *Lophostemon suaveolens* (Swamp Box) are dominant along the drainage line. *Lantana camara* (Lantana) is present in varying densities.
E	17-22	Drainage Line E flows from the central western portion of the site to the south to ultimately intersect with Flagstone Creek. The downstream portion of the drainage line is described as a U to box shaped channel with a rock and sand substrate and is described as having degraded waterway values in places. There was limited evidence of water retention and riparian vegetation restricted to *Casuarina cunninghamiana* (River She-oak) and *Juncus usitatus* (Common Rush). A very heavy Lantana infestation is present on both banks of the channel. A vehicle access track made of dumped rock crosses the flow path approximately 225 m upstream from where the drainage line joins with Flagstone Creek. Upstream of the vehicle track, severe erosion is present, and habitat features are lacking. The drainage line

Assessment Area	Assessment locations	General description
		forks in the upstream portion with upstream values reflecting an eroded to severely eroded drainage feature with a small point on degraded waterway present.
F	23-24	Drainage Line F flows from the central western portion of the site to the south-west, leading offsite downstream into Flagstone Creek. The portion of the drainage line on-site is described as a severely eroded to eroded drainage feature. Multiple deep scours up to 10 m deep are present in the upstream portion which change into a narrow, eroded channel downstream. The adjoining vegetation is heavily logged and disturbed with heavy infestations of *Lantana camara* (Lantana). The vegetation on the banks downstream is dominated by regrowth *Lophostemon suaveolens* (Swamp Box) and *Alphitonia excelsa* (Soap Tree).
G	25-26	Drainage Line G is located in the north-western portion of the site. The drainage line was found to contain no flow path features such as bed and bank features or defined channel in the portion that is mapped as traversing the site. Some overland flow was present within a slight gully depression, however, was not observed within a defined channel. Riparian vegetation is absent with the adjoining vegetation heavily logged and dominated by regrowth *Acacia* sp.
H	27-29	Drainage Line H is located in the north-western portion of the site, east of drainage line G. Most of the drainage line is described as an eroded drainage feature with sandy bed and defined, eroded banks. No riparian vegetation is present. There is no evidence that water is retained after periods of rain, and no aquatic habitat was observed. Adjoining vegetation consists of open eucalypt woodland dominated by *Eucalyptus tereticornis* (Forest Red Gum) with *Corymbia intermedia* (Pink Bloodwood) and *Lophostemon suaveolens* (Swamp Box). The upstream portion of the drainage line lacked a defined channel with no evidence of flow path present
I	30-31	Drainage Line I is located in the north-western portion of the site and forks off Drainage Line H. The upstream portion of the drainage line lacks a defined channel and forms an eroded drainage channel downstream where it connects with Drainage Line H. The adjoining vegetation is dominated by regrowth eucalypt woodland. No riparian vegetation or water was observed.
J	32-35	Drainage Line J is located in the northern portion of the site and is mapped as flowing downstream to the north. Field surveys found the mapped drainage line to lack a defined channel or flow path. No evidence of ephemeral flow or pooling was present. The drainage channel was therefore found to be absent from the mapped area on-site.

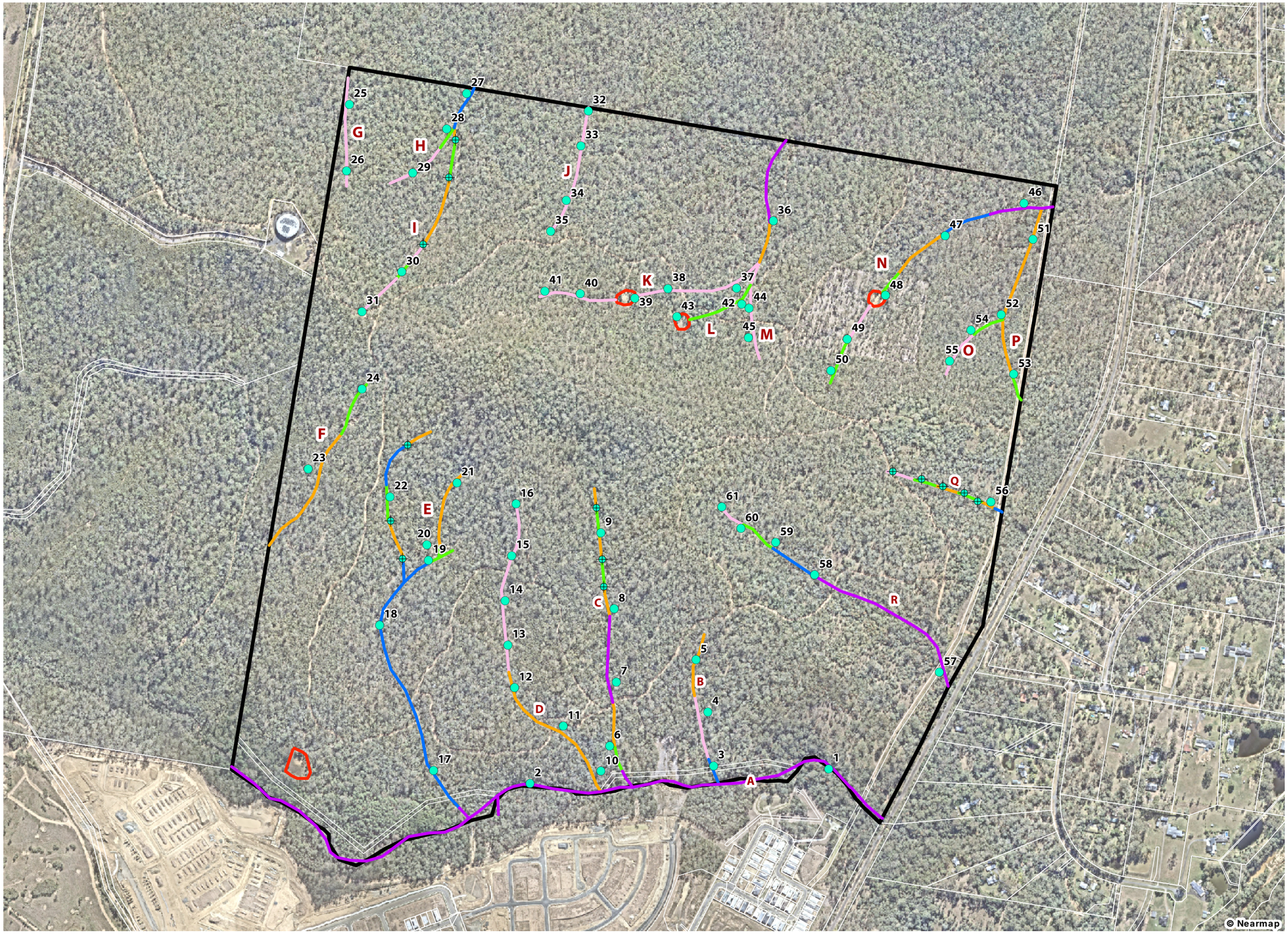
Assessment Area	Assessment locations	General description
K	36-41	Drainage Line K is located in the north to central portion of the site. The downstream portion of the drainage line contains waterway values characterised by a dry sandy bed with a small spring resulting in approximately 70 m of very shallow surface water. Small pools are present at the start of the spring and at the time of survey small aquatic invertebrates (*Corixidae* spp. (Water Boatmen)) were present. No fish or larger aquatic arthropods were observed. The upstream portion of the waterway from assessment location 37 to 41 was found to be mostly lacking in flow path features with a defined channel or flow path largely absent. The area leading into the retained dam located at assessment location 39 did not appear to contain a distinct flow path with dam water likely supplemented through general overland flow.
L	42-43	Drainage Line L is located in the central-northern portion of the site which forks off Drainage Line M. A small, constructed farm dam is located at the upstream portion of the mapped drainage line. The drainage line is characterised by overland flow in the upstream portion with defined channel and waterway features lacking. The drainage line forms a deeply eroded channel of approximately 1 m wide in places with irregular bank features. The channel is heavily infested with *Lantana camara* (Lantana). No permanent water was observed.
M	44-45	Drainage Line M is located in the central-northern portion of the site and forks off Drainage Line K. The mapped drainage line was found to lack a defined channel with no flow path values were observed. A shallow gully area indicative of an overland flow path is present. Vegetation is dominated by *Lantana camara* (Lantana), *Themeda triandra* (Kangaroo Grass) and *Trema tomentosa* (Poison Peach).
N	46-50	Drainage Line N is located in the north-eastern portion of the site. It is mostly described as an eroded drainage feature with variable bed and bank features along the length. The channel contains sand/dirt substrate for most of the length. A dam has been constructed approximately two-thirds upstream along the length of the drainage feature. The downstream section of the flow path before it exits the site (approximately 100 m) contains small pools and riparian species including *Melaleuca quinquenervia* (Broad-leaved Paperbark) and *Juncus usitatus* (Common Rush). Upstream from this portion of the flow path no riparian vegetation is present and does not contain other indicators to suggest that water or flow was retained following rain events. No pools or other aquatic habitat features except for a single small erosion scour pool was observed apart from the constructed dam. Old tyres have been dumped along the flow path to limit the severe erosion present.

Assessment Area	Assessment locations	General description
		Lantana camara (Lantana) was present along the length of the flow path and infestations range from moderate to heavy. The substrate of the dam banks is hard dirt and relatively little riparian vegetation was observed between the water's edge and the adjoining eucalypt woodland.
O	54-55	Drainage Line O is located in the north-eastern portion of the site and forks off Drainage Line P. Field surveys found the upstream portion of this mapped drainage line to lack a defined channel or flow path values. Slightly downstream the drainage line forms a severely eroded drainage feature with deep scours. Flowing water was observed within the central channel. The adjoining vegetation is heavily logged and dominated by regrowth *Alphitonia excelsa* (Soap Tree) and *Acacia* sp. No riparian vegetation was present.
P	51-53	Drainage Line P is located in the north-eastern portion of the site and is fed by Drainage Line O. The drainage line contains consistent features reflective of a drainage feature including a defined but broken channel with an average width of 1 m, bed and bank features and a concentrated flow of water. Some scattered riparian vegetation including *Melaleuca quinquenervia* (Broad-leaved Paperbark) is in places along the channel. The trailing vegetation is comprised of eucalypt woodland dominated by *Corymbia citriodora* (Spotted Gum) and *Eucalyptus crebra* (Narrow-leaved Ironbark). The upstream portion of the drainage line contains multiple deep scours and woody debris indicative of recent disturbance.
Q	56	Drainage Line Q is located in the eastern portion of the site and extends downstream offsite to the east. The mapped drainage line is described as an eroded drainage feature characterised by eroded banks, defined channel and sandy substrate. Scattered *Melaleuca quinquenervia* (Broad-leaved Paperbark) are present adjoining the eastern boundary of the site. No pools or other habitat for aquatic fauna were present. A moderate to heavy infestation of *Lantana camara* (Lantana) is present along the entire length of the drainage line.
R	57-61	Drainage Line R is located in the south-eastern portion of the site and flows in a south-east direction offsite. The upstream portion lacks a defined channel with increasing presence of flow path features moving downstream. The drainage line forms an eroded drainage feature characterised by steep, highly eroded banks with a v-shaped channel and ephemeral pooling. Downstream, erosion decreases the channel becomes wider and more defined. Minor scouring is present on some bends along the flow path. Some ephemeral pooling is present. Riparian vegetation in the form of *Melaleuca quinquenervia* (Broad-leaved Paperbark) and *Juncus usitatus* (Common

Assessment Area	Assessment locations	General description
		Rush) is present on the banks. *Lantana camara* (Lantana) is present along the entire length of the flow path and the weed infestation is heavier in the areas of severe erosion that are present along in the upstream portion.

Photo set 12: A dam typical of those on the site showing hard steep banks.

3. WATERWAY ASSESSMENT



Notes:
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LEGEND

- Qld DCDB
- Site boundary
- A Waterway assessment areas
- Waterway Assessment Points
- Observation points

Waterway value determinations

- Degraded waterway values
- Eroded drainage feature
- Flowpath values absent
- Severely eroded drainage feature
- Site dams
- True waterway

AMENDMENTS

Issue	Date	Description	Drawn	Checked
A	5/12/2025	PRELIMINARY	TC	KR

N

0 100 200 300 400 m

1:8,500 @ A3 | Transverse Mercator | GDA 2020 | Zone 56

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5/12/2025

10941 E 03 SMP EAR Waterway Assessment

5.4. Likelihood of Occurrence Assessment

The likelihood of occurrence assessment was conducted to identify the Matters of Environmental Significance (threatened and/or migratory species) of potential relevance to the subject site.

Subsequent to completing the field survey, the likelihood of occurrence was revised and finalised, based on field survey results and the confirmed vegetation communities and associated habitats contained with the subject site. The outcome of this two-staged likelihood of occurrence is presented in the following sections.

5.4.1 Threatened Ecological Communities

The likelihood of occurrence for each TEC within the impact area, as presented in Section 4.3.1 referred to State Government Regional Ecosystem (RE) mapping within the locality and known distributions of the TECs, to identify those TECs with potential to occur in the subject site or recorded during field surveys. RE's associated with one (1) of the TEC's is mapped as being present on-site including the grey box-grey gum wet forest of subtropical eastern Australia community. This TEC has therefore been deemed as having a 'Possible' likelihood of occurrence. All other TEC's have been listed as having an 'Unlikely' likelihood of occurrence.

Field surveys identified the mapped areas of RE 12.9-10.3 as being dominated by *Eucalyptus moluccana* (Gum-topped Box). However, the grey box-grey gum wet forest of subtropical eastern Australia community was not present within these areas. No threatened ecological communities listed under the EPBC Act have been identified within the site.

5.4.2 Threatened Flora Species

Database searches identified nineteen (19) flora species, listed as threatened under the EPBC Act, as having been previously recorded or with potential to occur within 5 km of the study area, as presented in Appendix B. To increase the robustness of the desktop assessment, these PMST results are cross-checked with the NC Act records within proximity to the study area where an additional one (1) species was identified and are presented in Appendix C.

Based on the presence of species records within the locality and habitat identified on-site, a likelihood of occurrence assessment was completed to identify threatened species having the potential to occur on or proximal to the impact area. The desktop assessment determined one (1) of the identified threatened flora species listed under the NC Act as having a likelihood of occurrence of 'possible' within or adjacent the impact area, including *Melaleuca irbyana* (Swamp Tea-tree). Post field survey analysis is presented in Table 18.

Table 18: Post field work threatened flora species likelihood of occurrence.

Scientific Name	Common Name	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence

Melaleuca irbyana	Swamp Tea-tree	One (1) individual *M. irbyana* was identified within the site during the site surveys.	Likely	Known

5.4.3 Threatened Fauna Species

Database searches identified eighteen (18) fauna species, listed as threatened under the EPBC Act, as having been previously recorded or predicted to occur within 5 km of the subject site, as presented in Appendix B. These species have been captured within the buffer of the search tool. Habitat to support these species is limited to the vegetation mapped as being either Category B (remnant) and Category C (high-value regrowth). To increase the robustness of the desktop assessment, these PMST results are cross-checked with the NC Act records within proximity to the study area where an additional two (2) species were identified and are presented in Appendix C.

Based on the presence of species records within the locality and habitat identified within the impact area, a likelihood of occurrence assessment was completed to identify threatened species having the potential to occur on or proximal to the impact area. The desktop assessment determined eight (8) threatened fauna species listed under the EPBC Act or NC Act having a likelihood of occurrence of 'possible' or 'known/likely' including, *Anthochaera Phrygia* (Regent Honeyeater), *Calyptorhynchus lathami lathami* (Glossy Black-cockatoo), *Lathamus discolor* (Swift Parrot), *Ninox strenua* (Powerful Owl), *Petaurus australis australis* (Yellow-bellied Glider), *Phascolarctos cinereus* (Koala), *Pteropus poliocephalus* (Grey-headed Flying Fox) and *Adelotus brevis* (Tusked Frog). These species are listed in Table 19 below.

All other threatened fauna species were assessed as having an 'unlikely' likelihood of occurrence. Despite the *Petauroides volans* (Greater Glider) being deemed as having an 'unlikely' likelihood of occurring within the site, due to the focus on the conservation of these species within South-east Qld, a review of this species has been provided below to show the project has thoroughly considered the potential for impact on this species.

Table 19: Post field work threatened fauna species likelihood of occurrence.

Scientific name	Common name	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
Anthochaera phrygia	Regent Honeyeater	Potential habitat attributes to support the Regent Honeyeater are identified within the proposed impact area via the presence of mapped open eucalypt woodland. Under the VMA this includes mapped Category B (remnant) and Category C (high-value regrowth) Of Concern RE 12.3.11, 12.9-10.3 and 12.9-10.7 as well as Least Concern RE 12.3.7 and 12.9-10.2. A review of the ALA database records confirmed that the	Possible	Unlikely

Scientific name	Common name	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
		species has been recorded within 5 km of the site. The referral area is comprised of remnant and non-remnant vegetation dominated by eucalypt and Corymbia species, particularly *Corymbia citriodora* (Spotted Gum). All riparian areas are highly disturbed from cattle grazing, tree removal and weed invasion. This species relies on vegetation with diversity of species and abundance of mistletoe for food resources throughout the year. Field surveys identified two (2) preferred foraging species *Corymbia citriodora* (Spotted Gum) and *Eucalyptus tereticornis* (Forest Red Gum) within the impact area, however no mistletoe was recorded. Regent Honeyeaters experience competition from aggressive species such as Noisy Miner (*Manorina melanocephala*) and Noisy Friarbird (*Philemon corniculatus*). Both of which were observed to be utilising the vegetation within the area, which may reduce potential for Regent Honeyeaters to opportunistically forage within the proposed site. Overall, while there is potential the Regent Honeyeater would utilise the vegetation within the site, the observed historical disturbances, weed invasion and competition from other more aggressive species reduced this likelihood. Despite targeted bird surveys, this species was not observed utilizing the site during field assessments.		

Scientific name	Common name	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
Calyptorhynchus lathami lathami	Glossy Black-cockatoo	Potential habitat attributes to support the Glossy Black-cockatoo are identified within the proposed impact footprint via the presence of open eucalypt woodland. Under the VMA this includes mapped Category B (remnant) and Category C (high-value regrowth) Of Concern' RE 12.3.11, 12.9-10.3 and 12.9-10.7 as well as Least Concern RE 12.3.7 and 12.9-10.2. A review of the ALA database records confirmed that the species has been recorded within 5 km of the site. Allocasuarina species were observed in areas of the understory within the proposed site, however, ddespite targeted bird surveys, this species was not observed utilizing the site during field assessments nor was evidence of foraging identified.	Possible	Unlikely
Lathamus discolor	Swift Parrot	Potential foraging habitat attributes to support the Swift Parrot are identified within the proposed impact area via the presence of mapped open eucalypt woodland. Under the VMA this includes mapped Category B (remnant) and Category C (high-value regrowth) Of Concern RE 12.3.11, 12.9-10.3 and 12.9-10.7 as well as Least Concern RE 12.3.7 and 12.9-10.2. Given the area of remnant habitat and, the connectedness of the vegetation as well as field surveys identifying two (2) preferred foraging species being *Corymbia citriodora* (Spotted Gum) and *Eucalyptus tereticornis* (Forest Red Gum) within the proposed site, potential for this species to utilise vegetation within the site. As such there is potential that the Swift Parrot would utilise the vegetation within the site, however this	Possible	Unlikely

Scientific name	Common name	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
		vegetation is not considered to contribute to important habitat for the species. Additionally, the significant foraging vegetation is provided within the surrounding landscape, and particularly the Flinders Karawatha Corridor. Although two (2) preferred foraging species were identified within the site, there is a low potential that the Swift Parrot would utilise on-site vegetation, given the lack of nearby records and lack of on-site floristic diversity. Despite targeted bird surveys, this species was not observed utilizing the site during field assessments.		
Ninox strenua	Powerful Owl	Powerful owls prefer open forests and woodlands, as well as along sheltered gullies in wet forests with dense understoreys, especially along watercourses. The species are sometimes recorded in open areas near forests such as farmland, parks and suburban areas, as well as in remnant bushland patches. Powerful owls need old growth trees to nest. Despite targeted bird surveys, this species was not observed utilizing the site during field assessments.	Possible	Unlikely
Petauroides volans	Greater Glider (central)	No evidence of this species was found on-site through the field assessment, including the motion sensor camera trapping and nocturnal searches. No records were returned on the Atlas of Living Australia search, and no known populations occur within proximity to the site.	Unlikely	Unlikely

Scientific name	Common name	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
		Potential habitat is therefore concentrated within the northwest portion of the referral area in Category B (remnant) vegetation. Category X (non-remnant) vegetation provides limited habitat for this species as a result of historical disturbances resulting in a relative lack of suitable old growth trees throughout the site. Pests including Red Foxes, Dingos and Domestic Dogs, are current threats to this species and two (2) of these species were recorded within the site during field surveys. Combined with the lack of records within proximity to the referral area, on-site vegetation is not considered to provide preferred habitat for this species.		
Petaurus australis australis	Yellow-bellied Glider	Potential habitat attributes to support the Yellow-bellied Glider are identified within the proposed impact footprint via the presence of open eucalypt woodland. Under the VMA this includes mapped Category B (remnant) and Category C (high-value regrowth) Of Concern RE 12.3.11, 12.9-10.3 and 12.9-10.7 as well as Least Concern RE 12.3.7 and 12.9-10.2. A review of the ALA database records confirmed that the species has been recorded within 5 km of the site. Despite the presence of potential foraging habitat, the impact area contains predominately historically cleared vegetation, with a retained remnant patch of vegetation along within the central round mountain area as well as along the southern boundary. The area is surrounded by existing disturbance including residential development to the south of the site.	Possible	Unlikely

Scientific name	Common name	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
		Despite nocturnal surveys and motion sensor camera trapping being undertaken, this species was not observed utilizing the site during field assessments.		
Phascolarctos cinereus	Koala	Potential habitat attributes to support the Koala has been identified within the proposed impact area via mapped regulated vegetation. A review of the ALA database confirms Koalas are known to occur within the surrounding locality. Given the presence of Koala habitat within and adjacent the impact area, there is presently a 'likely' chance of Koala presence. The site is highly disturbed through past vegetation clearing and grazing purposes and severe infestations of *Lantana camara* (Lantana) have also reduced the quality of habitat for this species. Indirect evidence of the species was recorded at various locations across the subject site via targeted SAT surveys.	Likely	Known
Pteropus poliocephalus	Grey-headed Flying-fox	Potential habitat attributes to support the Grey-headed Flying Fox are present within the proposed impact area in the form of eucalypt woodland. Under the VMA this includes mapped Category B (remnant) and Category C (high-value regrowth) Of Concern RE 12.3.11, 12.9-10.3 and 12.9-10.7 as well as Least Concern RE 12.3.7 and 12.9-10.2. A review of the ALA database records confirmed that the species has been recorded within 5 km of the site. A Grey-headed Flying Fox roost is located on in Cedar Grove, approximately 7.9 km south-east of the site. Grey-headed Flying-fix individuals were observed foraging within the site during nocturnal field surveys.	Likely	Known

Scientific name	Common name	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
Adelotus brevis	Tusked Frog	Tusked frogs can be found in a range of habitats including open grasslands, large swamps, low woodlands, dry and wet sclerophyll forests and rainforests. They are not recorded to be concerned about artificial or highly disturbed sites. Tusked frogs rarely occur above 400m above sea level and are known to breed in a range of sites. The presence of dams within the subject site provides potential aquatic habitat. The species has been recorded approximately 4.6 km north of the site along Pub Lane, Greenbank. This species was not observed utilizing the site during field assessments.	Possible	Unlikely

5.4.4 Migratory Species

Database searches returned six (6) migratory fauna species listed as threatened under the EPBC Act as having been previously recorded or predicted to occur within 5 km of the subject site.

Based on the presence of species records within the locality and habitat identified on-site, a likelihood of occurrence assessment was conducted to identify migratory species having the potential to occur on or proximal to the site. The desktop assessment determined one (1) threatened migratory fauna species listed under the EPBC Act having a likelihood of occurrence of 'possible' including, *Hirundapus caudacutus* (White-throated Needletail). These species are listed in Table 20 below.

Table 20: Likelihood of occurrence of migratory species on-site based on desktop assessment.

Scientific name	Common name	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
Hirundapus caudacutus	White-throated Needletail	The species is considered almost exclusively aerial and is known to occur over most habitat types.	Possible	Unlikely

Scientific name	Common name	Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
		Despite targeted bird surveys, this species was not observed utilizing the site during field assessments.		

6. Natural Environment Site Strategy

The EDQ endorsed Natural Environment Site Strategy (NESS) was prepared for Frasers Property New Beith Pty Ltd by SH in 2015 in accordance with PDA Guidelines 14 and 17 and relied upon detailed ecological surveys and assessments. The areas containing applicable biodiversity values relevant to the proposed impact area are illustrated in Plan 4. The remnant vegetation located on-site is mapped as 'Low Order Remnant Vegetation (Development Areas), with supporting descriptive text in the NESS as follows:

'Areas mapped as 'Of Concern' and 'Least Concern' remnant vegetation proposed for development. Areas currently occur outside of Context Plan 1 and will require substantial ecological assessments to determine the final footprint and development form.'

The above designation triggers the requirement for this detailed assessment and report, noting this report has been completed for the whole subject site for clarity.

The NESS criteria below are used to assess the Flagstone City application:

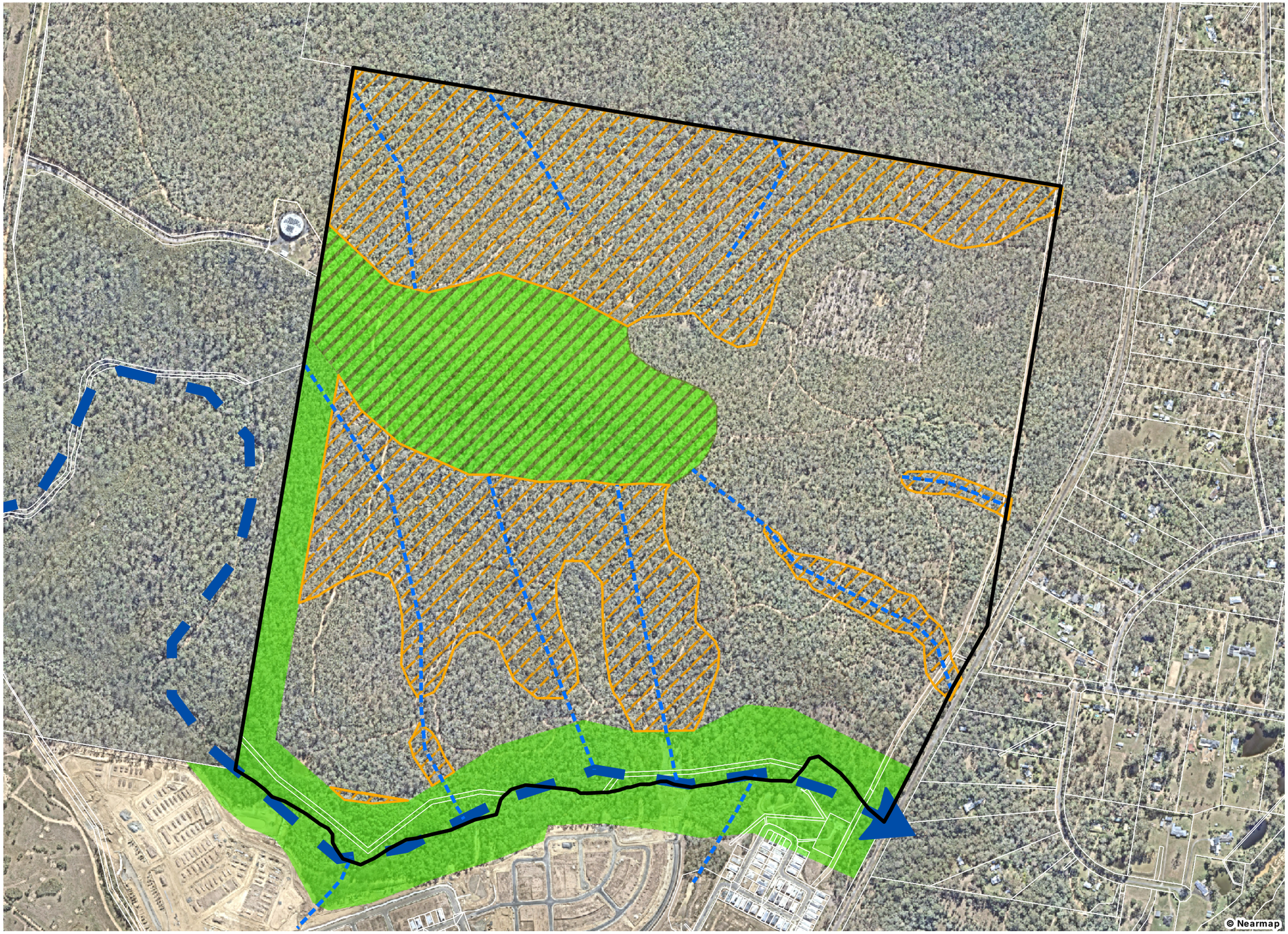
- Measures to conserve and enhance the site's biodiversity values (areas of ecological significance, waterways and vegetation management),
- Strategies for the protection of remnant endangered vegetation containing endangered regional ecosystems where proven by ground truthing to be viable,
- Management plans to be provided to address the clearing of non-viable remnant vegetation containing endangered regional ecosystems,
- Rehabilitation strategies for any corridors of native vegetation to improve habitat extent and wildlife movement,
- Buffer to areas of environmental significance and which have associated conservation, biodiversity, habitat or scenic amenity values,
- Strategies:
    - to prevent land degradation;
    - to rehabilitative major drainage lines;
    - for bushfire management;
    - for pest and weed management;
    - for management of regrowth that is mapped as Category X;
    - for clearing of vegetation in existing road reserve (New Beith Road and Everdell Road and "Berry Park";
    - for maximising opportunities for innovation; and
    - for monitoring vegetation rehabilitation.
- Koala and fauna movement

6.1.1 Natural Environmental Features

General environmental values over the site which are required to be described include:

- Primary site corridors
- Unconnected supporting habitat areas
- Ecological buffer areas
- Low order remnant vegetation development zones
- Scenic amenity / ridgeline (Round Mountain)

4. NESS CONSTRAINTS



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LEGEND

- Qld DCDB
- Site boundary
- Primary Site Fauna Corridor
- Unconnected Supporting Habitat Area
- Ecological Buffer Area
- Low Order Remnant Vegetation (Development Areas)
- Scenic Amenity / Ridgeline - Round Mountain

AMENDMENTS

Issue	Date	Description	Drawn	Checked
A	8/10/2025	PRELIMINARY	TC	KR

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ROUND MOUNTAIN PROJECT

Address / RPD: 4SP332712

8/10/2025

10941 E 04 SMP EAR NESS Constraints A

7. Impact Assessment and Development Analysis

7.1. Proposed Development

7.1.1 Constraints Analysis

For the purposes of the impact assessment, the rectified site constraints relevant to this reporting are presented in Plan 5. These include:

- The Round Mountain Scenic Amenity Area from the endorsed NESS,
- Of Concern remnant riparian vegetation mapped as Land Zone 3,
- Ground rectified waterway values,
- *M. irbyana* record (now cleared).

The NESS prescribes the following treatments for Round Mountain:

'Limit clearing and development to the ridgeline of Round Mountain as a scenic amenity feature within the Approved Land. Only selective clearing for scenic amenity, open space trails, look out structures and bush fire management to occur within the Round Mountain Buffer area.'

The summit of Round Mountain has therefore been preserved under the proposed Context Plan generally in accordance with the area designated in the NESS (refer Plan 4), but cognisant of ongoing detailed earthworks design requirements to deliver the development and ensuring that the same or better volume of retention area is retained (refer Section 7.1.2).

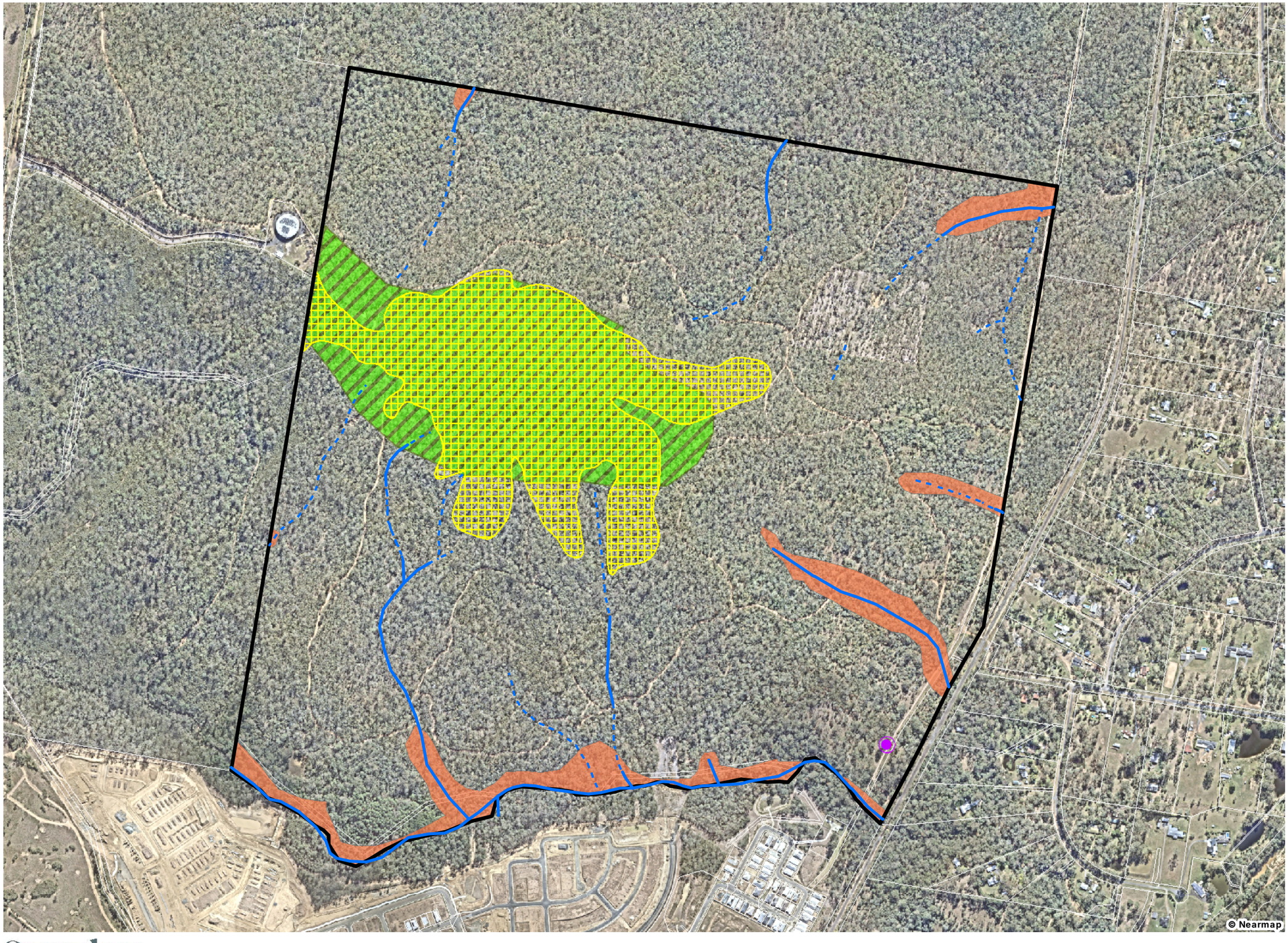
The Round Mountain site maintains a mix of remnant and non-remnant vegetation and habitat values, most of which have been highly disturbed by historical clearing and logging enterprises. The most notable vegetated areas were rectified on-ground within riparian habitats least disturbed by historical clearing and reflecting Of Concern status under PMAV Regional Ecosystem mapping (Plan 5). Recognising planning intent, the balance more highly disturbed lower order remnant and non-remnant areas across site slopes are considered at the landscape scale largely homogenous and generally of lower value so more suitable for development. It is notable that much of these lower order vegetation values will still be retained in open space and on the Round Mountain summit. The single *M. irbyana* specimen recorded on-site will likely be retained in open space, however, a permit for removal is readily obtained if necessary.

From Section 5.3 and , those drainage lines that maintain 'True Waterway' and 'Degraded Waterway Values' as defined have been included as rectified constraints in Plan 5. Notably, the NESS defines the extent of suitable setbacks and buffer treatments to Flagstone Creek.

The Development Scheme recognises land sloping greater than 16% as a potential constraint, and this is also acknowledged in the endorsed NESS that specifies minimising disturbance on gradients above 15 - 20%. Gradients 16% or greater have been included in the constraints analysis in Plan 5.

The above rectified constraints were utilised to define vegetation and habitat retention areas and help develop the proposed Context Plan.

5. CONSTRAINTS ANALYSIS



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LEGEND

- Qld DCDB
- Site boundary
- *Melaleuca irbyana* (2021)

Confirmed waterway / habitat values

- Confirmed waterway values / supporting habitat areas
- Confirmed drainage feature
- Steep Terrain
- Scenic Amenity / Ridgeline - Round Mountain
- Of Concern Riparian Vegetation

AMENDMENTS

Issue	Date	Description	Drawn	Checked
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10941 E 05 SMP EAR Constraints Analysis A

7.2. Impact Assessment

The development proposal is for the Round Mountain, New Beith area within the Greater Flagstone PDA (refer Plan 6). The Round Mountain, New Beith Area site is zoned as Urban Living under the Development Scheme with a primary corridor along the southern boundary within Flagstone Creek, and retention on the summit of Round Mountain to maintain scenic amenity under the endorsed Natural Environment Site Strategy (NESS). In addition, areas of open space and conservation are proposed in the Context Plan along the NESS identified unconnected supporting habitat areas that provide connectivity to habitat values located on-site and off-site. These areas are mapped development within the *Greater Flagstone Priority Development Area Development Scheme*, as implemented by EDQ.

The vegetation on-site has been rectified by a PMAV under the VMA. The remnant vegetation on-site as rectified by PMAV consists of a mix of Regional Ecosystems including Least Concern RE12.3.7, RE12.9-10.2 and Of Concern RE12.9-10.7, RE12.9-10.3 and RE12.3.11. The vegetation is generally in accordance with the PMAV.

The site has been subject to extensive modification in the form of logging, thinning and selective clearing activities. These have mostly occurred in the eastern portion of the site; however, logging and modification has occurred through areas of the remnant vegetation in the western portion of the site. The west of the site is comprised of Category B (remnant) vegetation with the remaining vegetation Category X. The Category X portion of the site is confirmed to demonstrate evidence of extensive historical clearing of larger trees and to contain limited habitat values due to the presence of disturbance. The proposed development will result in the removal of remnant vegetation mapping present in the western portion of the site excluding the proposed retention areas. Higher ecological values are present within the Flagstone Creek Corridor, even with some areas infested with weeds, and the Round Mountain Summit, which will be retained and buffered as part of an ecological open space network, preserving connectivity values for fauna species such as Koala which are known to occur within the area. Other drainage line mapped within the NESS as unconnected supporting habitat area are also present across the site, and will be retained as part of the open space network as minor habitat linkages.

While the proposal will result in the removal of vegetation within the Category B (remnant) mapping, it is noted that exemptions exist under the *Planning Regulation 2017* for removal of regulated vegetation in a PDA and where for an urban purpose in an urban area outside the PDA.

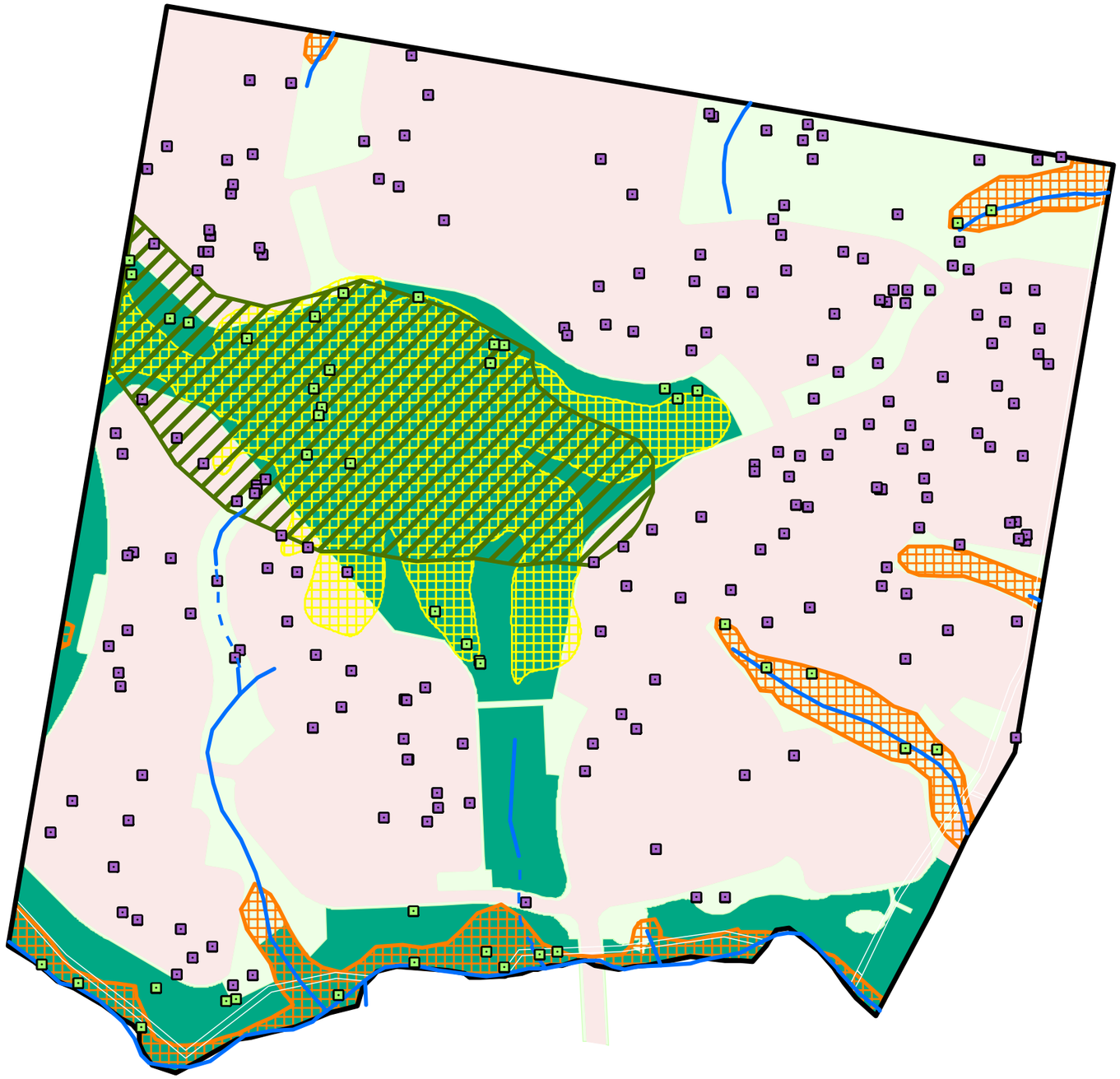
Importantly, the provision of the Round Mountain conservation area encompasses the majority of slope constrained land in line with preliminary earthworks modelling constraints. The proposal is therefore not considered to conflict with the NESS in this regard.

It is important to note that the required buffers and corridor dimensions for Flagstone Creek are identified within the EDQ endorsed Natural Environmental Site Strategy, i.e., a 100 m core corridor with open space buffers maintaining on average a 200 m corridor width along Flagstone and Sandy Creeks. These corridor dimensions have been ascribed to the Flagstone Creek corridor under the proposed Context Plan, with areas retained within the Round Mountain Summit and associated linkages between these areas and areas off-site.

A road linkage is proposed to cross the high risk Fisheries waterway for WWBW (Flagstone Creek) within the southern portion of the site.

Vegetation clearing is required to occur within the mapped Category B (remnant). This is required in order to deliver the urban development intent within the Greater Flagstone PDA and the layout has been designed cognisant of the prevailing environmental features, criteria as specified in the endorsed NESS and to meet the requirements of the EPBC Act assessment. Vegetation will be retained within a vegetation retention areas along Flagstone Creek, connecting to Round Mountain slopes as well as areas of the western property boundary, with open spaces proposed across the site, creating a soft buffer between the development and allowing fauna connectivity. Extensive modification of land in the eastern portion of the site has resulted in a disturbed environment which generally lacks high value habitat. Within these areas, open space areas are proposed to be retained. Fauna movement opportunities will be enabled through the proposed retention and rehabilitation of environmental corridors. However, as the landscape to the north, south and west of the site is earmarked for residential development as part of the PDA and the presence of the Flinders-Karawatha Bioregional Corridor, which is located further to the west, it is considered appropriate to encourage fauna movement to the within the corridors.

6. DEVELOPMENT ASSESSMENT



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LEGEND

- Qld DCDB
- Site boundary
- Confirmed waterway values / supporting habitat areas
- Steep Terrain
- Scenic Amenity / Ridgeline - Round Mountain
- Of Concern Riparian Vegetation
- Development Zone [147.5 ha]
- Future open space (functionally lost) [39.6 ha]
- Vegetation Retention Zone [59.7 ha]

Tree Plot (GPS & Survey accuracy)

- Habitat Tree [196]
- Habitat Tree - retain [44]

AMENDMENTS

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10941 E 06 SMP EAR Development Assessm

7.3. Potential impacts

The key potential ecological impacts associated with the development proposal are described herein.

7.3.1 Vegetation clearing

The proposed development is located within the GFPDA where the clearing of surrounding vegetation to cater for the increasing housing demands in SEQ will occur. Clearing of vegetation to support this development will overall reduce vegetation cover and habitat available for flora and fauna currently utilising the site. The retention and rehabilitation of site corridors is expected to facilitate ongoing habitat and connectivity value for expected fauna species, with clearing impacts further mitigated by offsets being assessed under the EPBC Act.

7.3.2 Vehicle movements

During construction, additional vehicles will be required on the subject site. Direct impact from vehicle movements on threatened species and vegetation communities include:

- Damage or destruction of vegetation or fauna habitat by vehicles traversing these areas; and
- Fauna strike.

Potential Indirect impacts include:

- Interference of fauna through visual and noise impacts. This in turn can affect feeding, roosting, breeding, or nesting behaviour;
- Introducing and/or spreading weeds or feral animals carried on or in vehicles, resulting in deterioration or loss of vegetation and important fauna habitat; and
- Damage or destruction of vegetation and fauna habitat through smothering by dust generated by vehicles traversing the project area.

With the implementation of standard mitigation measures detailed in a Construction Environmental Management Plan, the project is likely to result in a temporary and minor impact to ecological values due to vehicular movements.

7.3.3 Weeds

There will be increases to vehicle movement during the construction phase. Although this is considered minor, it has the potential to increase the spread of weeds in the area, particularly during the vegetation clearing phase, noting that the site is already heavily weed infested and corridors will be rehabilitated. With the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the potential introduction/spread of weeds.

7.3.4 Earthworks

Construction activities have the potential to generate dust emissions. Dust emissions during construction will be temporary. The main sources of dust will be generated via:

- Wheel-generated dust from the haul roads created for the construction phase;
- Dust lift-off from exposed surfaces (e.g., construction roads and pads);

- Earthworks, including construction of the embankments, and moving, dumping, and shaping material; and
- Vegetation and soil clearing of the land.

Excessive deposition of dust on leaves of plants can suppress growth and photosynthesis, resulting in reduced habitat quality for fauna. High levels of airborne dust can irritate the respiratory systems of fauna and potentially result in ingestion of dust-coated seeds and other foods. With the implementation of standard mitigation measures, the project is likely to result in a temporary and minor impact to ecological values due to the generation of dust.

7.3.5 Light emissions during construction

Artificial light can affect both nocturnal and diurnal animals by disrupting behavioural patterns, with quality of light (e.g., wavelength, colour), intensity and duration potentially evoking different faunal responses. Impacts from increased light levels include disorientation from, or attraction toward, artificial sources of light; mortality from collisions with structures; and effects on light-sensitive cycles of species (e.g., breeding and migration for fauna and flowering in plants). An artificial increase in lighting can also affect abundance of predators.

Presence and intensity of artificial light in the project area will temporarily increase during the construction phase; however, night works will not be common. Lighting will be directed to construction areas within the project site. Some light spillage will be inevitable and is likely to be contained. Potential impacts associated with light emissions will be temporary and are unlikely to be significant.

With the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the use of light pollution during construction.

7.3.6 Noise and vibration

Noise levels greater than existing ambient noise levels are expected during the construction within the project area. Sources of noise are likely to consist of noise in short, intense pulses from mobile plant equipment, and more prolonged noise, with consistent vibration, pitch and volume from generators, excavators, and pumps, in addition from noise from vehicles.

Both steady continuous and single noise events have the potential to lead to ecological impacts. Construction noise is expected to elicit some avoidance response from fauna using the surrounding vegetation though, with consideration of the extent of habitat available in the study area, this is likely to be a temporary and negligible to minor impact.

7.3.7 Waste disposal

Inappropriate disposal of non-hazardous wastes can attract vermin and other wildlife to site. This may exacerbate potential impacts (e.g., road mortality). Litter may also enter surrounding environments. With the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the generation and handling of waste. Due to the temporary nature of the construction phase, waste generation opportunities will be limited.

7.3.8 Hazardous and dangerous goods

Spills and leaks from transfers (fuel, chemicals) and inadequate storage of dangerous goods and hazardous wastes could result in point-source contamination of surrounding land. Direct adverse impacts could include toxic impacts on vegetation (resulting in degradation or loss of vegetation and habitats), direct toxic impacts on fauna (from contact, inhalation, or ingestion) or indirect impacts on threatened and migratory species from habitat loss. Direct adverse impacts on surface and groundwater quality are also possible.

With the application of standard mitigation and management measures, impacts from liquid and solid waste disposal will be avoided or localised and small in scale. Further to this, the likelihood of significant spillages is considered low. Therefore, the project is likely to result in a negligible impact to ecological values due to potential spills and leaks.

7.3.9 Increased human presence

Increased human activity during construction has the potential to disturb fauna within adjacent habitat areas. Resulting impacts to fauna include heightened vigilance and predator avoidance, which can disrupt foraging and roosting efficiency or deter wildlife from using particular areas. Noting the surrounding landscape and dominance of urban development meaning humans are present proximal to the site, the project is likely to result in a temporary and minor impact to ecological values due to increased human presence on-site during the construction period.

7.4. Ongoing disturbances

After completion of construction, the ongoing presence of infrastructure and increased human activity can continue to have potential for adverse direct and indirect impacts. The key continuing risks to ecological values include:

- Weed incursion;
- Vehicle movements;
- Noise and light; and
- Increased human presence.

Each potential impact associated with ongoing use of the site is described in detail in the following sections.

7.4.1 Weed incursion

Landscaped gardens will introduce a variety of new and exotic species to the area. Garden escapes have the potential to be introduced into adjacent bushland areas through vectors such as birds, wind, and runoff. Weed incursion will be ongoing and can be difficult to prevent. Nonetheless, the problem is often mostly constrained to edges of bushland that abut gardens and along urban drainage features.

With the implementation of standard mitigation measures, the project is likely to result in a minor impact to ecological values due the introduction and spread of weeds.

7.4.2 Vehicle strike

Upon completion of the development, vehicle traffic will increase significantly (compared to baseline conditions), increasing the likelihood of fauna strike. The probability of fauna strike is not considered to be exacerbated as fauna are known to typically avoid urbanised areas. Notwithstanding, a low number of fauna may occasionally enter the area and be at risk of vehicular strike. Fauna safety management criteria will be met as specified in the endorsed NESS, including fauna passage augmentation of all retention corridor crossings.

7.4.3 Noise and light

Noise levels are likely to increase once the development has been completed as there will be increased vehicular traffic from vehicles entering the development.

Artificial light from residences may affect nocturnal and diurnal animals by disrupting patterns, with quality of light (e.g., wave length, colour), intensity and duration potentially evoking different responses. Impacts from increased light levels include disorientation from or attraction toward artificial sources of light; mortality from collisions with structures; and effects on light-sensitive cycles of species (e.g., breeding and migration for fauna and flowering in plants).

These potential adverse impacts can be mitigated by incorporating directional lighting along the road verge where practical. The project is considered likely to result in a negligible impact to wildlife due to light spillage.

7.4.4 Increased human presence

Increased human activity associated with land uses within the development has the potential to disturb fauna that exist within the broader area. Examples of impacts included heightened vigilance and predator avoidance, which can disrupt foraging and roosting efficiency, or deter wildlife from using particular areas.

Noting that buffers, ecological corridors and open space connectors are to be provided under the proposal, increased human presence is expected to have a minor to moderate impact to wildlife and vegetation.

8. Management and compensatory measures

A number of management and compensatory measures are proposed to minimise and mitigate impacts associated with the development. These include:

8.1. Vegetation Clearing and Fauna Management Plan

A Vegetation Clearing and Management Plan (VCFMP) will form part of the broader management document for the proposed action. The VCFMP will cover clearing of all vegetation within the site and include details on:

- Clearly show all trees to be removed and retained.
- Include details of all civil works likely to impact on existing vegetation.
- Roles and responsibilities for site contractors, developer and the consultant group.
- Stockpiling and site access locations.
- A clearing sequencing plan showing the commencement of clearing and direction of removal (this should be in conjunction with the fauna management protocols to allow for the appropriate flushing of fauna towards surrounding safe haven areas.
- Links to weed management and revegetation proposals.
- The stock piling and reuse of cleared vegetation.
- Specific details on the removal of previously identified potential fauna habitat trees.
- Where trees are shown to be retained occur within disturbance zones they should be accompanied by necessary arborist specifications incorporated into the VCFMP.
- Designation of trees to be protected for the on-going life of the proposal which may require both immediate remedial works (Crown thinning, coppicing) and long-term monitoring for the potential of future works.

Under Queensland's *Nature Conservation Act 1992*, all native fauna are protected and as such the following activities are required to ensure that vegetation removal and construction does not adversely affect native fauna species:

- Immediately prior to the commencement of clearing of native vegetation, a daily visual inspection of the area must be carried out;
- In the event of an animal being located, an area of 5 metres radius should be established around the tree, excluding machinery from this area until the animal has relocated (usually overnight); or
- If an animal requires relocating, this must be undertaken by a suitable qualified fauna expert (e.g. fauna spotter-catcher) recognised by the Queensland Parks and Wildlife Service.
- Any native fauna orphaned or injured by the development process must be reported to the Queensland Parks and Wildlife Service.

- The site supervisor is responsible for the safe management of site fauna and implementation of these specific fauna requirements.

Fauna management information included in the VCFMP and will include:

- Species surveyed as using the site with a focus on those most likely impacted by development works.
- A list of relevant State and Commonwealth legislation constraints and controls for the above listed fauna.
- A plan showing existing habitat opportunities and locations.
- Details of the threats to existing fauna species.
- Clearing sequence plan from the VCFMP.
- Management and mitigation measures.
- Fauna spotter role, contacts and certification.
- Specific fauna management procedures for potential or known habitat trees.

8.2. Fauna Spotter Catcher

A registered and suitability qualified fauna spotter catcher/ecologist will need to be employed for clearing works to implement a protocol of best management practises. Significant habitat features, should any be identified on-site, will be flagged prior to clearing events and these areas supervised by an appropriately experienced Ecologist. Identified within the clearing supervision protocol should be flagging of hollow bearing trees, if present, followed by the removal of vegetation surrounding them. After 24 to 72 hours, these trees should then be removed.

The objective of this is to enable hollow dependant fauna an opportunity to move on their own accord as many species utilise multiple den/roost sites within a given home range should they occur. Where required, native fauna situated within areas to be cleared will be relocated to a secure area of similar habitat prior to the commencement of vegetation clearance works by a registered fauna spotter/catcher. Should any removal and relocation of nests be required, it is to be undertaken by a suitably qualified and experienced person and advice sought where necessary.

8.3. Rehabilitation Management Plan

An RMP could form part of the broader management actions on approval for the project site, and would generally include information on:

- rehabilitation efforts are in accordance with SEQ Ecological Restoration Guidelines (SEQRF);
- existing and proposed contours;
- locations of services and required earthworks;
- existing vegetation to be retained or removed;
- location of waterways and waterbodies;

- major weed infestations and proposed treatments; and
- trail and path systems.

9. Conclusions

This Ecological Assessment Report was prepared on behalf of Frasers Property New Beith Pty Ltd to determine the potential environmental impacts associated with the balance impact area within the proposed development located at Olson Road, New Beith. This report provides a review of the ecological values across the proposed impact footprint and the wider development area, identified through desktop analysis and field surveys, in accordance with Commonwealth, State and Local Government Legislation in support of the Species Management Program.

Overall, the following conclusions can be made:

- A search using the EPBC Act PMST identified the potential for eight (8) TECs, nineteen (19) threatened flora species and eighteen (18) threatened fauna species to occur on-site.
    - The remnant vegetation provides potential habitat for several listed threatened species under the EPBC Act and NC Act and will continue to provide habitat value within the retained areas.
    - No TECs were detected on-site during field surveys.
- A Wildlife Online search for threatened species under the NCA identified the potential for seven (7) threatened fauna species and one (1) threatened flora species, *Melaleuca irbyana* (Swamp Tea-tree) to potentially occur on-site.
- Three (3) conservation significant species were detected on-site, including the Koala, Grey-headed Flying-fox and Swamp Tea-tree. The suitability of the site for threatened species is reduced as a result of historical clearing and logging activities, which has removed the majority of the old-growth trees from the site. In addition, threats from feral dogs and foxes are present on-site, which are confirmed to be active within the site.
    - Evidence of Koalas were observed on-site through scats detected during SAT surveys,
    - Grey-headed Flying-fox was observed foraging during spotlighting surveys,
    - A Swamp Tea-tree specimen was observed along the eastern access track of the site.

  No other threatened flora and fauna species listed under the EPBC Act or NCA were detected on-site.
- The site has been subject to two (2) Property Map of Assessable Vegetation (PMAV) assessments which have been certified by the Department of Natural Resources, Mines and Energy (DNRME) (PMAV 2018/0012365 formally 2010/007185). The site is mapped as containing Category X (non-remnant) vegetation and regulated Category B (remnant) vegetation under the VMA. The site is dominated by remnant vegetation within the western portion of the subject site with Category X in the eastern portion. The mapped Category B vegetation consists of a mix of Regional Ecosystems as rectified by PMAV, including Least Concern RE12.3.7 and RE12.9-10.2 as well as Of Concern RE12.9-10.7, RE12.9- 10.3 and RE12.3.11. The vegetation was found to be generally in accordance with the PMAV.

- The site contains one (1) *high risk* waterway and upper catchments of three (3) *low risk* waterways for WWBW. These are proposed to be retained and rehabilitated within open space corridors and vegetation retention areas. Field surveys confirmed the presence of vegetation management drainage features across the site and watercourse and waterway values which will be retained within proposed open space corridors. Any works that are conducted within WWBW features are to be undertaken in accordance with the Accepted Development Requirements or will require a permit for WWBW through SARA.
- The project is currently being assessed under the EPBC Act (ref: EPBC 2019/8398) whereby impacts on Koala habitat including offsets under negotiation are to be managed through the conditions of the approval.
- The development requires the removal of mapped Category B (remnant) vegetation in order to deliver the urban growth intent of the Greater Flagstone PDA. The layout has been designed cognisant of prevailing environmental values, criteria specified in the endorsed NESS and EPBC Act assessment requirements.

10. Appendices

Appendix A

Environmental Search Results

Appendix B

EPBC Act Protected Matters Report

Appendix C

NCA Wildlife Online Search Results

Appendix D

Likelihood of Occurrence Assessment

Appendix A

Environmental Search Results

Environmental Searches

Lot 4 Olson Rd, New Beith, QLD 4124 (CLYRO)

Frasers Property AHL Limited

Our Reference: J10941
10 October 2025

Saunders Havill

PATHWAYS TO SUCCESS

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Property attributes	
Address	Lot 4 Olson Rd, New Beith, QLD 4124 (CLYRO)
Lot/plan(s)	4SP332712
Area (ha)	Total area: 246.24 hectares (ha)
Local government area	Logan City Council

1. Federal Matters of National Environmental Significance

1.1 Protected Matters

A Protected Matters Report was generated from the environment.gov.au website and returned the following results. These matters may occur within a 5 km radius of the site and are protected under the *Environment Protection and Biodiversity Conservation Act 1999*.

World Heritage Properties	None
National Heritage Places	None
Wetlands of International Importance (Ramsar Wetlands)	1
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	8
Listed Threatened Species	53
Listed Migratory Species	12

1.2 Listed Threatened Ecological Communities

Community	Status	RE Mapped (On-site or within 100m of site)
Grey box-grey gum wet forest of subtropical eastern Australia	Endangered	RE 12.9-10.3
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	No
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	Critically Endangered	No
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	No
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	No
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	RE 12.3.6
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	RE 12.3.11/12.3.7
Lowland Rainforest of Subtropical Australia	Critically Endangered	No

2. State Matters

2.1 Vegetation Management Act 1999 and subordinate legislation

Regional Ecosystem	VMA status	Category	Area (ha)
12.9-10.7	Of Concern	A or B	3.37
12.9-10.3	Of Concern	A or B	3.51
12.9-10.2	Least Concern	A or B	110.16
12.9-10.2/12.9-10.7a	Of Concern	A or B	8.17
12.9-10.2/12.9-10.12/12.9-10.7	Endangered	C	0.22
12.3.11/12.3.7	Of Concern	A or B	14.08
Non-Remnant Vegetation	None	X	106.71

Essential Habitat	Present
Wetland/s	
Bioregion	Coastal bioregions and sub-regions

2.2 Nature Conservation Act 1992 and subordinate legislation

Protected Plants Flora Survey Trigger Map	Within high risk area

2.3 Koala Habitat Mapping

Koala Priority Area (KPA)	
Koala Habitat Areas	Koala Habitat Area (Core)

2.4 State Planning Policy Interactive Mapping System (selected environmental matters)

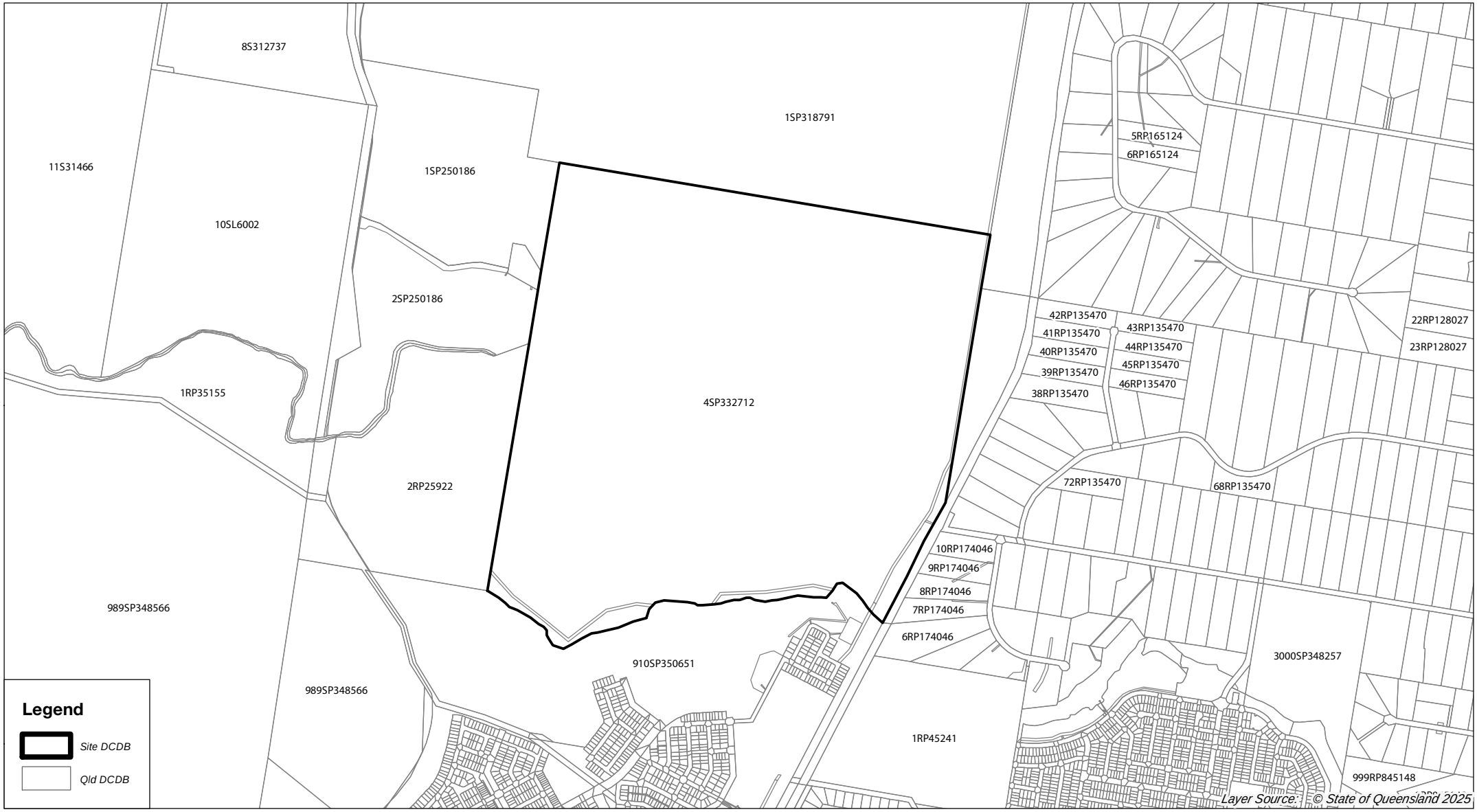
SPP - Biodiversity	MSES - Wildlife habitat (endangered or vulnerable species) MSES - Wildlife habitat (special least concern animal) MSES - Wildlife habitat (Koala habitat areas - core) MSES - Regulated vegetation (intersecting a watercourse) MSES - Regulated vegetation (essential habitat) MSES - Regulated vegetation (category B) MSES - Regulated vegetation (category C)
SPP - Coastal Environment	

SPP - Water Quality	
SPP - Natural Hazards Risk and Resilience	Potential Impact Buffer Medium Potential Bushfire Intensity Very High Potential Bushfire Intensity High Potential Bushfire Intensity
2.5 Development Assessment Mapping System	
DAMS - Coastal Protection	
DAMS - Fish Habitat Areas	Queensland waterways for waterway barrier works: 1 - Low Queensland waterways for waterway barrier works: 3 - High
2.6 Water Act 2000	
Watercourse Identification	Water Act 2000 - Drainage Feature Water Act 2000 - Watercourse
2.7 Highest Astronomical Tide (HAT)	
Highest Astronomical Tide	

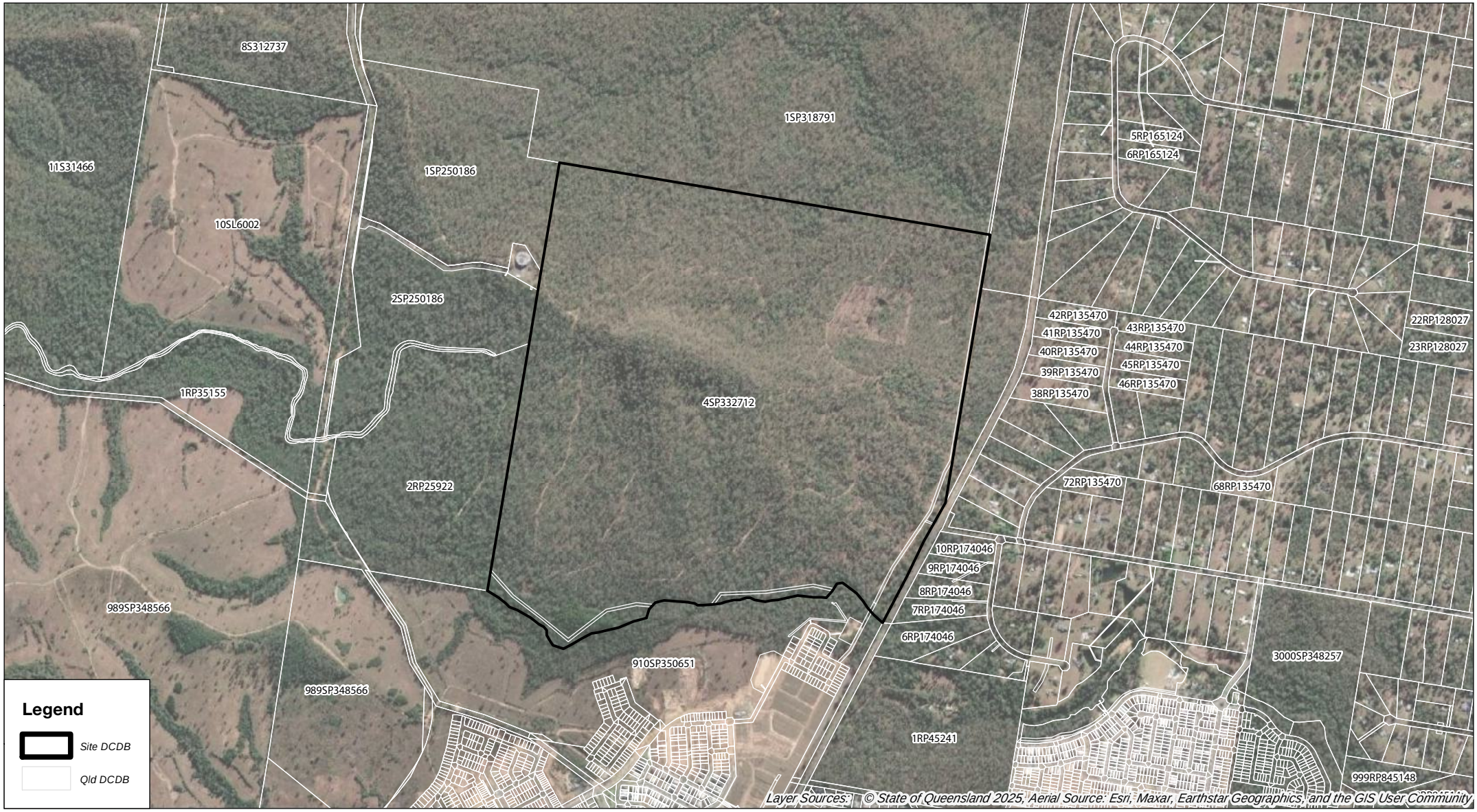
3. Local matters — Logan City Council	
Zoning	Priority Development Area zone
Precinct	
Overlay — Acid Sulphate Soils	
Overlay — Biodiversity Areas Trigger	Biodiversity areas trigger
Overlay — Vegetation Management Areas	Primary Vegetation Management Area Secondary Vegetation Management Area
Overlay — Biodiversity Corridors	Biodiversity corridor
Overlay — Locally Significant Vegetation	Locally significant vegetation - remnant vegetation
Overlay — Matters of Local and/or State Environmental Significance	Matters of both state and local ecological significance - regulated vegetation (intersecting a watercourse) Matters of both state and local ecological significance areas Matters of local ecological significance areas
Overlay — Ecological Significance	Ecological significance areas
Overlay — Bushfire Hazard	Bushfire hazard (High Potential) areas Bushfire hazard (Potential Impact Buffer) areas Bushfire hazard (Very High Potential) areas Bushfire hazard (Medium Potential) areas
Overlay — Landslide Hazard	Landslide hazard geological formation impacting equal to or greater than 15% slope areas Landslide hazard trigger areas
Overlay — Flood Hazard	Flood hazard inundation areas
Overlay — Heritage Areas	
Overlay — Waterway Corridors and Wetlands	Waterways corridors and wetland areas Waterways corridors and wetlands - waterway trigger areas Waterways corridors and wetlands - wetland buffer areas Waterways corridors and wetlands - wetland buffer trigger areas Waterways corridors and wetlands - wetlands

Site context

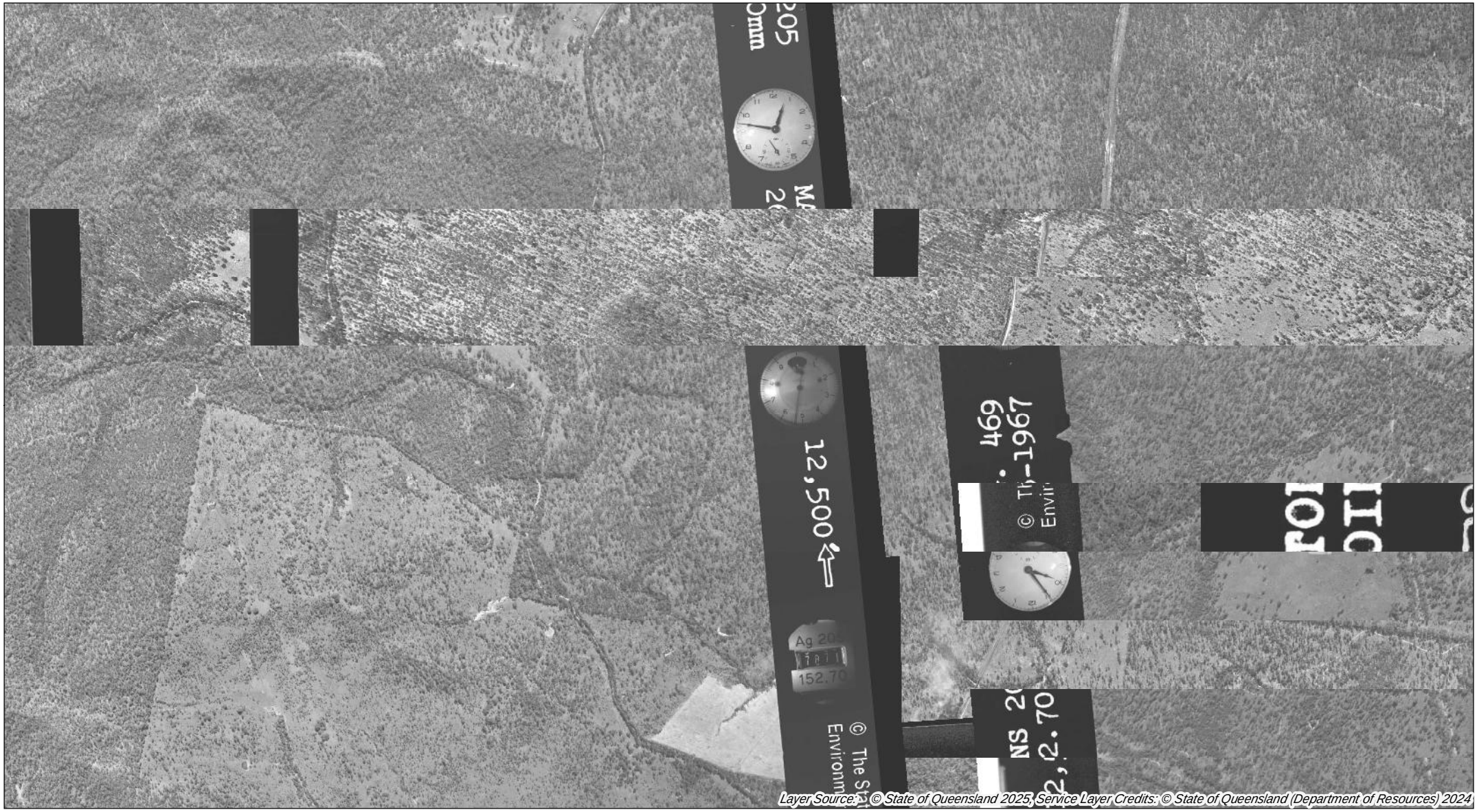
Map 1. Lot/Plan(s)



Map 2. Aerial Image (Current)

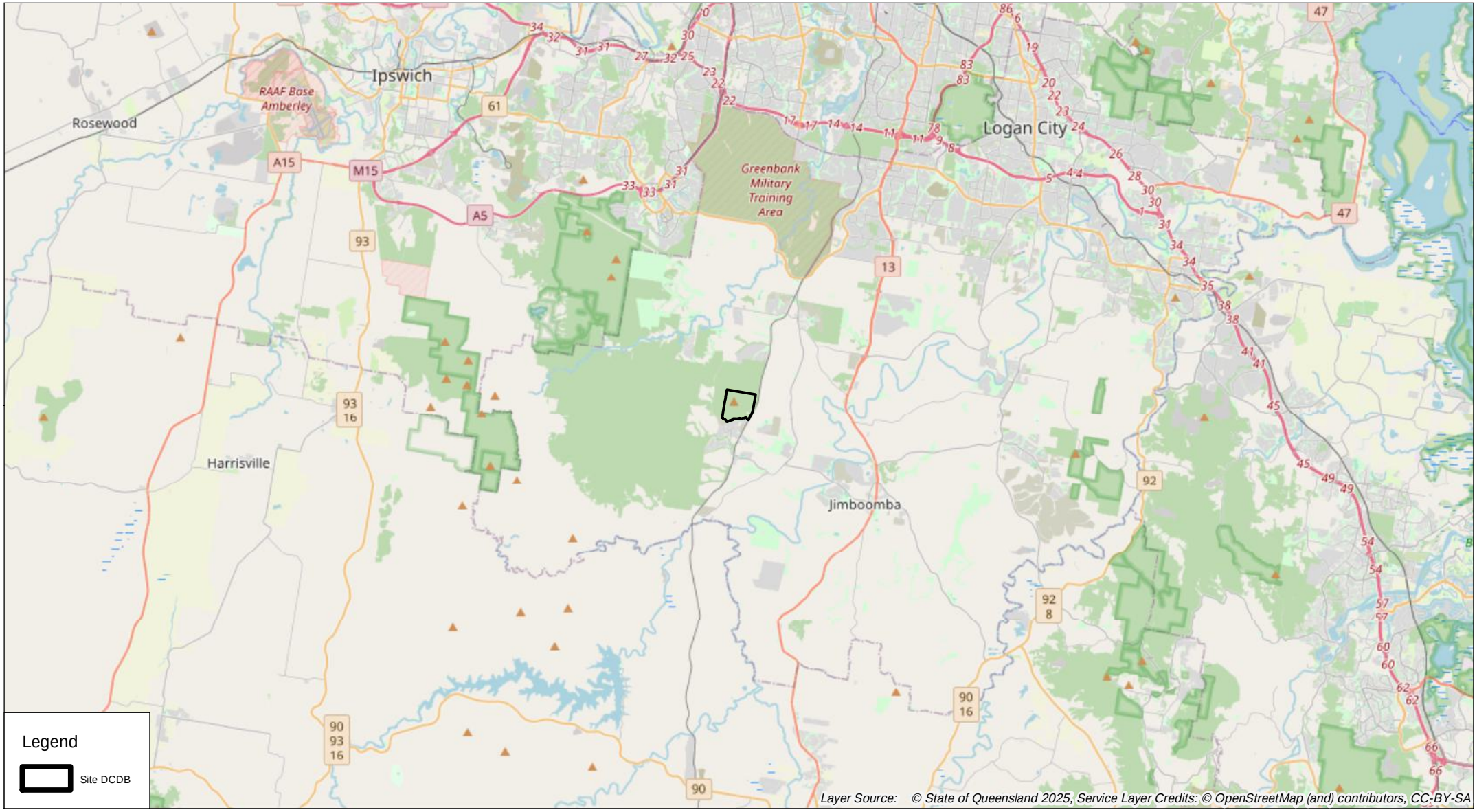


Map 3. Aerial Image (Historical)

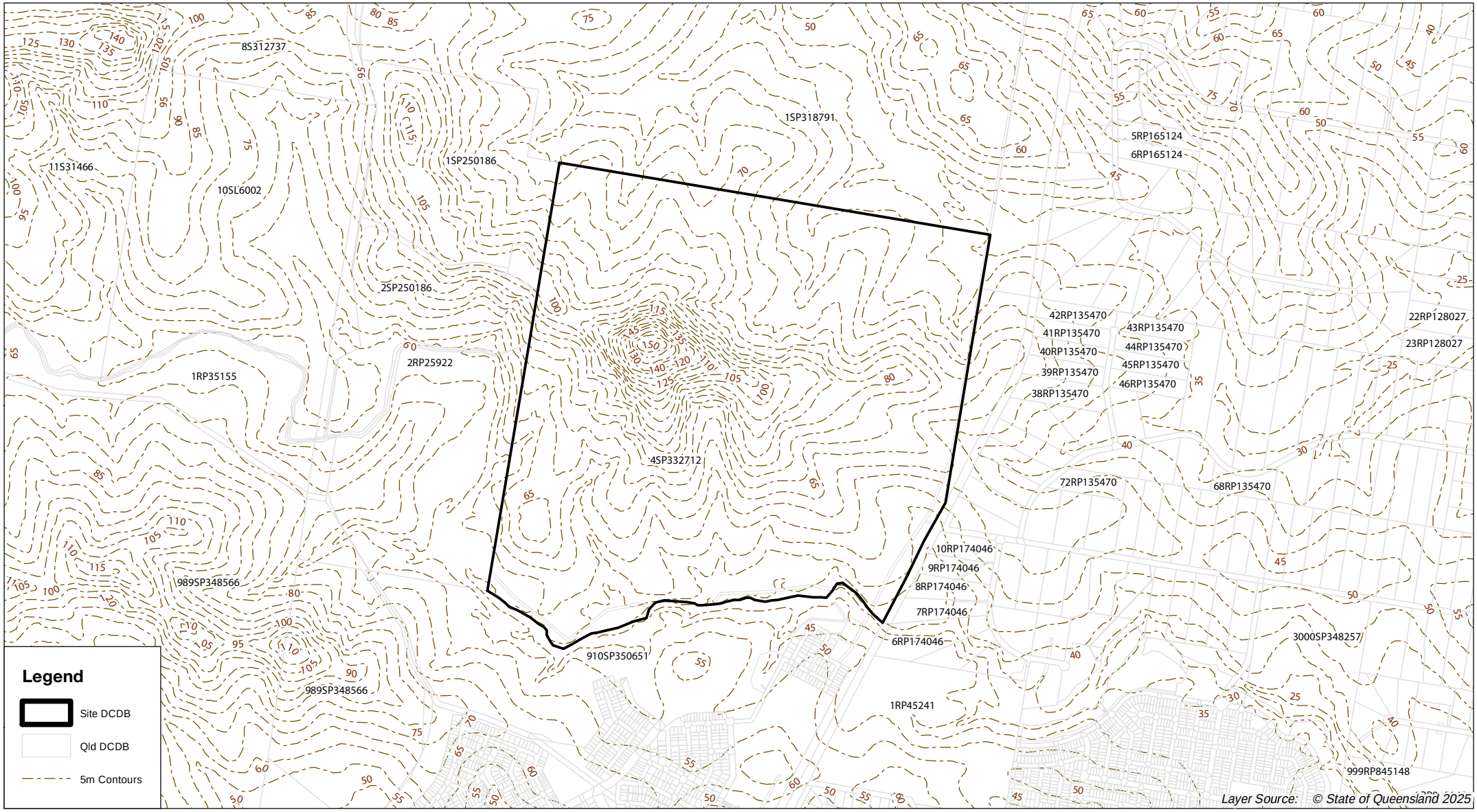


Layer Source: © State of Queensland 2025, Service Layer Credits: © State of Queensland (Department of Resources) 2024

Map 4. Locality



Map 5. Contours (5m)

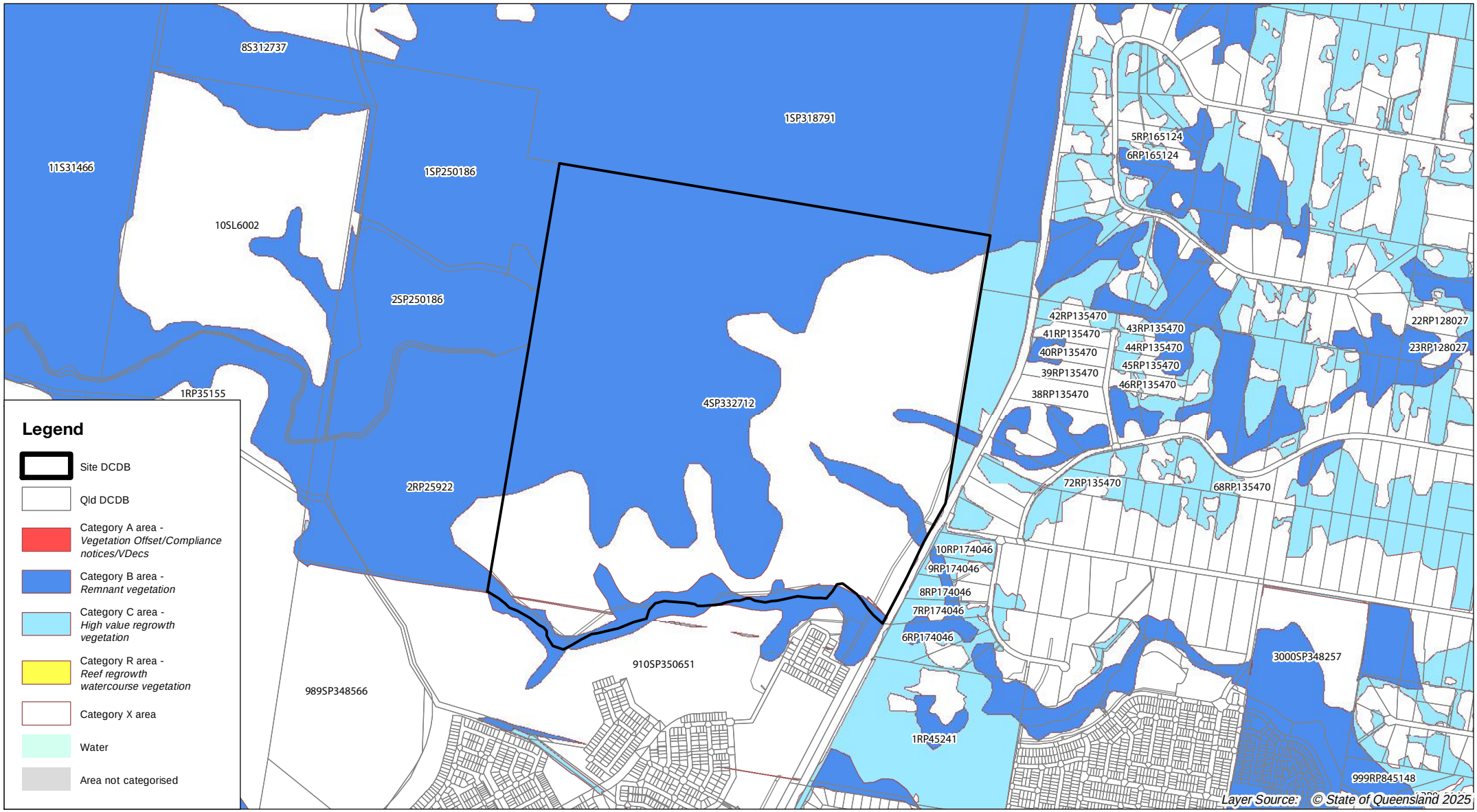


Map 6. Hillshade

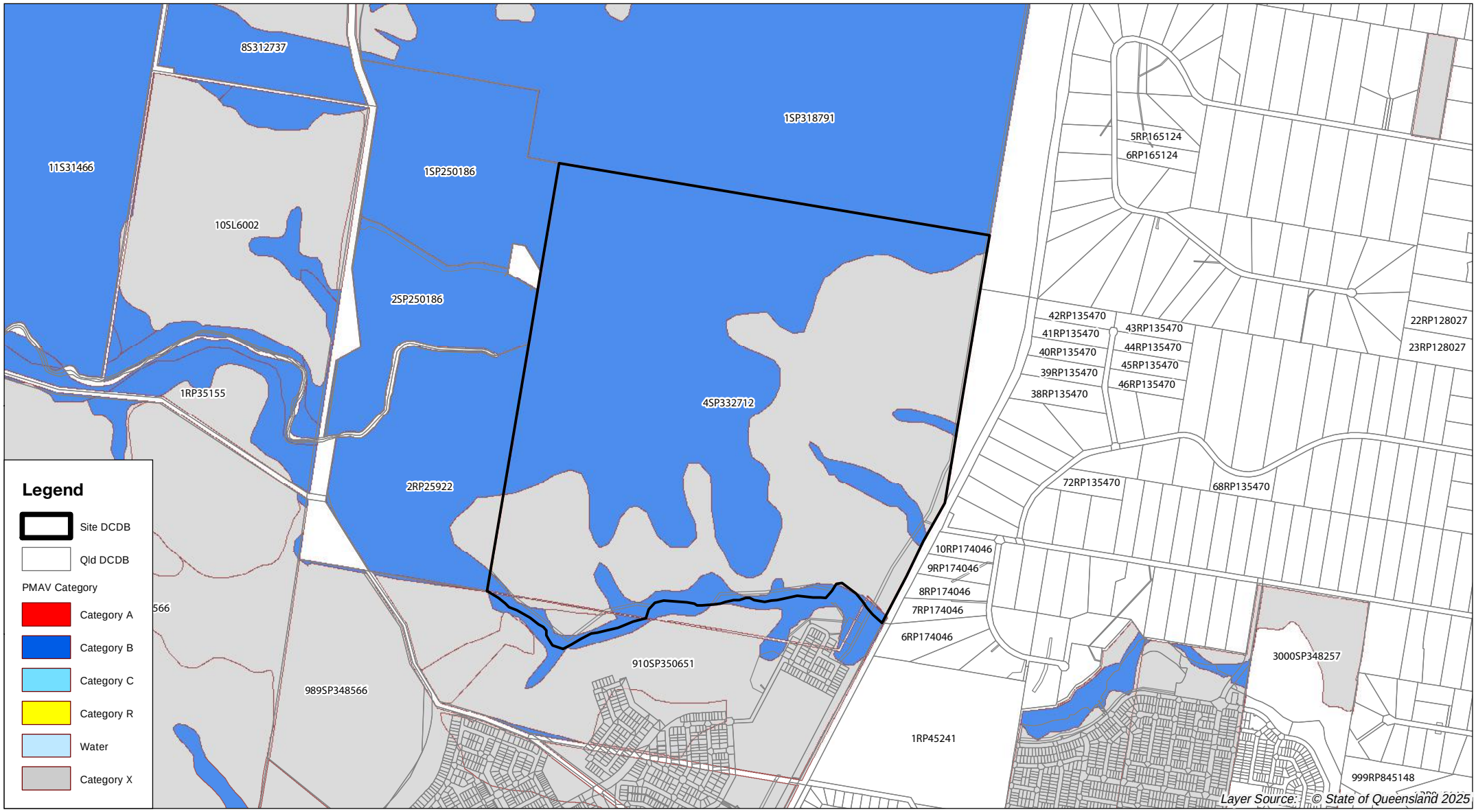
State matters

J10941 (30 June 2025)

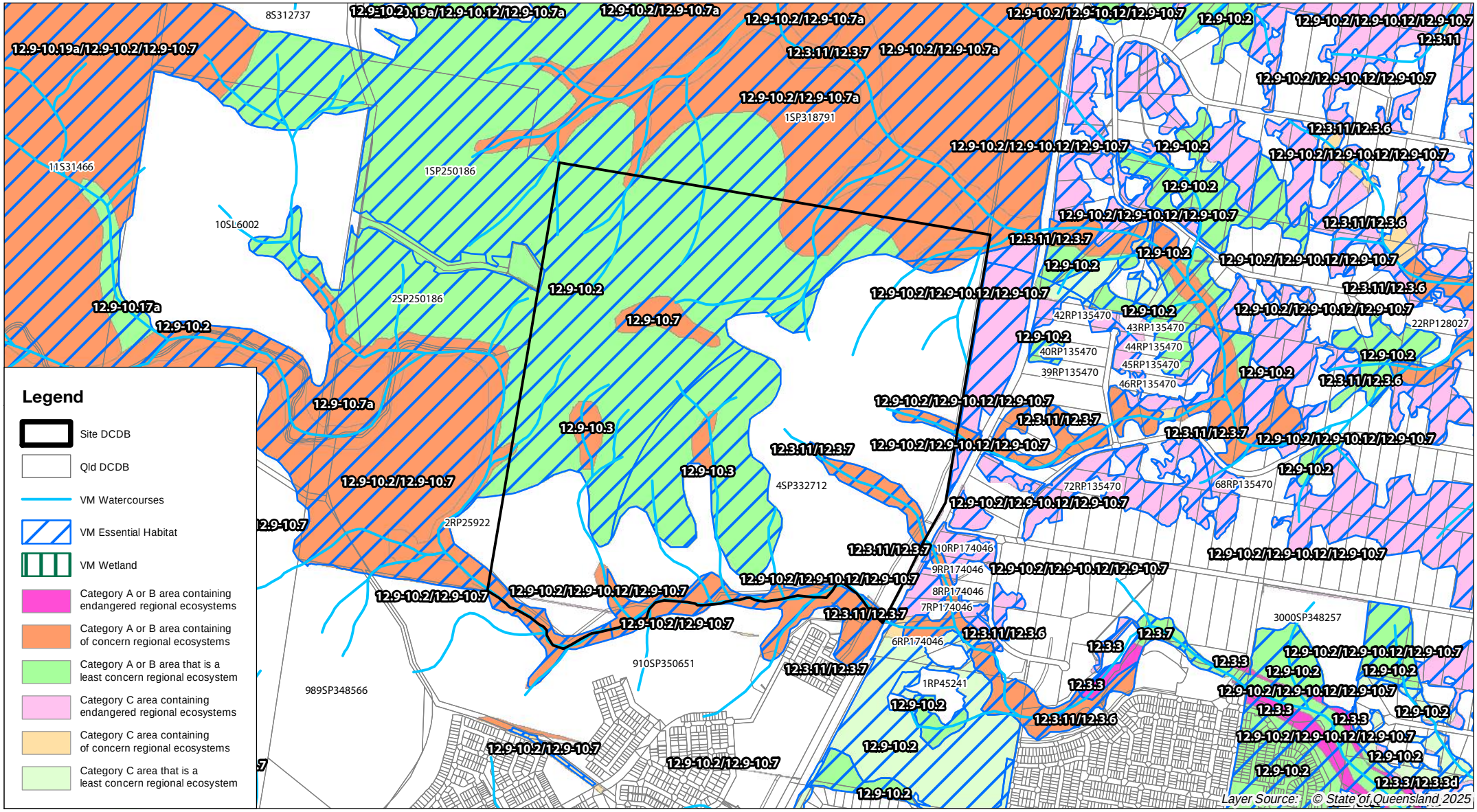
Map 7. Regulated Vegetation Management Map



Map 8. Property Maps Assessable Vegetation

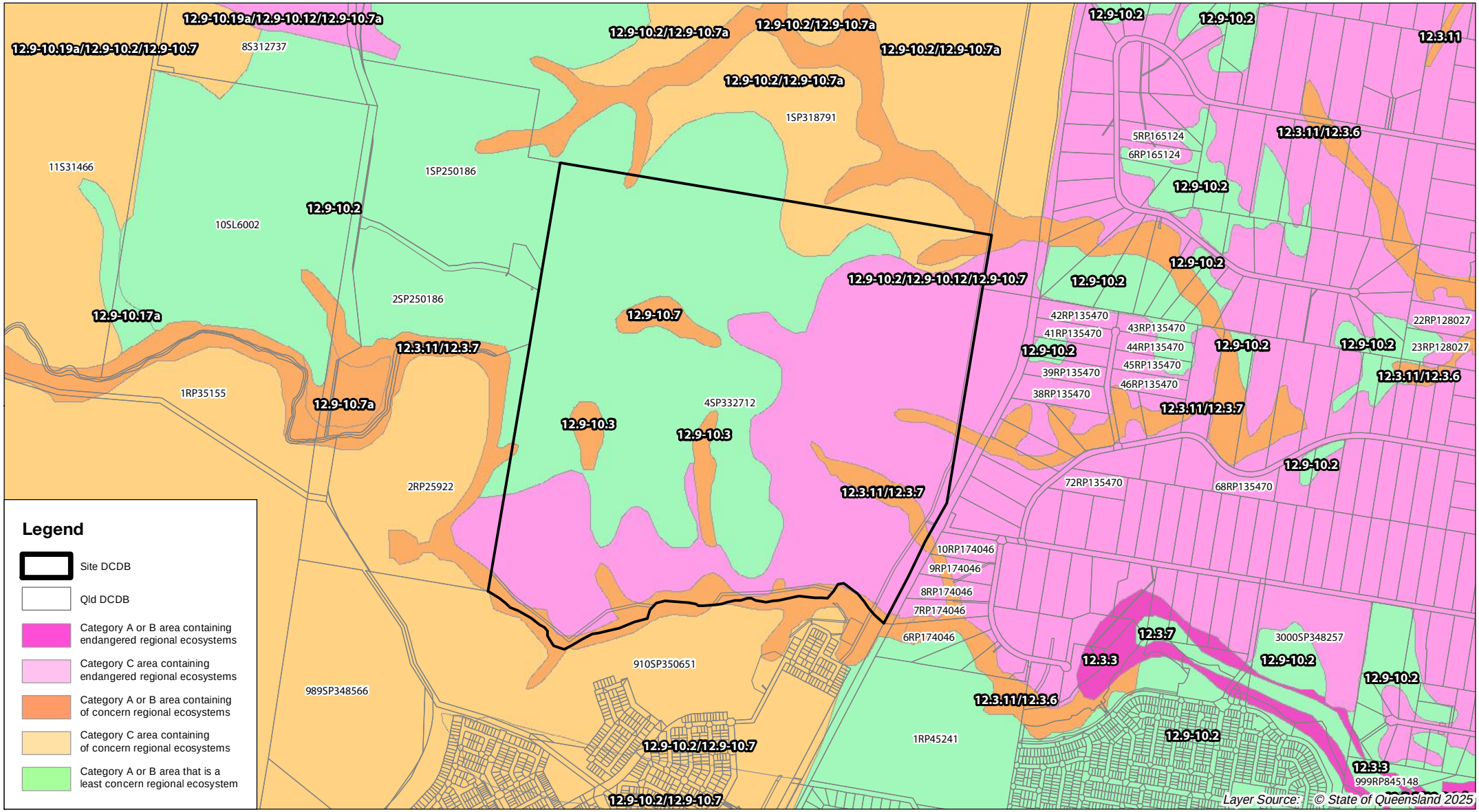


Map 9. Vegetation Management Regional Ecosystem Mapping

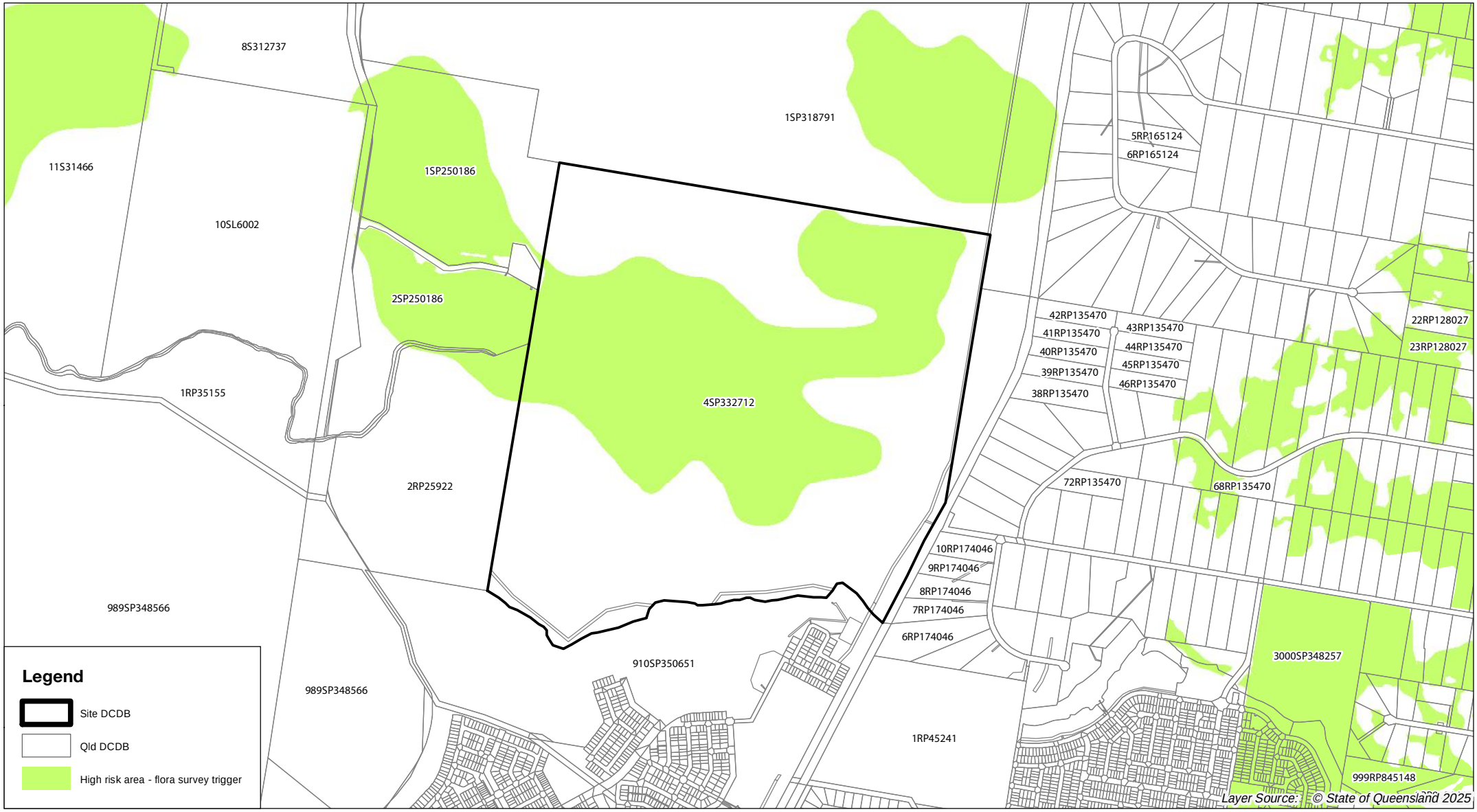


Disclaimer: Regional ecosystem locations are indicative only. For precise RE mapping, please visit:
https://qldglobe.information.qld.gov.au/ and enable the Vegetation management regional ecosystem map layers.

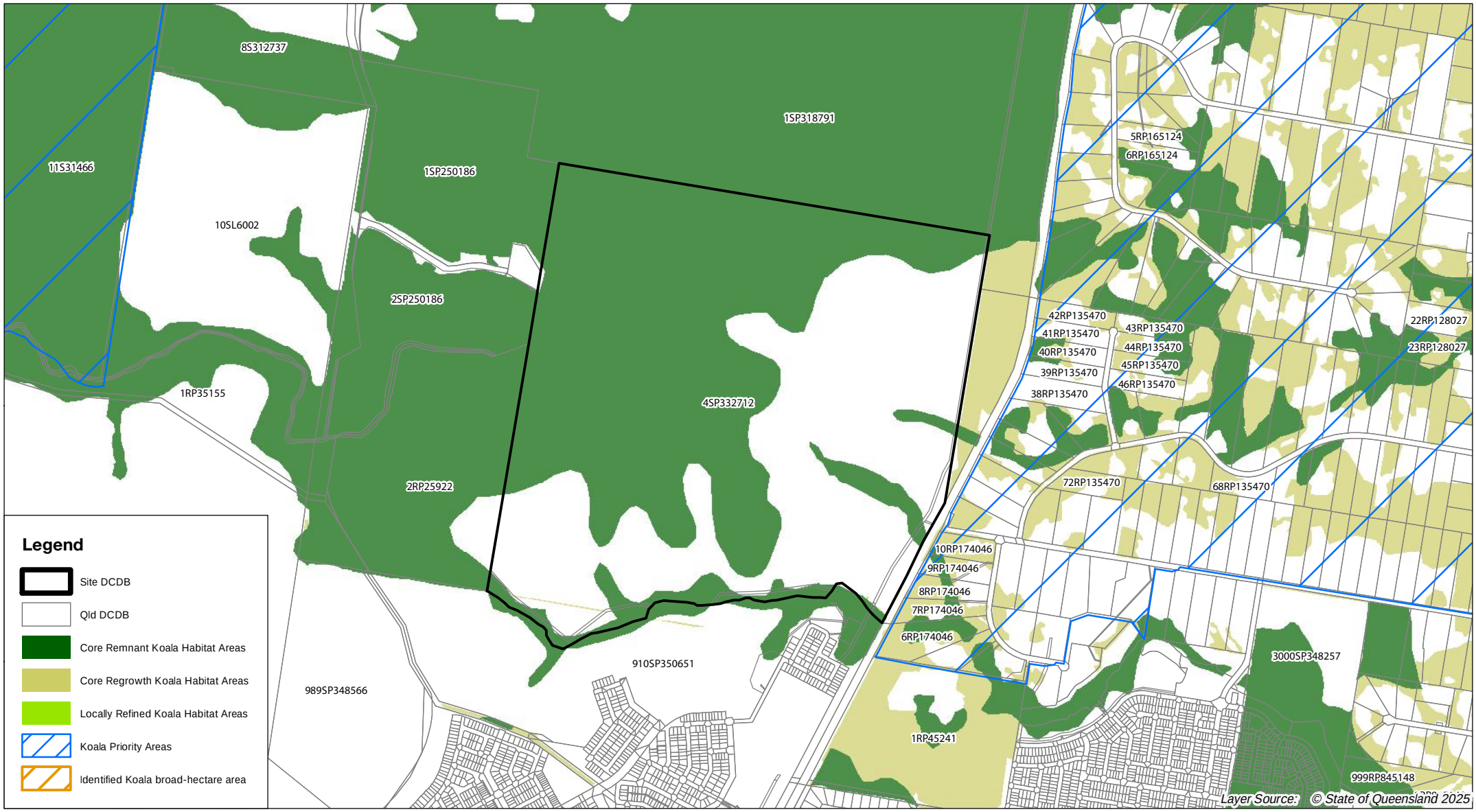
Map 10. Pre-clear Regional Ecosystems



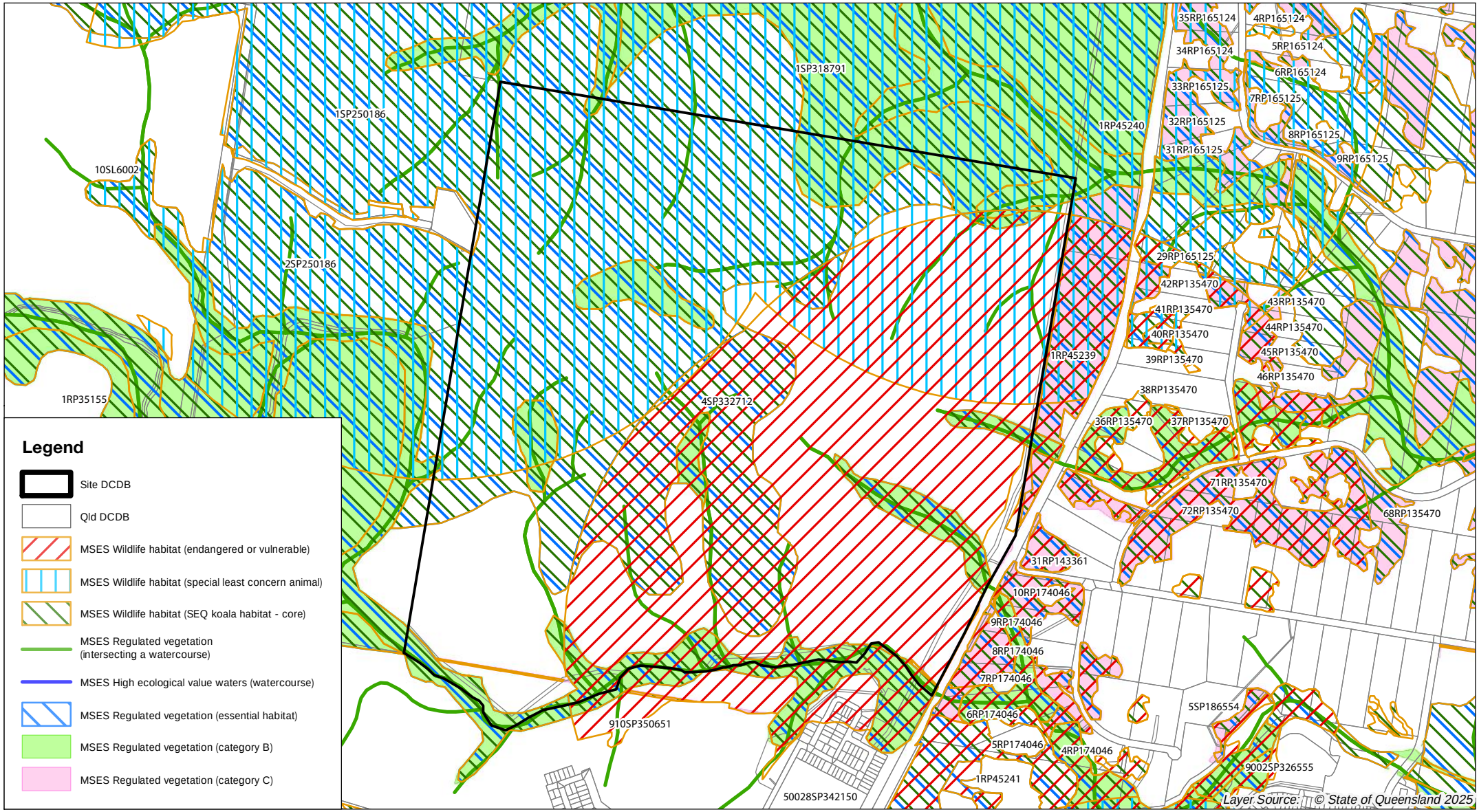
Map 11. Protected Plants Flora Survey Trigger Map



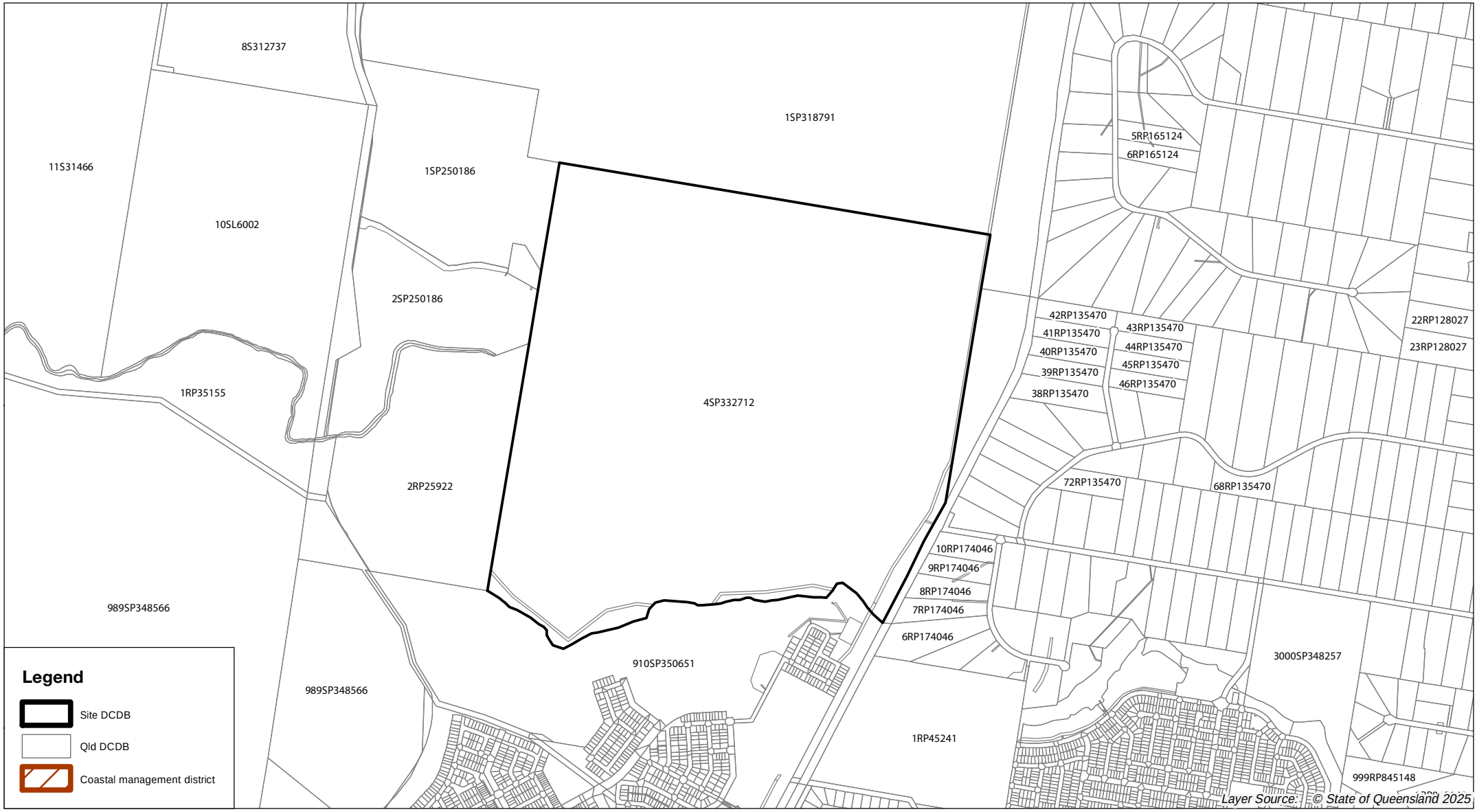
Map 12. Koala Priority Areas and Koala Habitat Areas



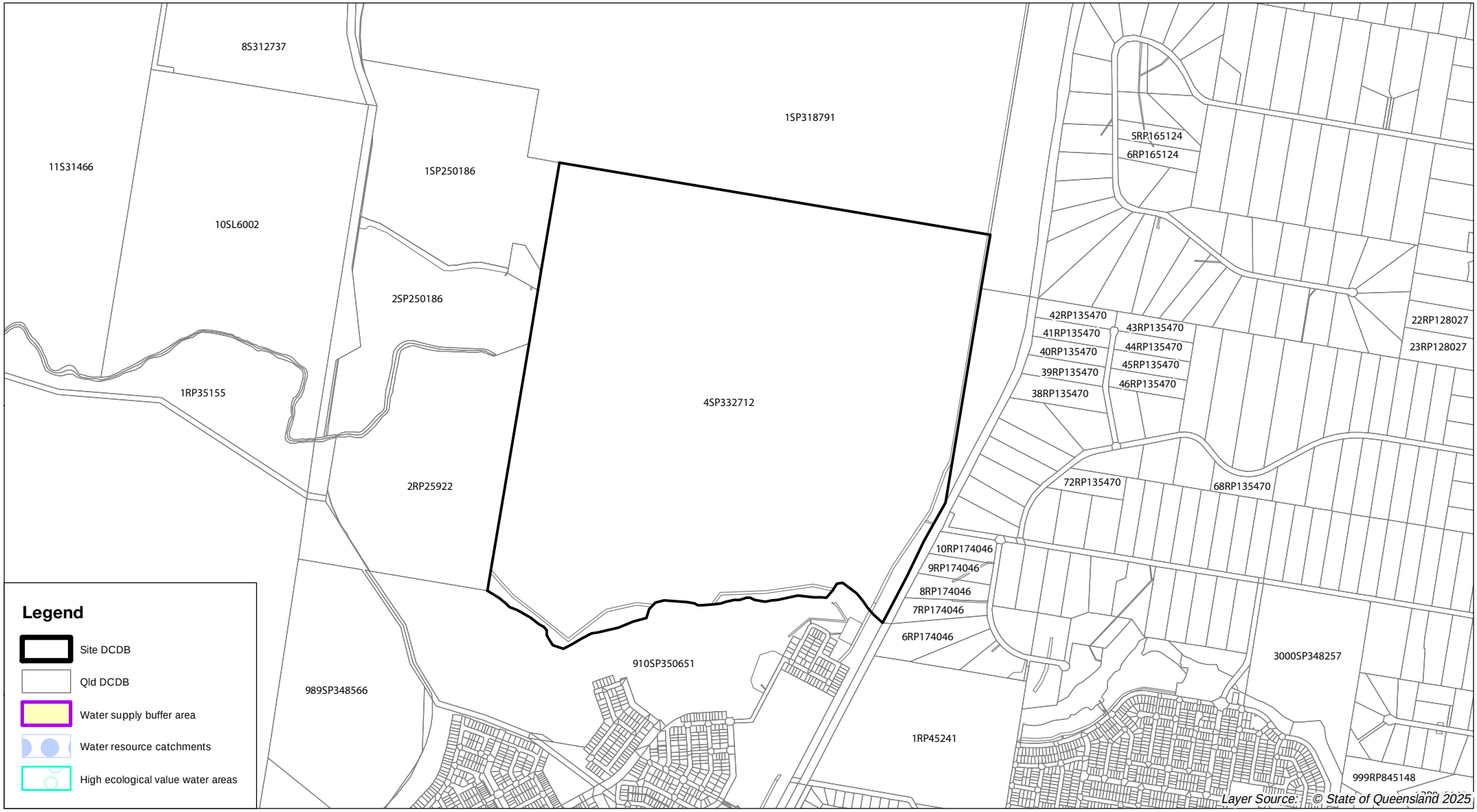
Map 13. SPP - Biodiversity



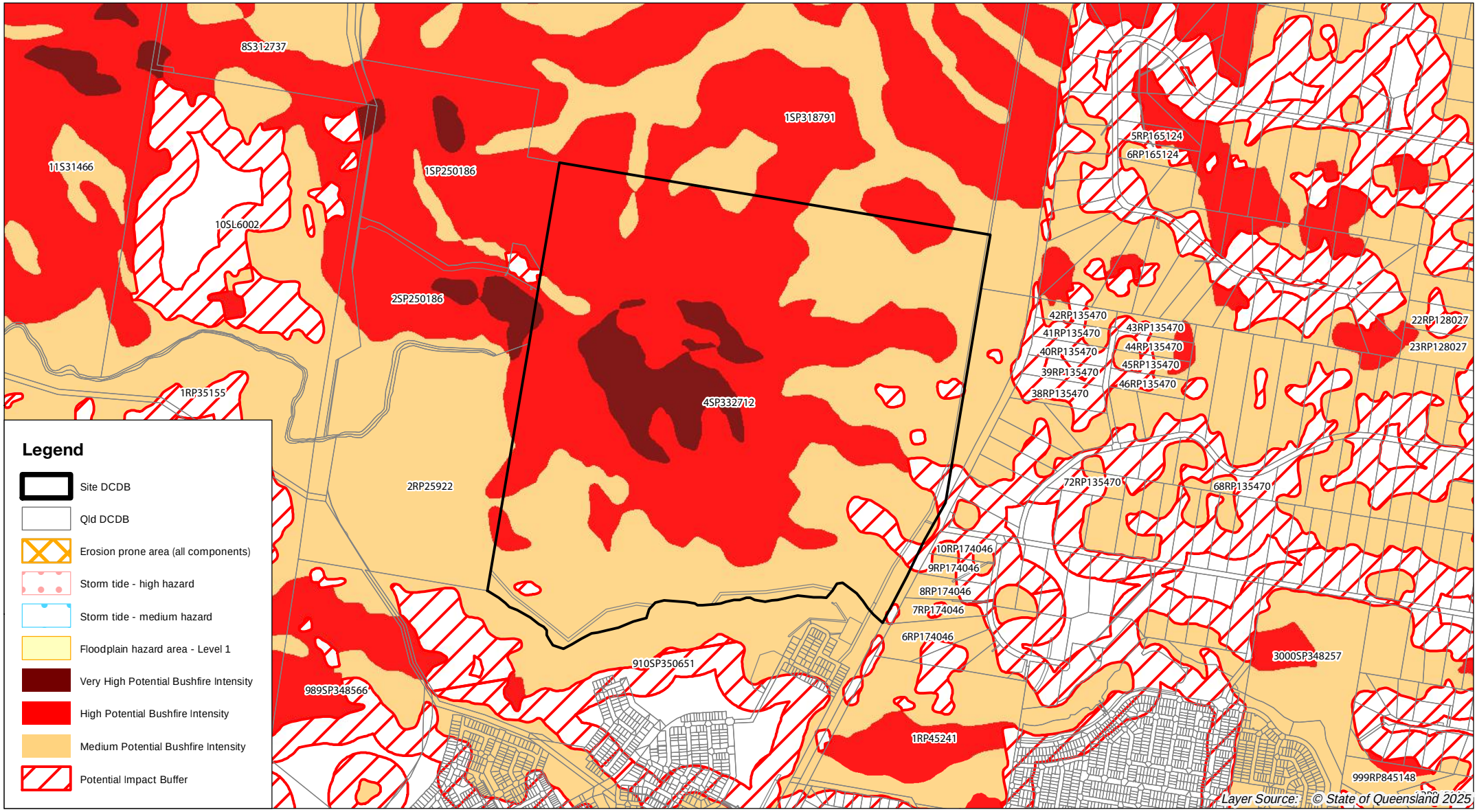
Map 14. SPP - Coastal Environment



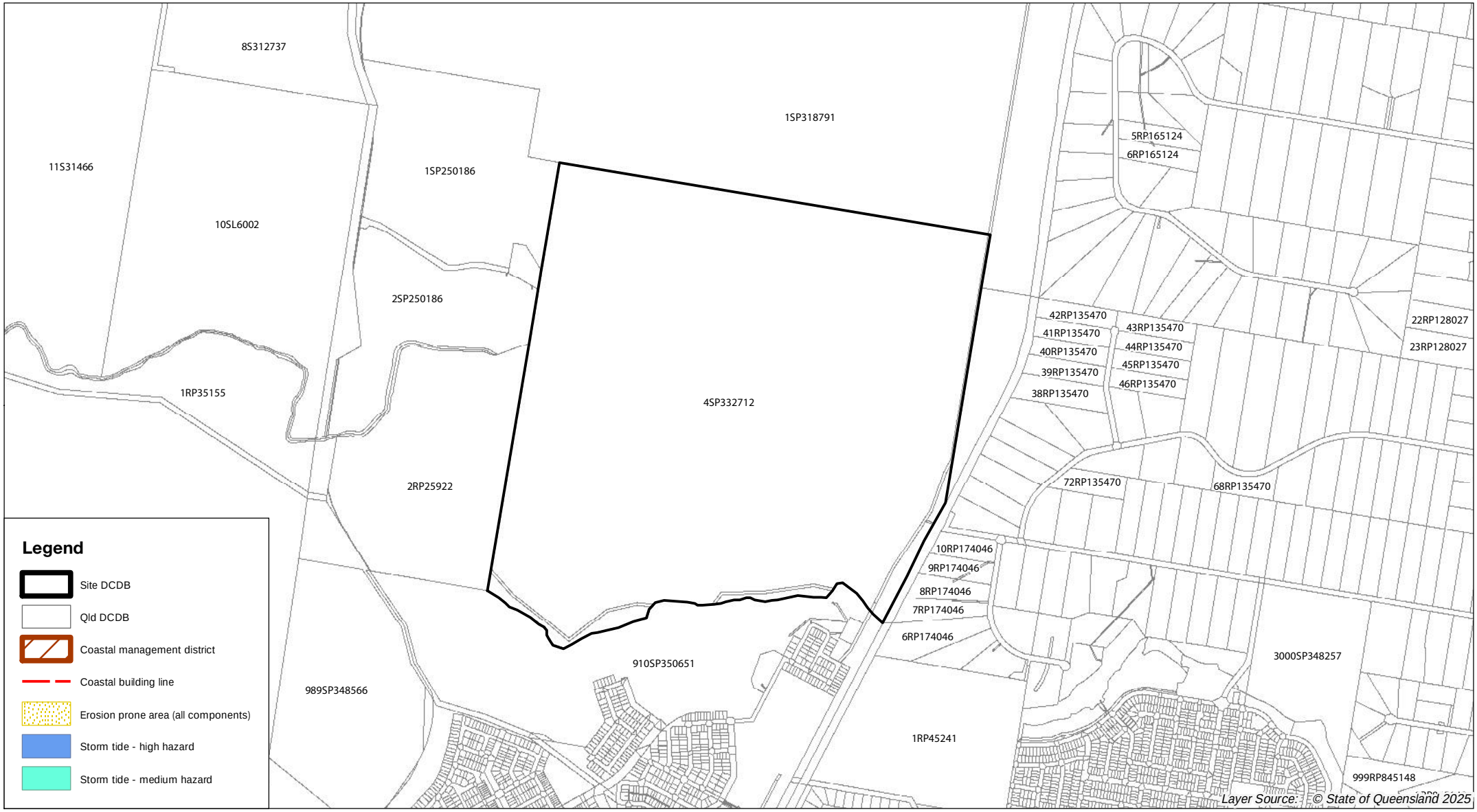
Map 15. SPP - Water Quality



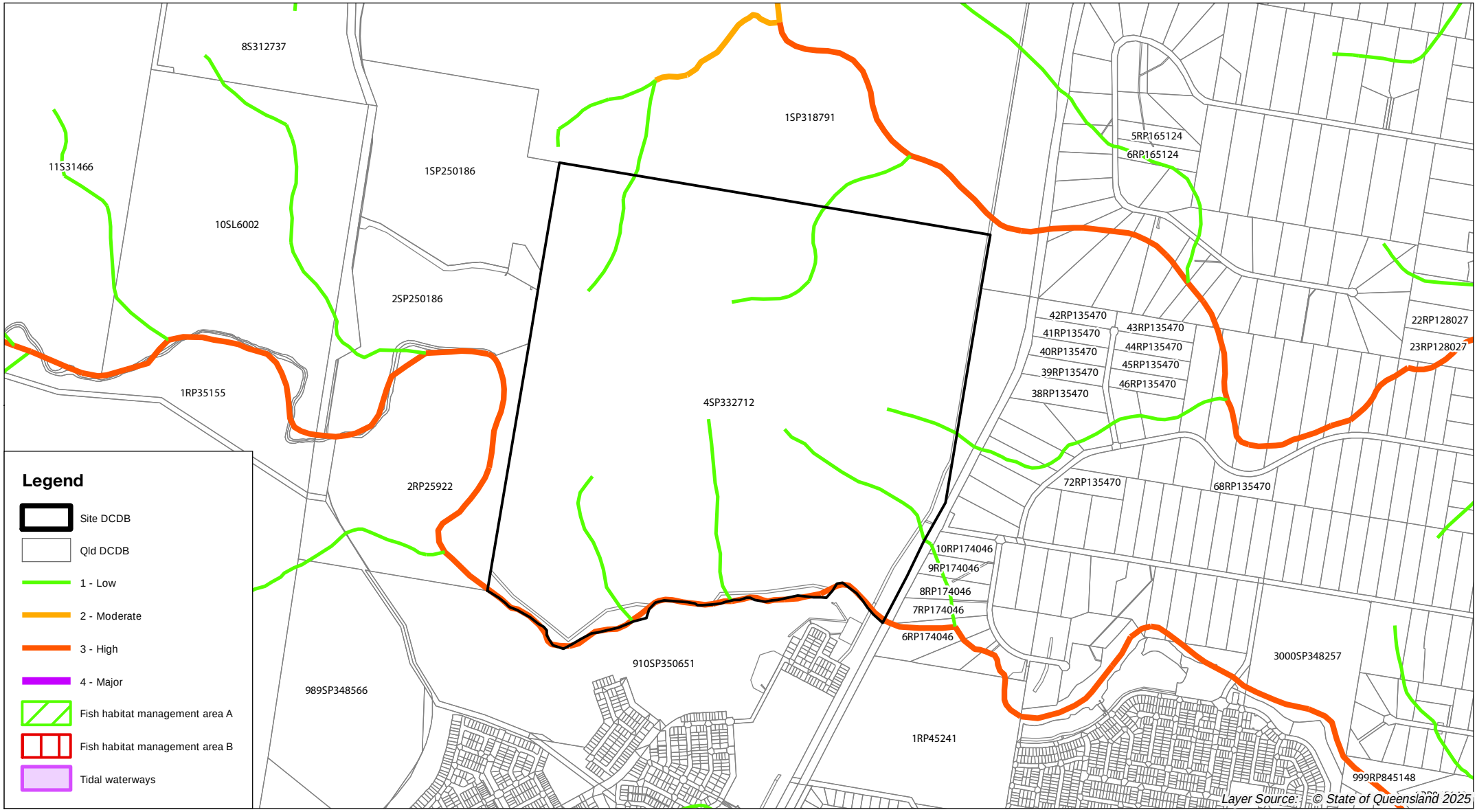
Map 16. SPP - Natural Hazards Risk and Resilience



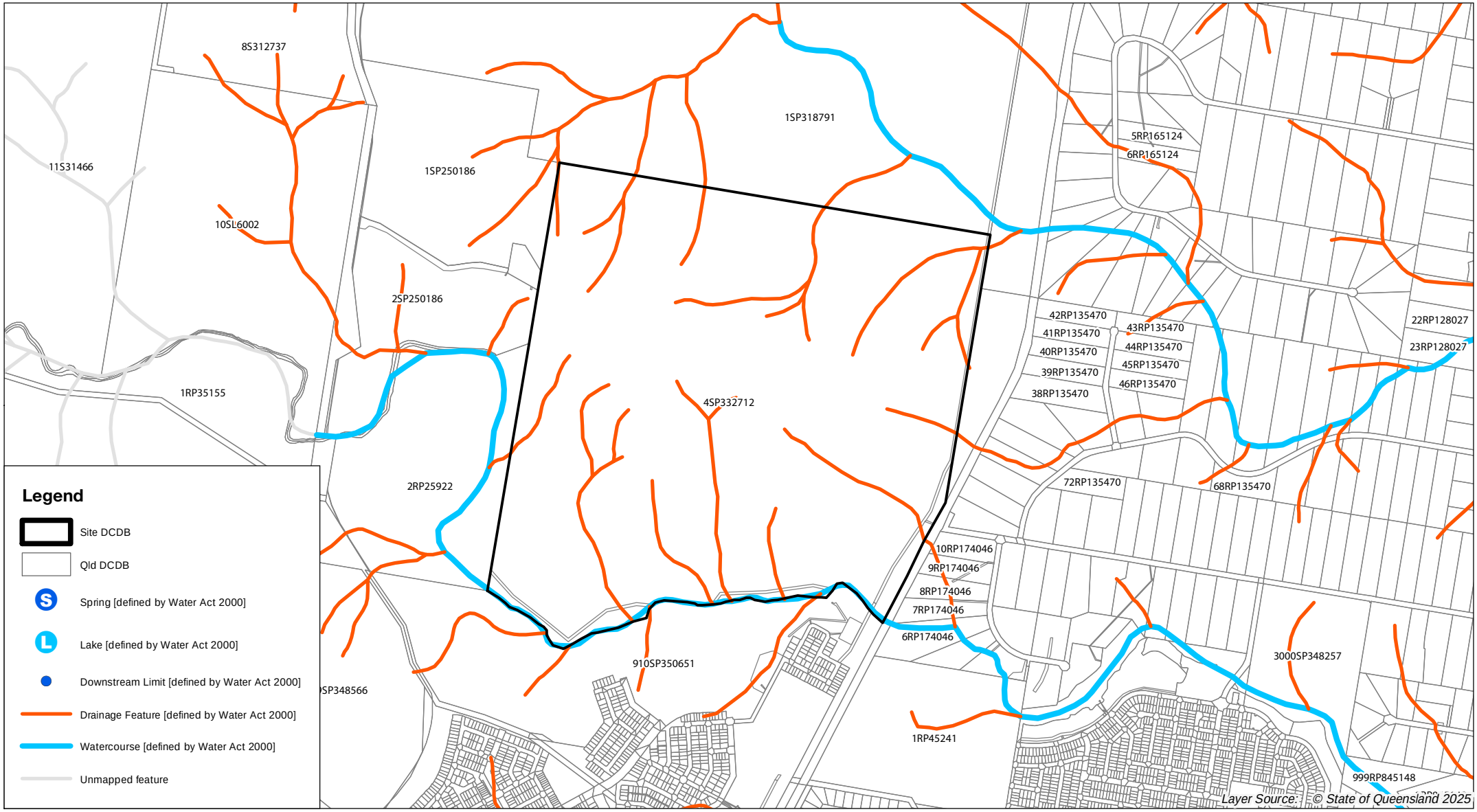
Map 17. DAMS - Coastal Protection



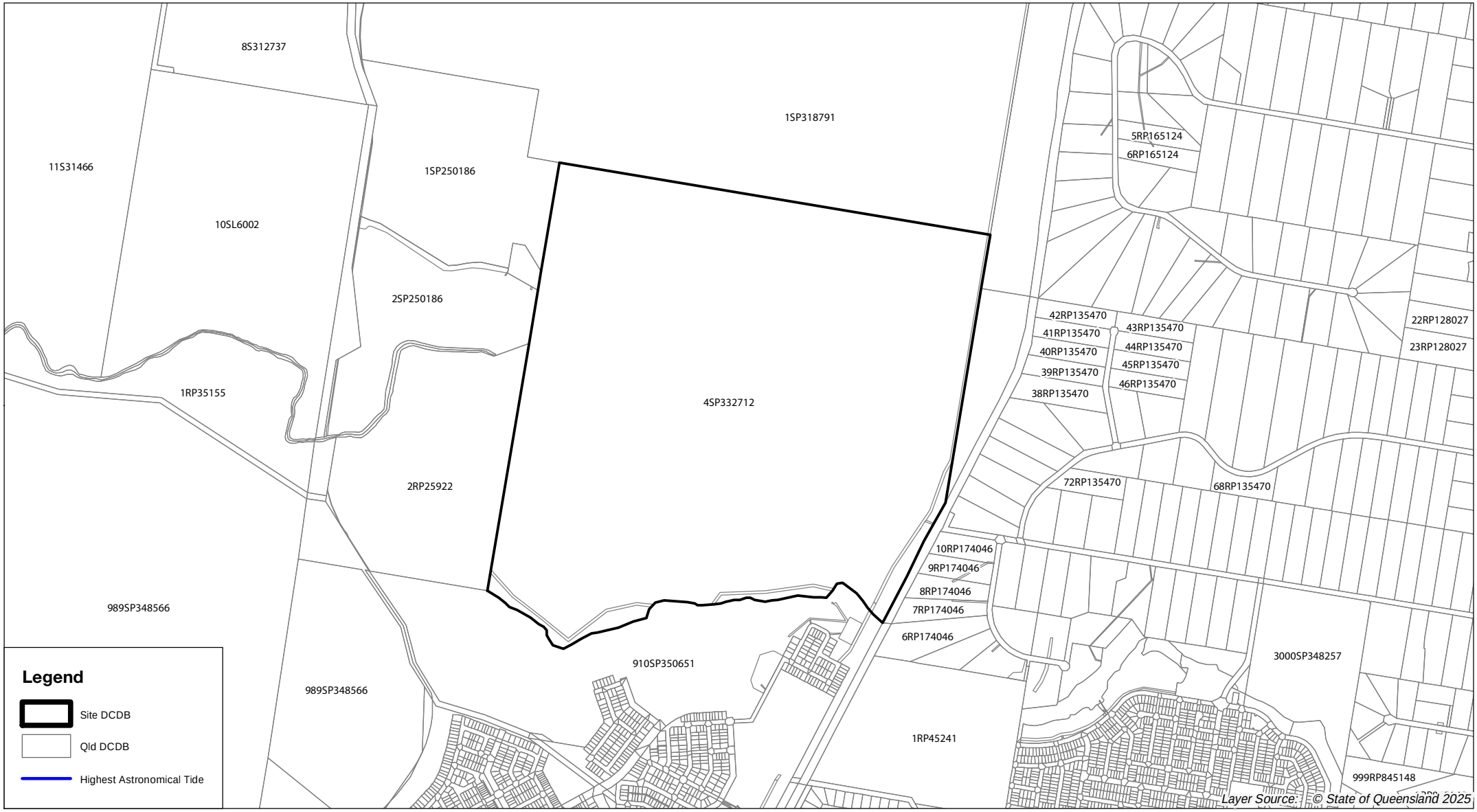
Map 18. DAMS - Fish Habitat Areas



Map 19. Water Act 2000



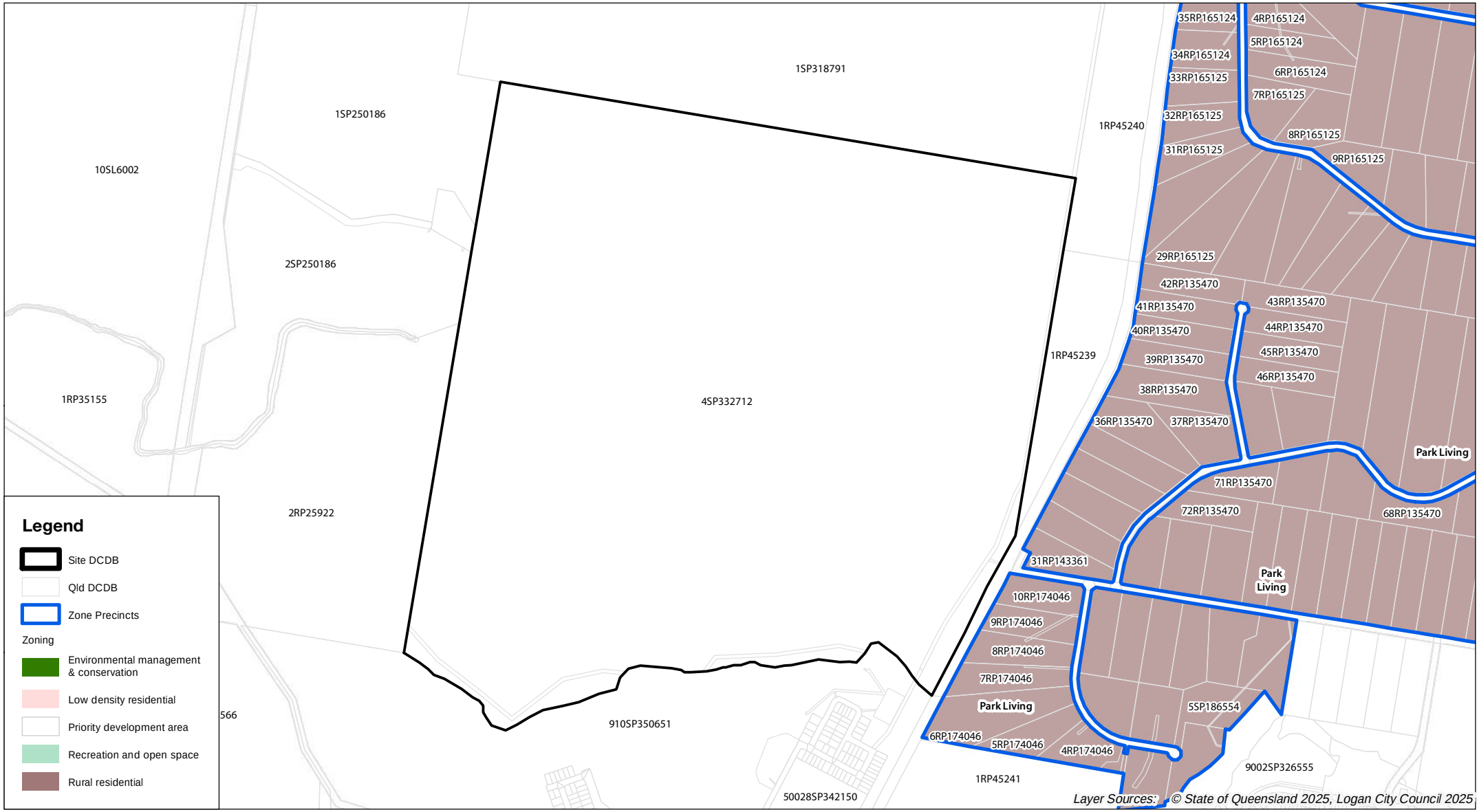
Map 20. Highest Astronomical Tide



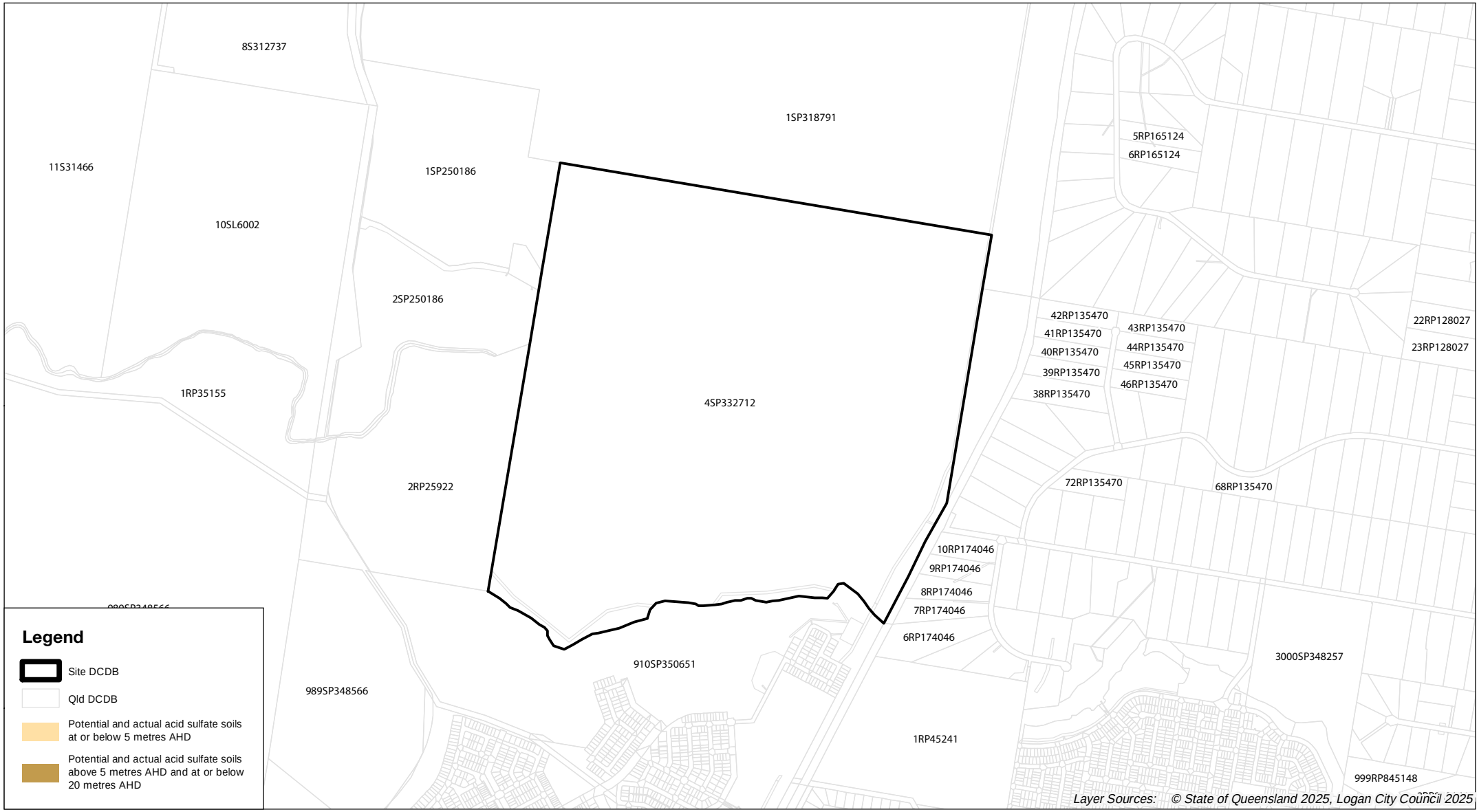
Local matters – Logan City Council

J10941 (30 June 2025)

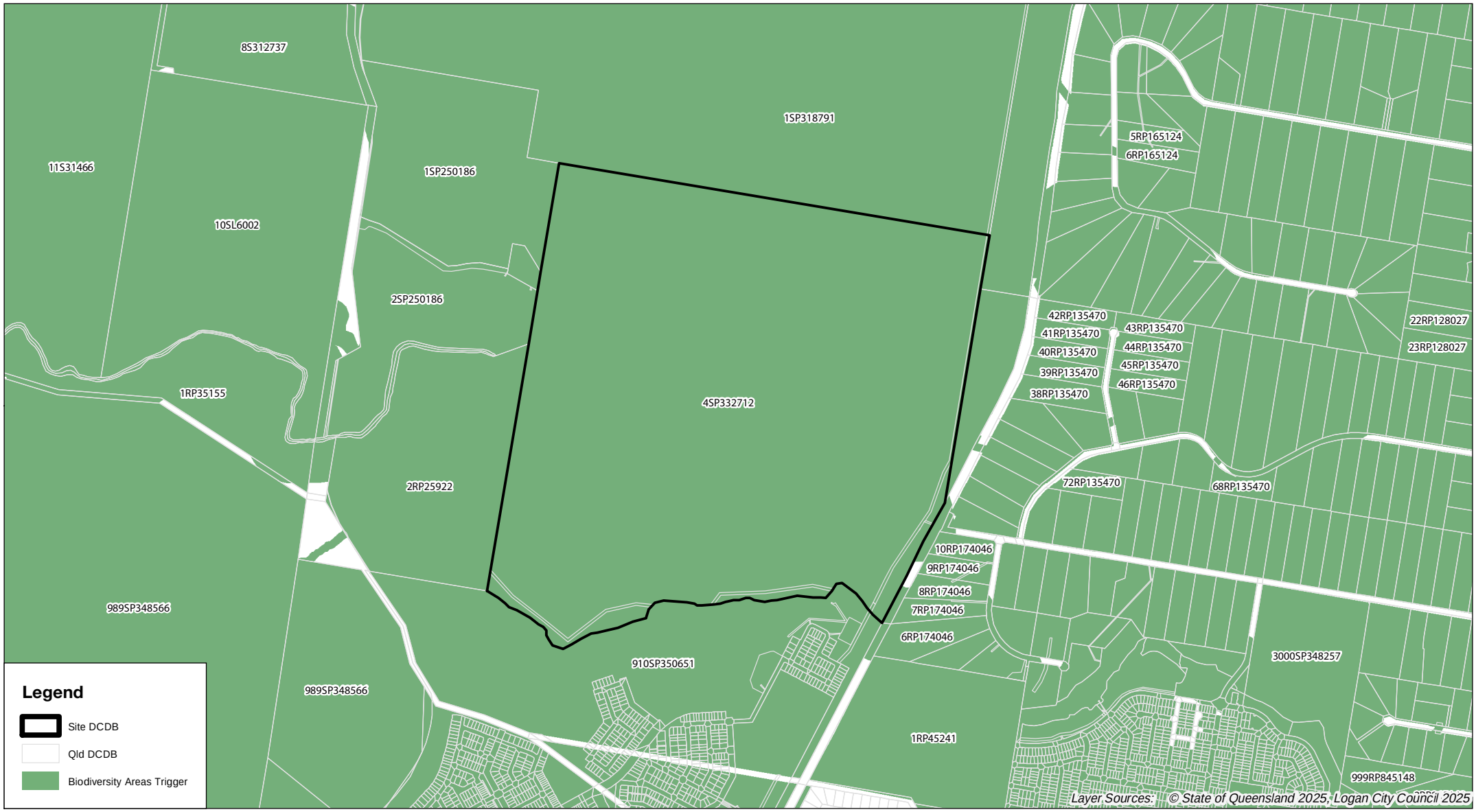
Map 21. Logan City Council Zoning



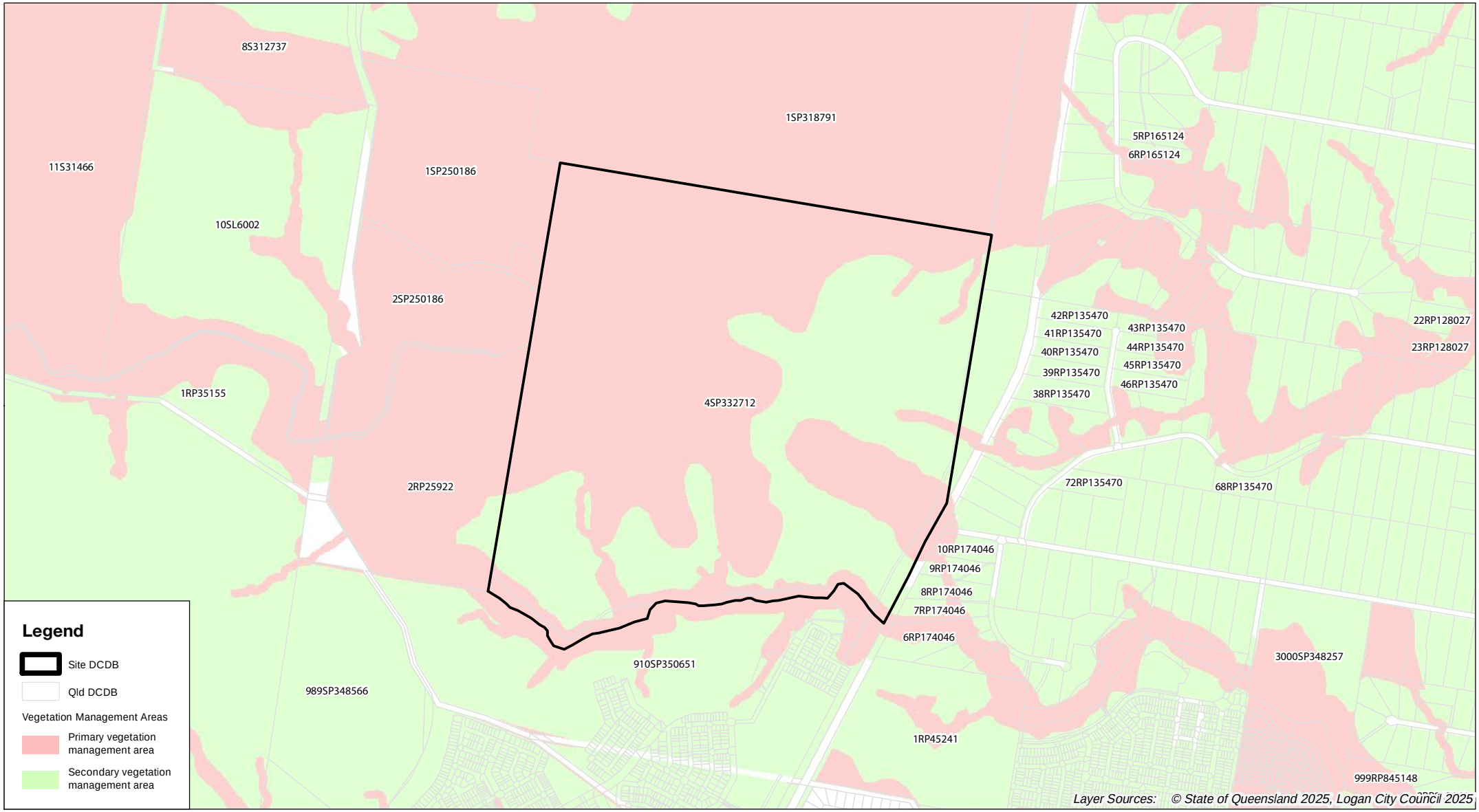
Map 22. Acid Sulfate Soils



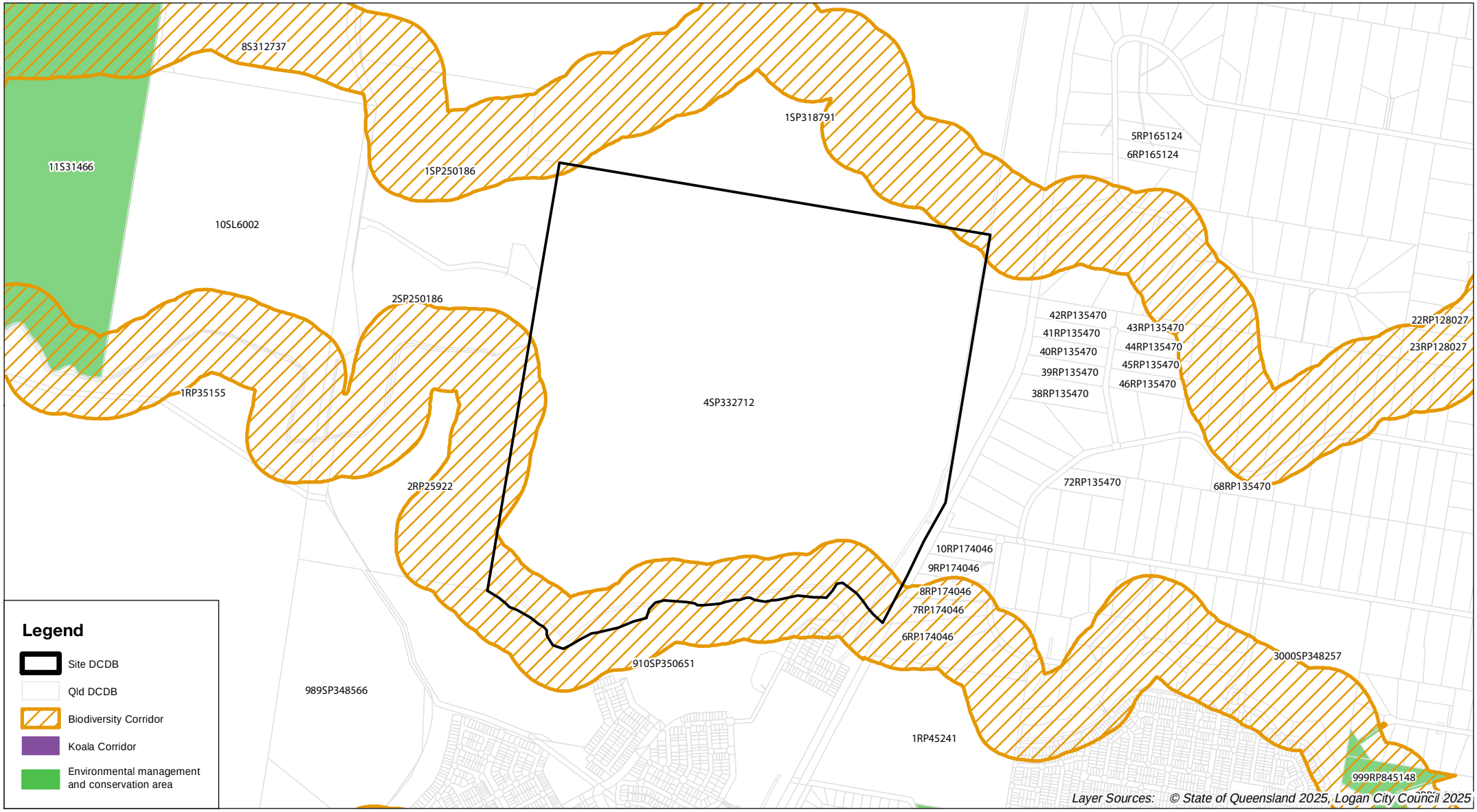
Map 23. Biodiversity Areas Trigger



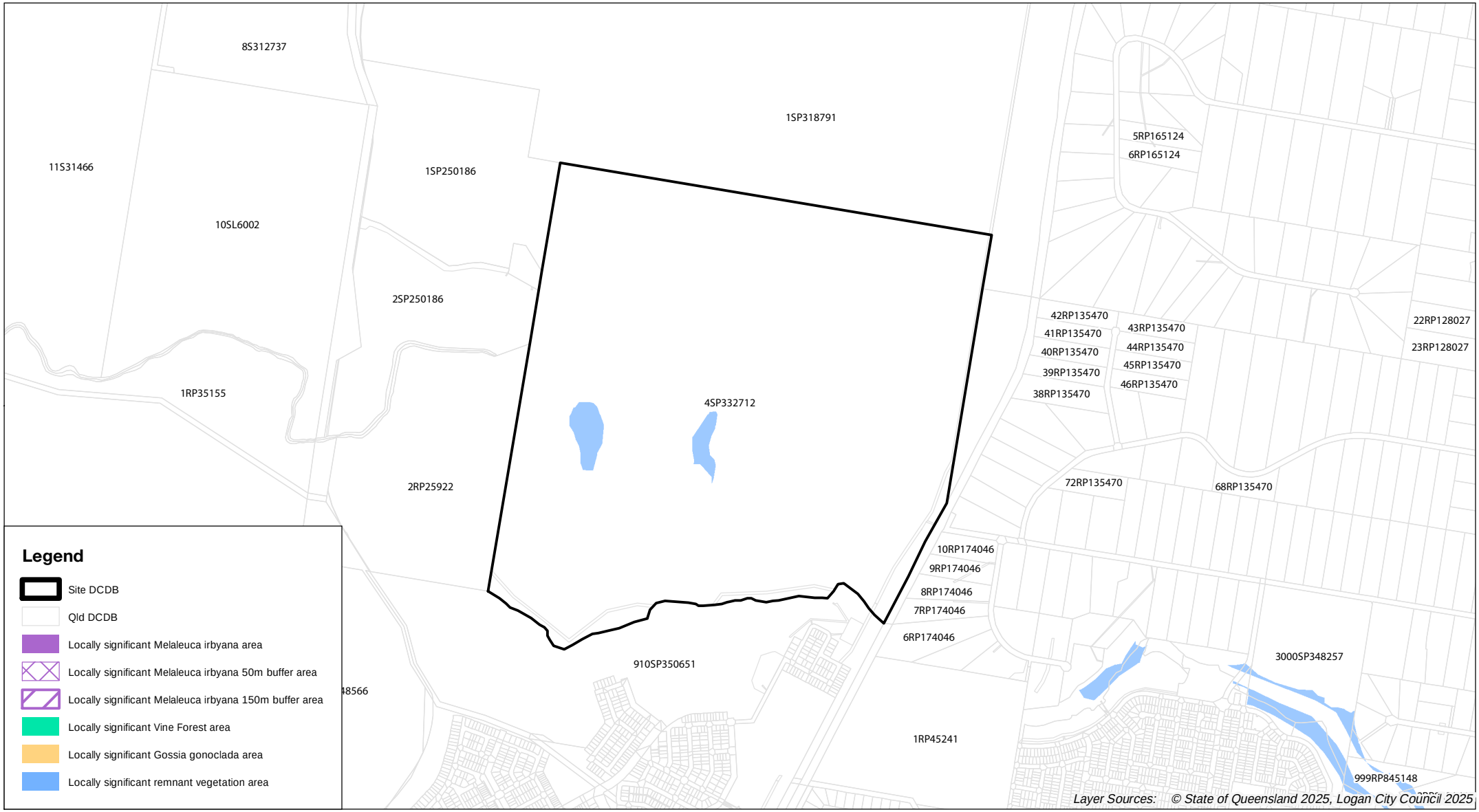
Map 24. Vegetation Management Areas



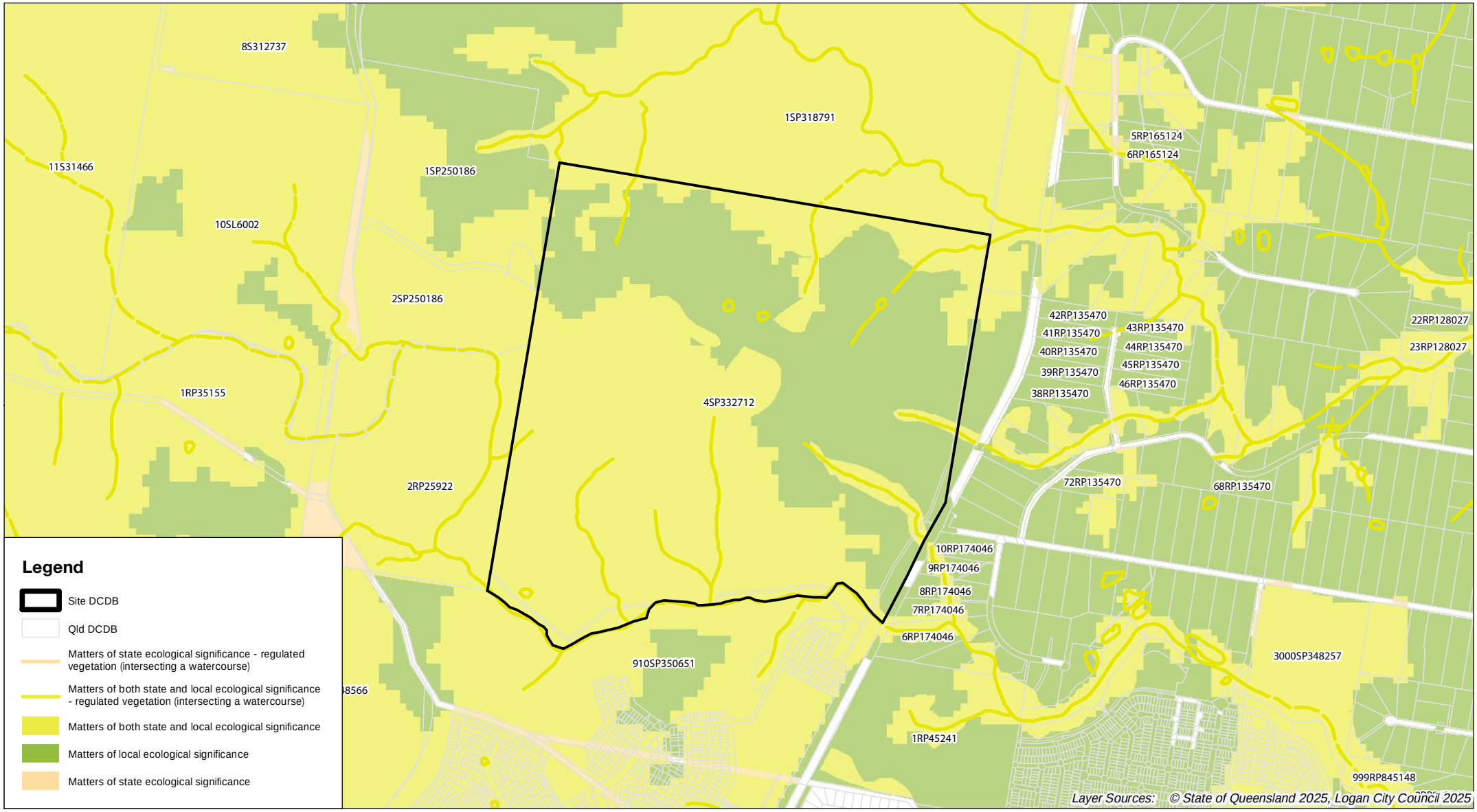
Map 25. Biodiversity Corridors



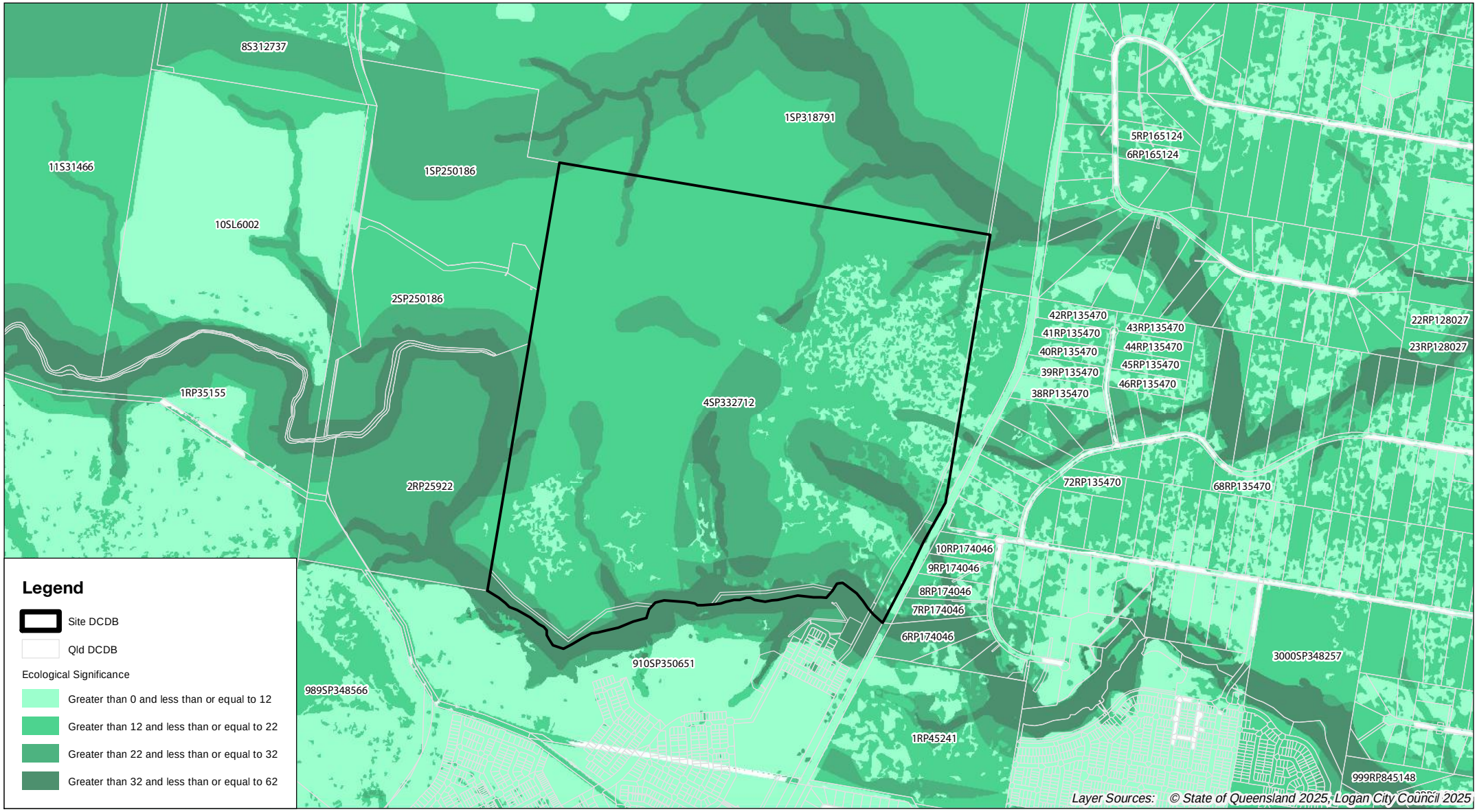
Map 26. Locally Significant Vegetation



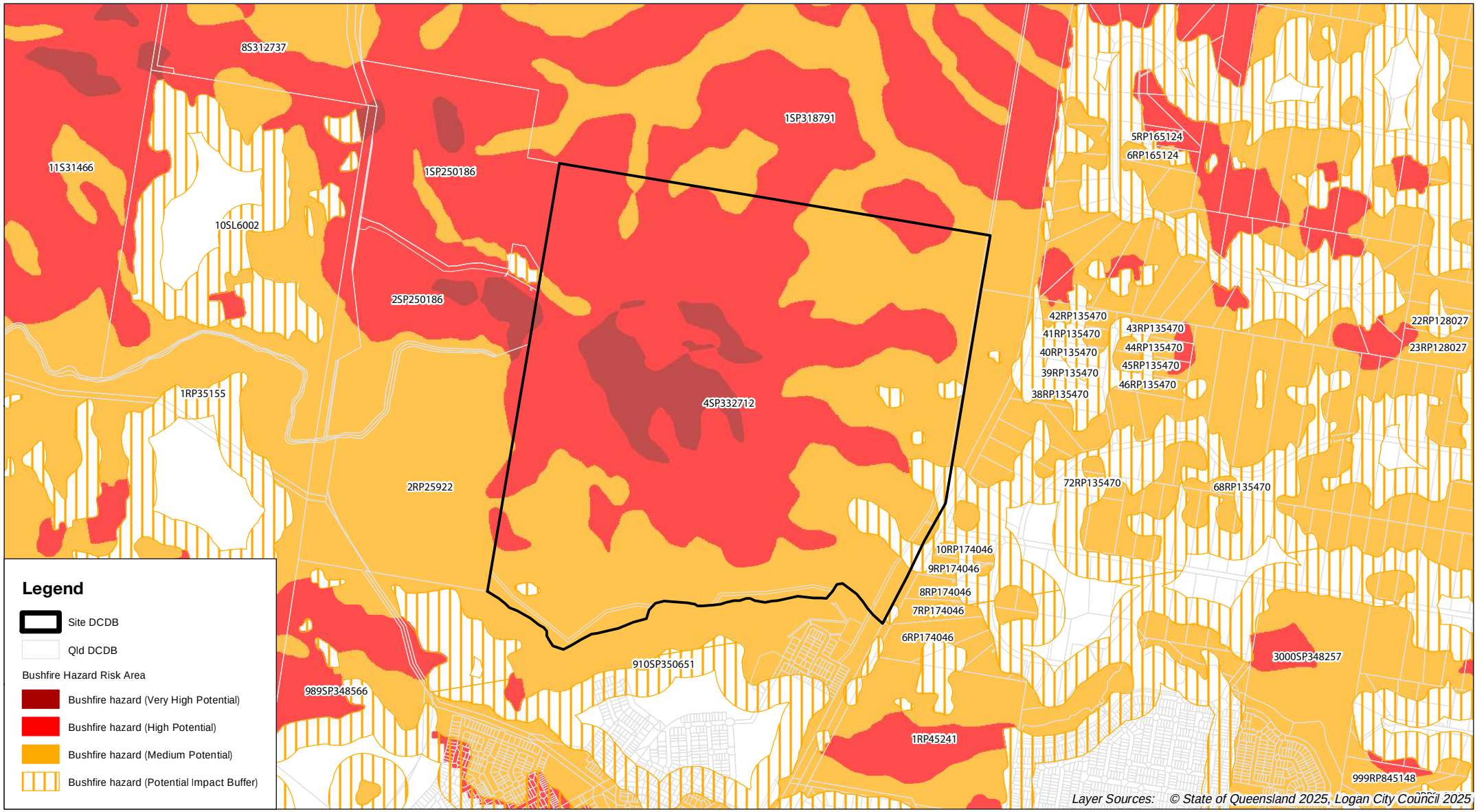
Map 27. Matters of State and Local Significance



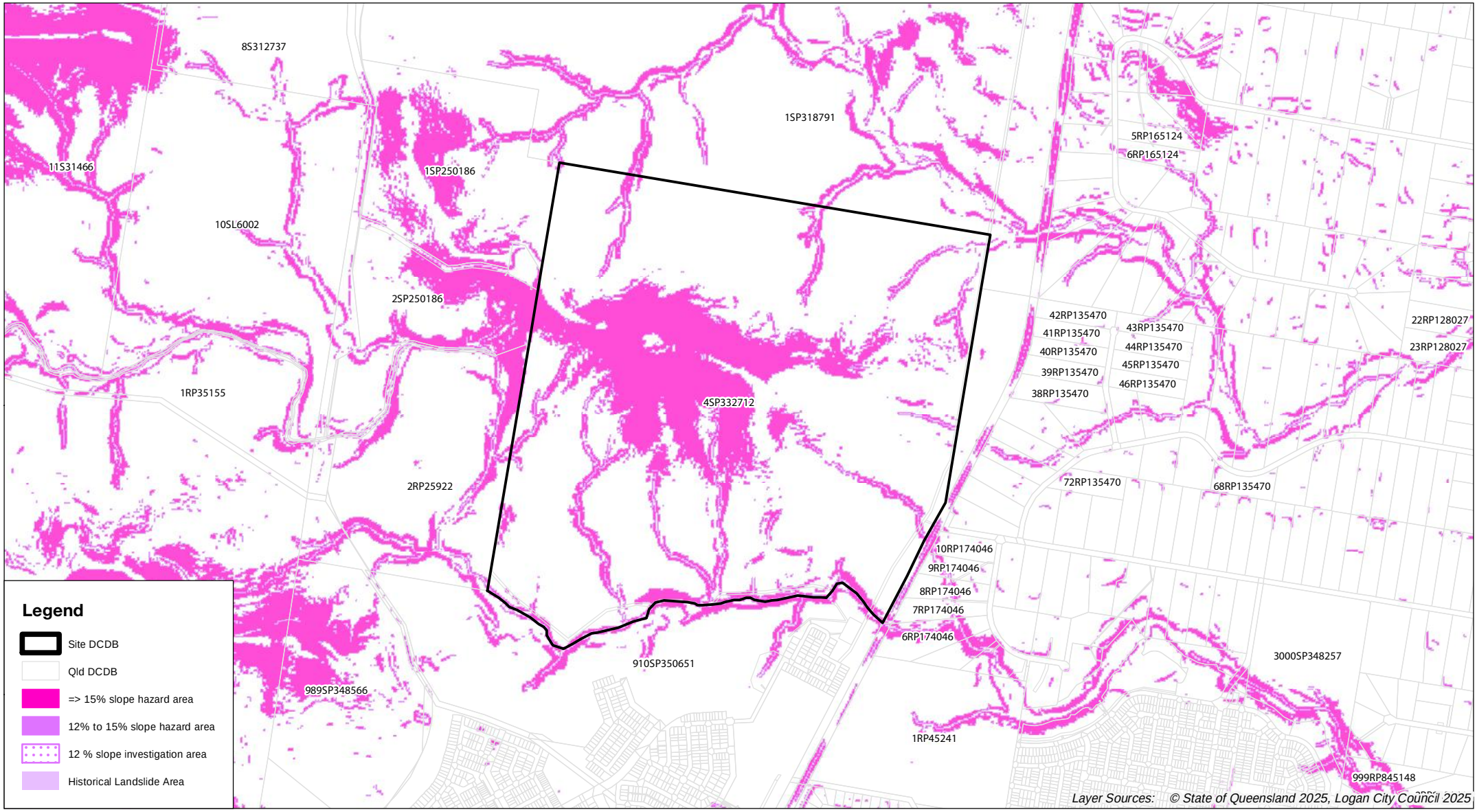
Map 28. Ecological Significance



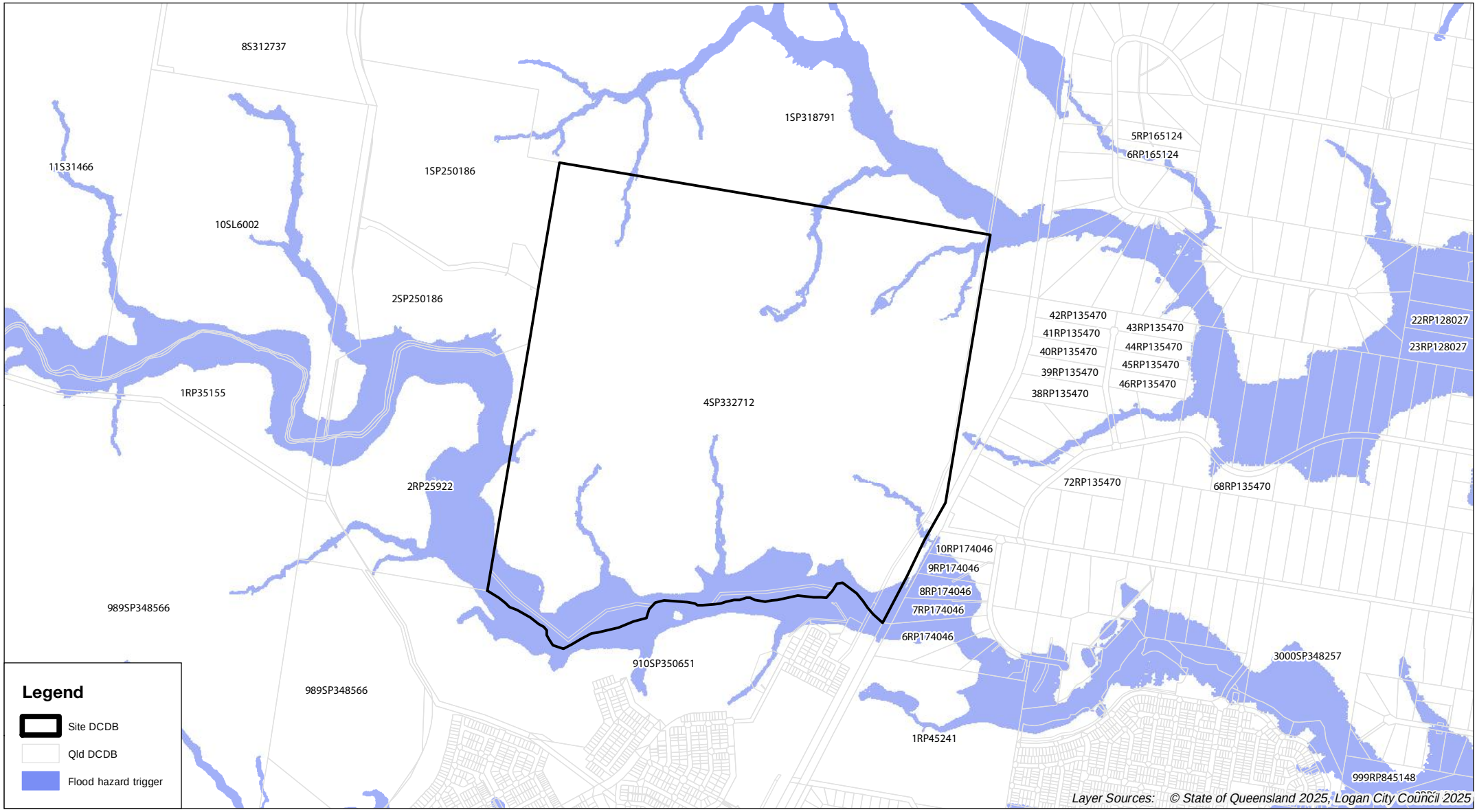
Map 29. Bushfire Hazard



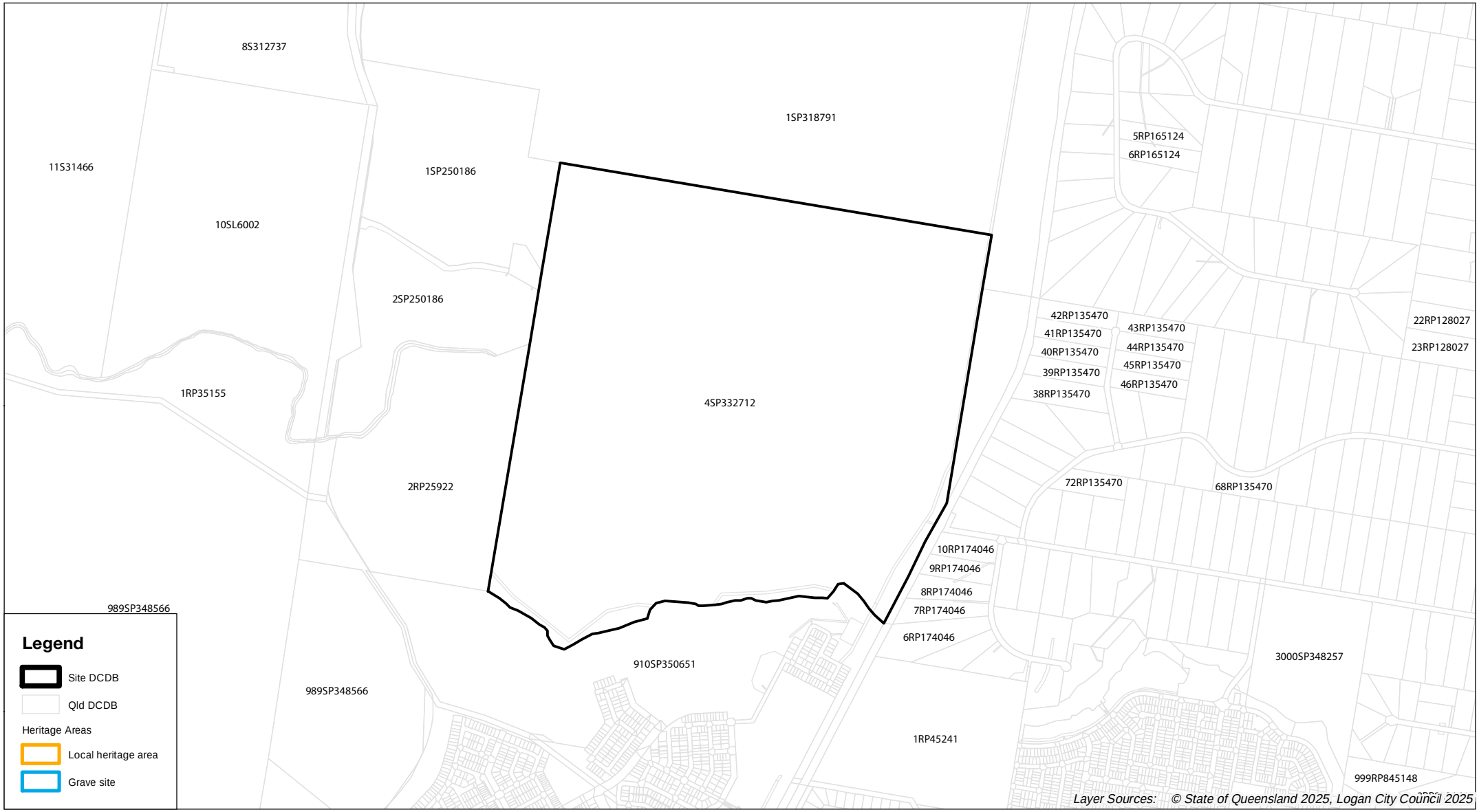
Map 30. Landslide Hazard



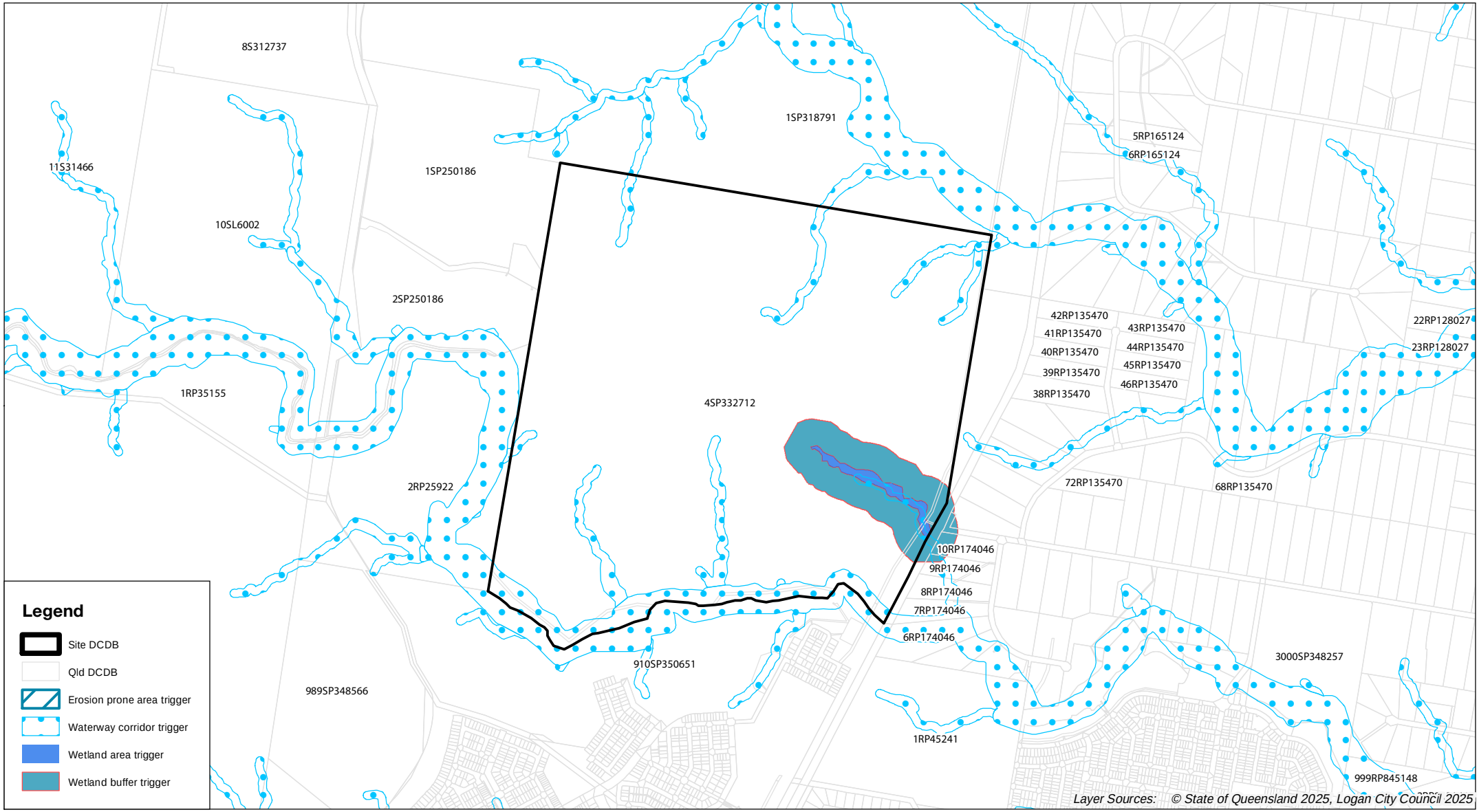
Map 31. Flood Hazard



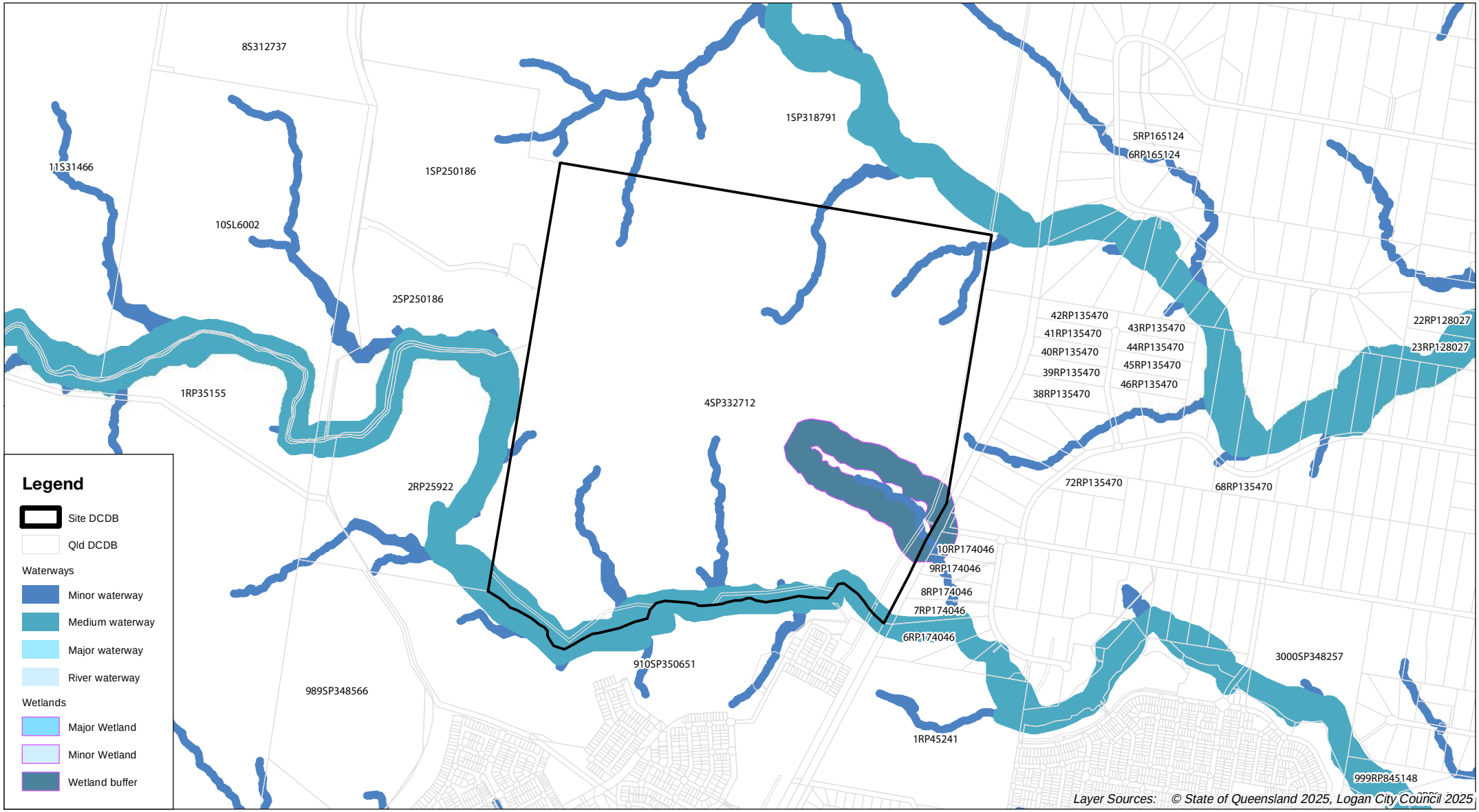
Map 32. Bushfire Hazard



Map 33. Waterway Triggers



Map 34. Waterways and Wetlands



Appendix B

EPBC Act Protected Matters Report

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: 18-Sep-2025

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:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	8
Listed Threatened Species:	53
Listed Migratory Species:	12

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:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	23
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:	2
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	32
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [Resource Information]

Ramsar Site Name	Proximity	Buffer Status
Moreton bay	20 - 30km upstream from Ramsar site	In feature area

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
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 likely to occur within area	In feature area
Grey box-grey gum wet forest of subtropical eastern Australia	Endangered	Community likely to occur within area	In feature area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area	In feature area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area	In feature area
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	Critically Endangered	Community likely to occur within area	In buffer area only
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	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

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may 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
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Geophaps scripta scripta](#) Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area
[Grantiella picta](#) Painted Honeyeater [470]	Vulnerable	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
[Lathamus discolor](#) Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
[Stagonopleura guttata](#) Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
[Turnix melanogaster](#) Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
FISH			
[Maccullochella mariensis](#) Mary River Cod [83806]	Endangered	Translocated population known to occur within area	In buffer area only
INSECT			
[Argynnis hyperbius inconstans](#) Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area	In feature area
MAMMAL			
[Chalinolobus dwyeri](#) Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[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
[Petauroides volans](#)			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely 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 buffer area only
[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
[Potorous tridactylus tridactylus](#)			
Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area	In feature area
[Pseudomys novaehollandiae](#)			
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Pteropus poliocephalus](#)			
Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
[Arthraxon hispidus](#)			
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Bosistoa transversa](#)			
Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Coleus habrophyllus listed as Plectranthus habrophyllus](#)			
[91378]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis tomentella Boonah Tuckeroo [3322]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fontainea venosa [24040]	Vulnerable	Species or species habitat may occur within area	In feature area
Leuzea australis listed as Rhaponticum australe Austral Cornflower, Native Thistle [9363]	Vulnerable	Species or species habitat may occur within area	In feature area
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area	In feature area
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Notelaea x ipsviciensis listed as Notelaea ipsviciensis Cooneana Olive [93460]	Critically Endangered	Species or species habitat may occur within area	In feature area
Picris evae Hawkweed [10839]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Planchonella eerwah			
Shiny-leaved Condoo, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat likely to occur within area	In feature area
Rhodamnia rubescens			
Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rhodomyrtus psidioides			
Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In feature area
Samadera bidwillii			
Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Thesium australe			
Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
REPTILE			
Coeranoscincus reticulatus			
Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Delma torquata			
Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
Furina dunmalli			
Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area
Hemiaspis damelii			
Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area	In feature area

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			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[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
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Pandion haliaetus](#) Osprey [952]		Species or species habitat may occur within area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area
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]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 likely to occur within area overfly marine area	In feature area
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 may 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
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area	In feature area
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Sterna striata			
White-fronted Tern [799]		Migration route may occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In feature area
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	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
A and T Koala Billabong	Nature Refuge	QLD	In buffer area only
Koolena	Nature Refuge	QLD	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
130 Tully Road, New Beith, Residential Development	2020/8848		Completed	In buffer area only
Construction and Operation of Small Lot Industrial Development	2024/10069		Assessment	In buffer area only
DT0018 Matt Court Wastewater Conveyance	2023/09529		Completed	In buffer area only
Industrial Development	2023/09607		Assessment	In buffer area only
Kagaru Residential Development	2024/10083		Assessment	In buffer area only
Kagaru to Acacia Ridge and Bromelton Inland Rail Project	2021/8927		Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Mirvac Greater Flagstone Project - Master Planned Development, Greenbank, Qld	2016/7817		Post-Approval	In buffer area only
New Beith Road Upgrade	2023/09505		Assessment	In buffer area only
Proposed Industrial Development at North Maclean	2022/09304		Approval	In buffer area only
Controlled action				
130 Tully Road New Beith Residential Development v2	2021/8904	Controlled Action	Assessment Approach	In buffer area only
Bushman Drive Residential Development, Jimboomba, Qld	2018/8376	Controlled Action	Further Information Request	In buffer area only
Casino Ipswich Pipeline	2007/3877	Controlled Action	Completed	In buffer area only
Cedar Grove Connector Pipeline	2011/6013	Controlled Action	Completed	In buffer area only
Crowson Lane Road Upgrade	2021/9084	Controlled Action	Assessment Approach	In buffer area only
Flagstone West Urban Development Project, QLD	2014/7206	Controlled Action	Post-Approval	In feature area
Greater Flagstone master planned residential development, Undullah, Qld	2015/7530	Controlled Action	Post-Approval	In buffer area only
Industrial Development in the Greater Flagstone Urban Development Area 4499-4651 Mount Lindesay Hwy,	2013/6941	Controlled Action	Post-Approval	In buffer area only
Residential Development, Lot 4 RP45728, New Beith, Qld	2019/8398	Controlled Action	Further Information Request	In feature area
Residential development, Lots 3, 200 and 1, approx 6.5km SW Undullah, Qld	2016/7772	Controlled Action	Further Information Request	In buffer area only
Residential development, Teviot Road, north Beaudesert, Qld	2016/7724	Controlled Action	Post-Approval	In buffer area only
Residential Development (Lot30, SP309195) Mountain Ridge Rd, South Maclean, Qld	2019/8408	Controlled Action	Post-Approval	In buffer area only
Southern Regional Water Pipeline	2006/2593	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Tarnbrae Greater Flagstone Residential Development, New Beith, QLD	2019/8412	Controlled Action	Further Information Request	In feature area
Teviot Downs Residential Estate, Greenbank	2011/6106	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Construction and upgrade of approximately 7km of external road corridor, Flagstone, Qld	2014/7319	Not Controlled Action	Completed	In buffer area only
Flagstone Central to Cedar Grove WWTP Conveyance Pipeline	2018/8190	Not Controlled Action	Completed	In feature area
Greenbank to Flagstone Central Conveyance Pipeline Project, Qld	2018/8344	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
South West Pipeline and Wyaralong Tanks Project, Qld	2018/8320	Not Controlled Action	Completed	In buffer area only
Spring Mountain Park rural residential estate, stages 15-18, Greenbank/New Beith, Qld	2013/7030	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Construction & Operation 275/330kV Transmission Line	2006/2820	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Residential subdivision 348-434 Cusack Lane, Jimboomba, Qld	2015/7617	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only

Bioregional Assessments			[Resource Information]
SubRegion	BioRegion	Website	Buffer Status
Clarence-Moreton	Clarence-Moreton	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 is 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 on the contents of this report.

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 point locations and environmental data layers.

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 when time permits.

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 breeding sites; and
- 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

NCA Wildlife Online Search Results

Queensland Government **WildNet**

Species & Sightings Search

Find a specific species, or a list of species based on location, status or taxonomy.

▼ Edit search filters

Species

Scientific name, common name or part of these names

Sensitive species: All

Conservation significant: Yes

Sighting Vetting stage: Confirmed records

Sighting Record period: Records since 1980

Location search by: Specified Central Point

Latitude: -27.7822
between -9 and -30
e.g. -25.5083

Longitude: 152.951
between 138 and 156
e.g. 146.5042

Distance (km): 5
between 1 and 100 kilometres
e.g. 30

Apply search filters | Clear all search filters | Show advanced search filters

SPECIES | SIGHTINGS

EXPORT AS CSV

Taxon ID	Kingdom	Class	Family	Scientific name	Common name	Superseded	NCA	EPBC	Conservation significant	Establishment	Sensitive species	Area survey lists	Sighting records	Specimen records	Total sightings
1971	Animalia	Aves	Apodidae	Hirundapus caudacutus	white-throated needletail	No	V	V	Yes	QAI			1	0	1
22494	Animalia	Aves	Cacatuidae	Calyptorhynchus lathami lathami	glossy black-cockatoo (eastern)	No	V	V	Yes	QA			1	0	1
1107	Animalia	Aves	Strigidae	Ninox strenua	powerful owl	No	V		Yes	QA			2	0	2
875	Animalia	Mammalia	Petauridae	Petaurus australis australis	yellow bellied glider (southern subspecies)	No	V	V	Yes	QA			2	0	2
860	Animalia	Mammalia	Phascolarctidae	Phascolarctos cinereus	koala	No	E	E	Yes	QA			94	0	94
2455	Animalia	Mammalia	Pseudocheiridae	Petauroides volans volans	southern greater glider	No	E	E	Yes	QA			1	1	1
962	Animalia	Mammalia	Pteropodidae	Pteropus poliocephalus	grey-headed flying-fox	No	C	V	Yes	QA			2	0	2
838	Animalia	Mammalia	Tachyglossidae	Tachyglossus aculeatus	short-beaked echidna	No	SL		Yes	QAI			2	0	2
13434	Plantae	Equisetopsida	Hydrocharitaceae	Najas marina		No	SL		Yes	NTQ			1	1	1
14365	Plantae	Equisetopsida	Hydrocharitaceae	Najas tenuifolia	water nymph	No	SL		Yes	NTQ			1	1	1

Appendix D

Likelihood of Occurrence Assessment

Likelihood of occurrence	Assessment criteria[1]
Unlikely	One or more of: • The investigation area is beyond the known geographic range of the species. • The investigation area does not contain critical habitat types[2] or resources known to be utilized by the species during any stage of its lifecycle. • The investigation area is highly disturbed[3]. • For plant, mammal and reptile species - no contemporary[4] species observations or records of use within 5 km of the investigation area. • For avian and bat species - no contemporary species observations or records of use within 20 km of the investigation area.
Possible	For plant, mammal and reptile species - There are contemporary species observations or records of use within 5 km of the investigation area, and it contains habitat types or resources known to be utilized by the species. For avian and bat species - There are contemporary species observations or records of use within 20 km of the investigation area, and it contains habitat types or resources known to be utilized by the species. OR There are contemporary species observations or records of use more than 5 km but within 20 km of the investigation area and the following criteria are met: • The investigation area contains habitat types or resources known to be utilized by the species; AND • No major barriers to dispersal[5] for the species exist between the location of the record and the investigation area.
Known / Likely	There are contemporary species records within 2 km of the investigation area and the following criteria are met: • The investigation area contains critical habitat types or resources known to be utilized by the species; AND • No major barriers to dispersal for the species between the location of the record and the investigation area. OR There are multiple contemporary species records within the investigation area and the site has not been highly disturbed after the records. OR Species was observed or records of use identified during field surveys within or adjacent to the investigation area.

[1] Criteria should be used as a guide only. Site- and species-specific factors should be considered by the assessment.

Listed Wetlands of International Importance

Matters of National Environmental Significance					
Wetlands of National Importance					
Name	Status	Type of presence	Description of the community/preferred habitat	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
MORETON BAY				20 - 30km upstream from Ramsar site	

[2] As defined by the species conservation advice or recovery plan.
[3] Contains minimal vegetation cover with a land use incompatible with conservation such as development, extractive industries, agriculture or intensive grazing.
[4] Within 20 years of the date of the assessment.
[5] Barriers to dispersal will be species specific, but for tree or ground dwelling fauna may include major roads with no fauna crossing features or dense development.

Matters of National Environmental Significance					
Threatened Ecological Communities					
Name	Status	Type of presence	Description of the community/preferred habitat	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Grey box-grey gum wet forest of subtropical eastern Australia	E	Likely	The canopy of this TEC always contains *Eucalyptus moluccana* (Grey Box) and/or a grey gum species (*E. propinqua* (Small-Fruited Grey Gum) and/or less commonly *E. punctata* (Grey Gum)). Other canopy species often present include *E. siderophloia* (Grey Ironbark) and/or *Araucaria cunninghamii* (Hoop Pine). In some areas any of these canopy species may be locally dominant. This TEC has an understorey typically with drier vine-forest/rainforest flora (often including vines and lianas). Regional ecosystems typically associated with this community are RE 12.9-10.3, RE 12.8.14a and RE 12.8.8a.	Desktop analysis has identified that RE12.9-10.3 is mapped as being present on-site. No other RE associated with this TEC were identified.	Possible
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	Likely	Box – Gum Grassy Woodlands and Derived Grasslands are characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs, and the dominance, or prior dominance, of White Box, Yellow Box or Blakely's Red Gum trees. In Queensland the ecological community is a primary component of the following Regional Ecosystems: 11.8.2a, 11.8.8, 11.9.9a, 13.3.1, 13.11.8, 13.12.8 and 13.12.9. It can also be a smaller component of the following regional ecosystems: 11.3.23, 12.8.16 (only at the far western edge of the bioregion), 13.3.4, 13.11.3 and 13.11.4. These regional	Desktop analysis has not identified any of the associated RE within this TEC as being mapped on-site	Unlikely

			ecosystems range in conservation status from 'not of concern at present' to 'endangered'.		
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	CE	Likely	Low open forest dominated by dense thickets of Swamp Teatree, usually growing to about 8-12 m high. In south-east Queensland, Swamp Tea-tree occurs in monotypic stands uniquely linked to Tea Tree Clay soils which drain slowly after heavy rains, becoming waterlogged and forming temporary ponds. This ecological community comprises Queensland regional ecosystems 12.9-10.11 (Land Zone 9-10) and 12.3.3c (Land Zone 3) which are listed as endangered under the VMA.	Desktop analysis has not identified any of the associated RE within this TEC as being mapped on-site	Unlikely
Poplar Box Grassy Woodland on Alluvial Plains	E	May	The Poplar Box Grassy Woodland on Alluvial Plains ecological community is typically a grassy woodland with a canopy dominated by Eucalyptus populnea and understorey mostly of grasses and other herbs. The ecological community mostly occurs in gently undulating to flat landscapes and occasionally on gentle slopes on a wide range of soil types of alluvial and depositional origin. In Queensland, this TEC corresponds with 11.3.2, 11.3.17, 11.4.7, 11.4.12 and 12.3.10.	Desktop analysis has not identified any of the associated RE within this TEC as being mapped on-site	Unlikely
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland	E	May	In Queensland, this ecological community coincides with two regional ecosystem communities including Of Concern RE12.1.1 (*Casuarina glauca* +/- mangroves woodland) as well as areas where the canopy is dominated by *Casuarina glauca* within 12.3.20 (*Melaleuca quinquenervia*, *Casuarina glauca* +/- *Eucalyptus tereticornis, Eucalyptus siderophloia* open forest on low coastal alluvial plains).	Desktop analysis has not identified any of the associated RE within this TEC as being mapped on-site	Unlikely

ecological community					
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	E	Likely	The Coastal Swamp Sclerophyll Forests of South-eastern Australia is a type of forest or scrub associated with freshwater (to brackish) wetlands on low-lying coastal areas. Several regional ecosystem communities coincide with this TEC, including Least Concern RE 12.2.7 (*Melaleuca quinquenervia* or rarely *M. dealbata* open forest on sand plains), Of Concern RE 12.3.4/12.3.4a (*Melaleuca quinquenervia, Eucalyptus robusta* woodland on coastal alluvium/*Eucalyptus bancroftii* open woodland often with *Melaleuca quinquenervia*), Least Concern RE 12.3.5 (*Melaleuca quinquenervia* open forest on coastal alluvium), Least Concern RE 12.3.6 (*Melaleuca quinquenervia +/- Eucalyptus tereticornis, Lophostemon suaveolens, Corymbia intermedia* open forest on coastal alluvial plain) and Endangered RE 12.3.20 (*Melaleuca quinquenervia, Casuarina glauca +/- Eucalyptus tereticornis, E. siderophloia* open forest on low coastal alluvial plain).	Desktop analysis has not identified any of the associated RE within this TEC as being mapped on-site.	Unlikely
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East	E	Likely	The Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions occurs in the New South Wales North Coast (NNC) and South Eastern Queensland (SEQ) IBRA bioregions and on Curtis Island in the Brigalow Belt North (BBN) IBRA Bioregion (DoE 2013). The ecological community is found on alluvial landforms, including floodplains, the riparian zones of parent rivers and other order tributaries, alluvial flats, floodplain/alluvial terraces and periodically flooded depressions. Components of this ecological community are	Desktop analysis identified the associated RE within this TEC as being mapped on-site	Possible

Queensland bioregions			recognised as endangered under this framework, including; RE 12.3.3, RE 12.3.3a, RE 12.3.3d, and RE 12.3.20.		
Lowland Rainforest of Subtropical Australia	CE	May	This TEC occurs mainly on basalt and alluvial soils and is characteristic of a low abundance of Eucalyptus, Melaleuca and Casuarina species. Specimens with buttress roots and a diversity of vines are common throughout this TEC. This community is usually associated Regional Ecosystems 12.3.1, 12.5.13, 12.8.3, 12.8.4, 12.8.13, 12.11.1, 12.11.10, 12.12.1, and 12.12.1.	Desktop analysis has not identified any of the associated RE within this TEC as being mapped on-site	Unlikely

Listed Threatened Species

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Bird							
Anthochaera phrygia	Regent Honeyeater	CE	CE	82338	Regent Honeyeaters mostly occur in dry Box-Ironbark Eucalypt woodland and dry sclerophyll forest associations in areas of low to moderate relief, wherein they prefer moister, more fertile sites. These areas are generally associated with creek flats and river valleys and foothills. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes. They are a generalist forager, which mainly feed on nectar from a wide range of eucalypts and mistletoes.	Possible 180 dated records within 20 km of site within past 20 years, 4 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has been reduced to unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
						Potential habitat to support this species is mapped as being present on-site.	
Botaurus poiciloptilus	Australasian Bittern	E	E	1001	The Australasian Bittern occurs in terrestrial wetlands and, rarely, estuarine habitats, mainly in the temperate south-east and south-west. It favours wetlands with tall dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and / or reeds or cutting grass growing over muddy or peaty substrate. The Australasian Bittern occurs in the far south-east of Queensland; it has been reported North to Baralaba and West to Wyandra, although in most years it is probably confined to a few coastal swamps. It is rarely recorded in Queensland, and possibly survives only in protected areas such as the Cooloola and Fraser regions.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo	V	-	67036	This species prefers woodland areas dominated by she-oak Allocasuarina, or open sclerophyll forests and woodlands with a stratum of Allocasuarina beneath Eucalyptus, Corymbia or Angophora. Glossy black-cockatoos have also	Possible 23 dated records within 20 km of site within past 20 years, 1	Unlikely Given this species has not been observed on-site

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
					been observed in mixed Allocasaurina, Casuarina, cypress Callitris and brigalow *Acacia harpophylla* woodland assemblages. In SEQ west of the Great Dividing Range, they have been observed feeding in remnant belah *Casuarina cristata* and bulloak *Allocasuarina luehmannii* forests. This species is also known to utilise appropriate remnant woodlands, and individual or small pockets of Allocasuarina and Casuarina feed trees in urban areas.	of which are within 5 km, 0 of which are within 2 km. 15 records without dates within 20 km.	over the extensive field surveys, the likelihood of occurrence has been reduced to unlikely.
Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)	V	V	67062	Found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species; also found in mallee and River Red Gum. It is less commonly found on coastal plains and ranges.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	CE	CE	59714	The Coxen's Fig Parrot occurs in rainforest habitats including subtropical rainforest, dry rainforest, littoral and developing littoral rainforest, and vine forest. Food is mainly taken from figs however other species fruit have been recorded in their diet including Elaeocarpus grandis,	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2	Unlikely Given this species has not been observed on-site over the extensive field surveys, the

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
					Syzygium corynanthum, Litsea reticulata and Grevillea robusta.	km. 0 records without dates within 20 km.	likelihood of occurrence has remained unlikely.
Erythrotriorchis radiatus	Red Goshawk	E	E	942	A wide ranging and highly mobile species generally observed over eucalypt habitats. This species prefers forest and woodland with a mosaic of vegetation types, large prey populations (birds) and permanent water. The vegetation types include eucalypt woodland, open forest, tall open forest, gallery rainforest, swamp sclerophyll forest and rainforest margins. Habitat has to be open enough for fast attack and manoeuvring in flight, but provide cover for ambushing of prey.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Falco hypoleucos	Grey Falcon	V	V	929	The Grey Falcon is a medium-sized, compact, pale falcon with a heavy, thick-set, deep-chested appearance. Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey. Preys primarily on birds, especially parrots and pigeons, using high-speed chases and stoops; reptiles and mammals are also taken. Like other falcons it utilises old nests of other birds of prey and ravens, usually high in a living eucalypt near water or a watercourse; peak laying season is in late	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
					winter and early spring; two or three eggs are laid. The nests chosen are usually in the tallest trees along watercourses, particularly River Red Gum (Eucalyptus camaldulensis) and Coolibah (E. coolabah).		
Geophaps scripta scripta	Squatter Pigeon (southern)	V	V	64440	This species inhabits open grasslands and woodlands typically with a native understorey although may occur in artificial pasture.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Grantiella picta	Painted Honeyeater	V	V	470	The species inhabits mistletoes in eucalypt forests/woodlands, riparian woodlands of black box and river red gum, box-ironbark-yellow gum woodlands, acacia-dominated woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens. The species prefers woodlands which contain a higher number of mature trees, as these host more mistletoes. It is more common in wider blocks of remnant woodland than in narrower strips.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Lathamus discolor	Swift Parrot	CE	E	744	The Swift Parrot breeds in Tasmania during spring to early summer. During autumn and winter the species migrates to the mainland where it follows a nomadic existence linked to the availability and timing of flowering of trees in various locations.	Possible 24 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 4 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has been reduced to unlikely.
Ninox strenua	Powerful Owl	-	V	-	Powerful owls prefer open forests and woodlands, as well as along sheltered gullies in wet forests with dense understoreys, especially along watercourses. The species are sometimes recorded in open areas near forests such as farmland, parks and suburban areas, as well as in remnant bushland patches. Powerful owls need old growth trees to nest.	Possible Five sightings of the species have been recorded via the ALA database since 1980.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has been reduced to unlikely.
Rostratula australis	Australian Painted Snipe	E	E	77037	The Australian Painted Snipe is usually found in shallow inland wetlands, either freshwater or brackish, that are either permanently or temporarily filled. The species has a	Unlikely 1 dated record within 20 km of site within	Unlikely Given this species has not been

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
					scattered distribution throughout many parts of Australia, with a single record from Tasmania.	past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 9 records without dates within 20 km.	observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Stagonopleura guttata	Diamond Firetail	V	V	59398	Diamond Firetails are found in open grassy woodland, heath and farmland or grassland with scattered trees.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Turnix melanogaster	Black-breasted Button-quail	V	V	923	Typical habitat occurs in dry rainforest and vegetation immediately adjacent to rainforest. However the species has also been recorded in a variety of low coastal heathlands around Fraser Island and nearby mainland. Deep leaf litter in which the species can forage appears to be particularly favoured.	Unlikely 6 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 2 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
						Habitat required for this species is not mapped as being present on-site.	occurrence has remained unlikely.
Fish							
Maccullochella mariensis	Mary River Cod	E	E	83806	Found in southeast Queensland in the Mary River system, their ideal habitat is described as deep, shaded, slow flowing pools with plenty of snags and log-piles.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Insect							
Argynnis hyperbius inconstans	Australian Fritillary	CE	E	88056	Most specimens have been collected from river estuaries or swampy coastal areas at or near sea level. The Australian fritillary butterfly is restricted to open, swampy, coastal areas where the larval food plant, Viola betonicifolia, grows as a small, insignificant ground herb in association with Lomandra longifolia (Long Leaved Matrush) and grasses,	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2	Unlikely Given this species has not been observed on-site over the extensive field surveys, the

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
					especially the grass Imperata cylindrica (Bladey Grass). This habitat is called Melaleuca wetlands, although the larval food plant does not occur in all sub-types of this plant community.	km. 0 records without dates within 20 km.	likelihood of occurrence has remained unlikely.
Amphibians							
Adelotus brevis	Tusked Frog	-	V	-	Tusked frogs can be found in a range of habitats including open grasslands, large swamps, low woodlands, dry and wet sclerophyll forests and rainforests. They are not recorded to be concerned about artificial or highly disturbed sites. Tusked frogs rarely occur above 400m above sea level and are known to breed in a range of sites.	Possible The presence of dams within the subject site provides potential aquatic habitat. The species has been recorded approximately 4.6 km north of the site along Pub Lane, Greenbank.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has been reduced to unlikely.
Mammal							
Chalinolobus dwyeri	Large-eared Pied Bat	E	E	183	The Large-eared Pied Bat roosts on sandstone cliffs and fertile woodland valley habitat within close proximity of each other. However, in South East Queensland habitat includes rainforest and moist eucalypt forest habitats at high elevations.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2	Unlikely Given this species has not been observed on-site over the extensive field surveys, the

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
						km. 0 records without dates within 20 km.	likelihood of occurrence has remained unlikely.
Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, (southeastern mainland population)	E	-	75184	The Spot-tailed Quoll has a preference for mature wet forest habitat. Unlogged forest or forest that has been less disturbed by timber harvesting is also preferable. This predominantly nocturnal species rests during the day in dens. Habitat requirements include suitable den sites such as hollow logs, tree hollows, rock outcrops or caves. Individuals require an abundance of food such as birds and small mammals, and large areas of relatively intact vegetation through which to forage.	Unlikely 14 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 9 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Petauroides volans	Greater Glider (southern and central)	E	-	254	The Greater Glider is an arboreal nocturnal marsupial that is mostly restricted to eucalypt forests and woodlands, although it occurs in highest abundance in taller, montane, moist eucalypt forests with abundant (large) hollow-bearing trees for shelter and a variety of eucalypt species for feeding. Diet consists of eucalypt leaves, and occasionally flowers. Small home ranges and low dispersability make this species sensitive to clearing and fragmentation, with low persistence in small forest fragments.	Unlikely 102 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 9 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Petaurus australis australis	Yellow-bellied Glider (south-eastern)	V	V	87600	The Yellow-bellied Glider largely occurs in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. Denning occurs within hollows of large trees, with the species preferring to live in family groups of two to six individuals. This species is very mobile and occupy large home ranges of 20 to 85 ha to encompass dispersed and seasonally available food resources.	Possible 53 dated records within 20 km of site within past 20 years, 7 of which are within 5 km, 1 of which are within 2 km. 5 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has been reduced to unlikely.
Petrogale penicillata	Brush-tailed Rock-wallaby	V	V	225	This species prefers rocky habitats, including loose boulder-piles, rocky outcrops, steep rocky slopes, cliffs, gorges and isolated rock stacks. It also utilises tree limbs. While it appears that most Brush-tailed Rock-wallaby colonies are on north-facing slopes and cliff lines, colonies have been found on south-facing cliffs in Kangaroo Valley, in the Macleay River Gorge, in the Warrumbungles and at Mt Kaputar, although usually in lower densities.	Unlikely 22 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 12 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Phascolarctos cinereus (combined	Koala (combined populations of	E	E	85104	The Koala is found in a range of habitats, from coastal islands and tall eucalypt forests to low woodlands inland.	Likely/Known 1293 dated records within 20 km of site	Known Evidence of Koala was observed

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
populations of Qld, NSW and the ACT)	Queensland, New South Wales and the Australian Capital Territory)					within past 20 years, 36 of which are within 5 km, 13 of which are within 2 km. 844 records without dates within 20 km.	during field surveys within the site.
Potorous tridactylus tridactylus	Long-nosed Potoroo (northern)	V	V	66645	The Long-nosed Potoroo inhabits coastal heaths and dry and wet sclerophyll forests. Dense understorey with occasional open areas is an essential part of habitat, and may consist of grass-trees, sedges, ferns or heath, or of low shrub of tea-trees or melaleucas. A sandy loam soil is also a common feature.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Pseudomys novaehollandiae	New Holland Mouse, Pookila	V	V	96	Across the species' range the New Holland Mouse is known to inhabit open heathlands, open woodlands with a heathland understorey and vegetated sand dunes. The New Holland Mouse is a social animal, living predominantly in burrows shared with other individuals. The home range of the New Holland Mouse ranges from 0.44 ha to 1.4 ha. The species peaks in abundance during early to mid stages of vegetation succession typically induced by fire.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
							occurrence has remained unlikely.
Pteropus poliocephalus	Grey-headed Flying-fox	V	-	186	Species generally roosts in camps in trees adjacent to larger permanent watercourse. The Grey-headed flying fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. It also feeds on commercial fruit crops. The primary food source is blossom from Eucalyptus and related genera.	Likely/Known 192 dated records within 20 km of site within past 20 years, 7 of which are within 5 km, 0 of which are within 2 km. 26 records without dates within 20 km.	Known Evidence of GHFF foraging was observed during field surveys within the site.
Plants							
Arthraxon hispidus	Hairy-joint Grass	V	-	9338	Hairy-joint grass is found in or on the edges of rainforest and in wet eucalypt forest, often near creeks or swamps, as well as woodland.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Bosistoa transversa	Three-leaved Bosistoa, Yellow Satinheart	V	-	16091	The Three-leaved Bosistoa is conserved within Mt Warning National Park, Numbinbah Nature Reserve, Limpinwood Nature Reserve and Whian Whian State Forest. While population information is unavailable, it is thought to be common in its range. It generally grows in wet sclerophyll forest, dry sclerophyll forest and rainforest up to 3oo metres in altitude. It is commonly associated with Argyrodendron trifoliolatum, Syzygium hodgkinsoniae, Endiandra pubens, Dendrocnide photinophylla, Acmena ingens, Diploglottis australis and Diospyros mabacea.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Coleus habrophyllus	-	E	-	91378	Plants have been recorded growing on chert or sandstone outcrops, in open woodlands often in shaded situations near vine forest. Seven populations are known including: Oxley Creek, Greenbank; Opposum Creek, Springfield; Woogaroo Creek, Goodna; three populations within White Rock Conservation Park, incorporating Six Mile Creek Conservation Park near Ormeau (south of Beenleigh).	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Cryptostylis hunteriana	Leafless Tongue-orchid	V	-	19533		Unlikely 0 dated records within 20 km of site within past 20 years, 0 of	Unlikely Given this species has not been observed on-site

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
						which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	V	-	3205	The Wedge-leaf Tuckeroo occurs in a variety of dry rainforest vegetation types, including vine thicket communities on hillsides, stream beds and along riverbanks at altitudes up to 550 m above sea level. This species is also likely to occur on the margins of native vegetation in scrubby urbanised areas. Predominately found on dark brown sandy loams and sandy clay loams (pH 5-7.5) and rocky scree slopes. Generally, these soils have formed from volcanic parent materials (mainly granites and granodiorites, basalt and andesitic flows, and pyroclastics).	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Cupaniopsis tomentella	Boonah Tuckeroo	V	-	3322	Boonah Tuckeroo is known only from an area between Boonah and Ipswich in south-eastern Queensland. It grows in vine thickets predominantly on fertile clay soils. These areas have been extensively cleared for agriculture and close settlement over the last 150 years, and the only seven known occurrences are confined to small isolated remnants on scree slopes and roadsides. All known records are from outside of conservation reserves.	Unlikely 67 dated records within 20 km of site within past 20 years, 1 of which are within 5 km, 0 of which are within 2 km. 1 records	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
						without dates within 20 km. While there has been one sighting within 5km of the site, the soil mapped across the area is described as chromosols and therefore not fertile clay.	occurrence has remained unlikely.
Dichanthium setosum	bluegrass	V	-	14159	In Queensland, bluegrass has been reported from the Leichhardt, Morton, North Kennedy and Port Curtis regions. Dichanthium setosum is associated with heavy basaltic black soils and stony red-brown hardsetting loam with clay. It can be found in moderately disturbed areas such as cleared woodland, grassy roadside remnants, grazed land and highly disturbed pasture. The extent to which this species tolerates disturbance is unknown.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Fontainea venosa		V	-	24040	Occurs in notophyll vine forest and vine thicket with a mean annual rainfall of 1000-1100 mm on soils derived from and	Unlikely 2 dated records within 20 km of site within	Unlikely Given this species has not been

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
					containing abundant andesitic rocks, often on rocky outcrops or along creeks.	past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 1 records without dates within 20 km.	observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Leuzea australis	Austral Cornflower, Native Thistle	V	-	9363		Unlikely 1 dated record within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Macadamia integrifolia	Macadamia Nut	V	-	7326	The Macadamia Nut grows in remnant rainforest. It prefers to grow in mild frost-free areas with reasonably high rainfall. Vegetation communities range from notophyll mixed forest, extremely tall closed forest, simple notophyll mixed very tall closed forest to simple microphyll-notophyll mixed mid-high closed forest with Araucaria and Argyrodendron emergents.	Unlikely 18 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
						without dates within 20 km.	occurrence has remained unlikely.
Macadamia tetraphylla	Rough-shelled Bush Nut,	V	-	6581	This species generally occurs in subtropical rainforest and complex notophyll vineforest, at the margins of the forests and mixed sclerophyll forest. It occurs in restricted habitat, growing on moderate to steep hillslopes on alluvial soils at well drained sites.	Unlikely 1 dated records within 20 km of site within past 20 years, 1 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km. While there is one sighting of this species within 5km of the site, the soil mapping is described as being chromosols and therefore not alluvial. Additionally, there are no subtropical rainforest or complex notophyll vine forests mapped on-site.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Melaleuca irbyana	Swamp Tea-tree	-	E	-	Forms dense forest communities. The Swamp Tea-tree (Forest) grows on poorly draining clay soils on the plains and low hills of the Moreton basin. The clay soils drain slowly and often become waterlogged after heavy rains, resulting in the appearance of numerous temporary ponds.	Likely Sightings of the species have been recorded within 5 km of the site according to the ALA database.	Known The species was observed to be present on-site.
Notelaea lloydii	Lloyd's Olive	V	-	15002	The species occurs on undulating to hilly terrain either in moist gullies or on gentle to steep dry slopes, but is rarely found on rocky outcrops. Soil types are mostly shallow, well drained and stony to very rocky in texture. Found in the ecotone between eucalypt open forests and vine thickets at 80-480 m above sea level (asl).	Unlikely 3 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 5 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Notelaea ipsviciensis x	Cooneana Olive	CE	-	93460	The Cooneana Olive survives as an understorey plant in degraded, eucalypt dominated dry sclerophyll vegetation communities. Soils in the area are of low fertility, depauperate and sandstone-based. This species prefers open woodland communities with open canopies. The known population is adjacent to subdivided, modified and developed land.	Unlikely 1 dated record within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
							occurrence has remained unlikely.
Picris evae	Hawkweed	V		10839	This species preferred habitat is open Eucalypt forest including a canopy of Eucalyptus melliodora, E. crebra, E. populnea, E. albens, Angophora subvelutina, Allocasuarina torulosa , and/or Casuarina cunninghamiana with a Dichanthium grassy understory. Soils are black, dark grey or red-brown (specified as shallow, stony soil over basalt for one collection) and reddish clay-loam or medium clay soils. The flowering and fruiting period is mainly October to January, with a few plants collected in flower or fruit until May.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Planchonella eerwah	Shiny-leaved Condoo, Black Plum, Wild Apple	E	-	17340	Rare tree with dense glossy foliage and scaly bark. It is restricted to three locations in southeastern Queensland, the Ipswich– Beaudesert area south-west of Brisbane; the Beenleigh–Ormeau–Pimpama area, south-east of Brisbane; and the Nambour–Maleny district on the Sunshine coast. It grows on rocky slopes in vine thickets and rainforest. Dominant associated species in southern populations include hoop pine (Araucaria cunninghamii), Harpullia pendula, and members of the genus Flindersia, and in the northern Argyrodendron species, Atalaya multiflora,	Unlikely 55 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 18 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
					Choricarpia subargentea, Excoecaria dallachyana, and Flindersia australis.		
Rhodamnia rubescens	Scrub Turpentine, Brown Malletwood	CE	-	15763	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils.	Unlikely 9 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 1 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Rhodomyrtus psidioides	Native Guava	CE	-	19162	Pioneer species found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks and drainage lines.	Unlikely 56 dated records within 20 km of site within past 20 years, 1 of which are within 5 km, 0 of which are within 2 km. 3 records without dates within 20 km. While there is one recorded of the	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
						species within 5km of the site, habitat of the Native Guava is not mapped as being present on-site.	
Samadera bidwillii	Quassia	V	-	29708	Quassia commonly occurs in lowland rainforest or on rainforest margins, but it can also be found in other forest types, such as open forest and woodland. Quassia is commonly found in areas adjacent to both temporary and permanent watercourses in locations up to 510 m altitude. The species occurs on lithosols, skeletal soils, loam soils, sands, silts and sands with clay subsoils.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Thesium australe	Austral Toadflax, Toadflax	V	-	15202	Austral Toadflax is semi-parasitic on the roots of a range of grass species, notably Themeda triandra (Kangaroo Grass). It occurs in shrubland, grassland or woodland, often on damp sites.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Reptile							
Coeranoscincus reticulatus	Three-toed Snake-tooth Skink	V		59628		Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Delma torquata	Adorned Delma, Collared Delma	V	V	1656	In general, the species occurs on rocky hillsides on basalt and lateritic soils supporting open eucalypt and Acacia woodland with a sparse understorey of shrubs and tussocks or semi-evergreen vine thicket.	Unlikely 1 dated record within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	
Furina dunmalli	Dunmall's Snake	V	V	59254	Dunmall's Snake has been found in a broad range of habitats, including forests and woodlands on black alluvial cracking clay and clay loams dominated by Brigalow other Wattles, native Cypress or Bull-oak, and various Blue Spotted Gum, Ironbark, White Cypress Pine and Bull oak	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km,	Unlikely Given this species has not been observed on-site over the extensive

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
					open forest and woodland associations on sandstone derived soils. Dunmall's Snake occurs primarily in the Brigalow Belt region in the south-eastern interior of Queensland. Records indicate sites at elevations between 200–500 m above sea level. The snake is very rare or secretive with limited records existing. It has been recorded at Archokoora, Oakey, Miles, Glenmorgan, Wallaville, Gladstone, Lake Broadwater, Mount Archer, Exhibition Range National Park, roadside reserves between Inglewood and Texas, Rosedale, Yeppoon and Lake Broadwater Conservation Park.	0 of which are within 2 km. 0 records without dates within 20 km.	field surveys, the likelihood of occurrence has remained unlikely.
Hemiaspis damelii	Grey Snake	E	E	1179	In Queensland, grey snake habitat is Brigalow (Acacia harpophylla) and Belah (Casuarina cristata) woodlands on heavy, dark brown to black cracking clay soils, particularly in association with water bodies, areas with small gullies and ditches, and floodplain environments where the species shelters beneath logs, rocks and soil cracks.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Listed migratory species (not listed above)

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Bird							
Calidris acuminata	Sharp-tailed Sandpiper	V	V	874	In Australia, the Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh, and beach cast algae / seaweed or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland. They also occur in salt works and sewage farms. They use flooded paddocks, sedgelands and other ephemeral wetlands, but leave when they dry. They use intertidal mudflats in sheltered bays, inlets, estuaries or seashores, and also swamps and creeks lined with mangroves.	Unlikely 70 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 6 records without dates within 20 km. While sights of the species have been recorded within 20 km of the site, no suitable habitat was present throughout the assessment area.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Calidris ferruginea	Curlew Sandpiper	CE	CE	856	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. In Queensland, scattered records occur in the Gulf of Carpentaria, with widespread records along the coast south of Cairns.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.
Charadrius leschenaultii	Greater Sand Plover	V	V	877	In the non-breeding grounds in Australasia, the Greater Sand Plover is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons. They seldom occur at shallow freshwater wetlands.	Unlikely 0 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 0 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Gallinago hardwickii	Latham's Snipe	V	V	863	Latham's Snipe occurs in permanent and ephemeral wetlands. They usually inhabit open, freshwater wetlands with low, dense vegetation.	Unlikely 266 dated records within 20 km of site within past 20 years, 9 of which are within 5 km, 0 of which are within 2 km. 20 records without dates within 20 km. While sights of the species have been recorded within 20 km of the site, no suitable habitat was present throughout the assessment area.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
Hirundapus caudacutus	White-throated Needletail	V	V	682	Although they occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland. They also commonly occur over heathland, but less often over treeless areas, such as grassland or swamps.	Possible 273 dated records within 20 km of site within past 20 years, 36 of which are within 5 km, 0 of which are within 2 km. 43 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has been reduced to unlikely.
Tringa nebularia	Common Greenshank, Greenshank	E	E	832	The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. The species is known to forage at the edges of wetlands in soft mud or mudflats.	Unlikely 2 dated records within 20 km of site within past 20 years, 0 of which are within 5 km, 0 of which are within 2 km. 3 records without dates within 20 km.	Unlikely Given this species has not been observed on-site over the extensive field surveys, the likelihood of occurrence has remained unlikely.

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Desktop Likelihood of Occurrence (on-site)	Field Survey Confirmed Likelihood of Occurrence (on-site)
						Preferred habitat for this species is not mapped as being present on-site.	

Appendix D

Curriculum Vitae

1. Curriculum Vitae

1.1. Principal Ecologist / Associate Partner - David Havill

David Havill has significant practical experience in the areas of ecological site assessments (flora and fauna), weed management programs, large scale revegetation projects, wetland rehabilitation and waterway restoration.

He has a strong understanding of the intricate workings of the Vegetation Management Act 1999 and the complex codes and policies which influence site vegetation constraints.

David's expertise relates to the on-site identification and spatial mapping of fauna and flora species including endangered, rare and vulnerable plants and animals. He has an accurate understanding of site survey processes and standards developed by the State and Commonwealth Governments. This provides the ability to challenge the various inaccuracies that occur within broad scale vegetation mapping developed by these Government agencies.

David works closely with our in house team of GIS, environmental planning, and landscape rehabilitation specialists to document findings of ecological survey and prepare targeted restoration and rehabilitation strategies. He has a strong understanding of construction techniques associated with development projects and has the ability to prepare practical flora and fauna management plans to assist in guiding the construction process within sensitive areas.

Qualifications

Diploma of Arboriculture, Training for Trees Pty Ltd, #04453 (2019)
Bachelor of Applied Science (Natural Systems and Wildlife Management), The University of Queensland (1998)

Short Courses

Snake Handling Course, Geckoes Wildlife Pty Ltd ATF Fingland/Roberts Family Trust (2014)
Business Etiquette Training, pd Training (2011)

Appendix E

Tree Plot – Hollow Bearing Tree Locations within Impact Area

ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
288	2	Dead/Stag	340	15	5	Small	-	-	-	152.9536368	-27.78790529
578	0	Dead/Stag	775	9	4	Large	-	-	-	152.9591201	-27.78371064
758	1	Dead/Stag	390	9	1	Large	-	-	-	152.9541313	-27.78790097
1089	1	Eucalyptus tereticornis	740	19	9	Small	-	-	-	152.9591084	-27.78546985
1101	1	Dead/Stag	330	16	6	Small	-	-	-	152.9548661	-27.78372537
1103	1	Dead/Stag	560	16	6	Small	-	-	-	152.9542418	-27.78322032
1108	1	Dead/Stag	620	18	8	Small	-	-	-	152.9558837	-27.78117779
1109	1	Eucalyptus tereticornis	410	16	7	Small	-	-	-	152.9551507	-27.78237313
1111	2	Dead/Stag	600	17	6	Small	-	-	-	152.9547462	-27.78260701
1120	1	Dead/Stag	400	8	1	Large	-	-	-	152.9572414	-27.78328657
1121	1	Eucalyptus crebra	570	17	7	Small	-	-	-	152.9579486	-27.78384359
1126	2	Eucalyptus crebra	600	17	7	Small	-	-	-	152.9553135	-27.78575101
1144	1	Dead/Stag	690	25	12	Small	-	-	-	152.9572188	-27.78427058
1149	1	Dead/Stag	500	17	14	Small	-	-	-	152.9555831	-27.7834912
1155	1	Dead/Stag	500	20	9	Small	-	-	-	152.9552314	-27.78149661
1156	1	Dead/Stag	410	6	1	Small	-	-	-	152.9555491	-27.7819673
1157	1	Dead/Stag	420	7	3	Large	-	-	-	152.9553535	-27.78193365
1163	2	Dead/Stag	560	6	2	Small	-	-	-	152.9568989	-27.78287936
1164	2	Eucalyptus crebra	735	17	13	Small	-	-	-	152.9568143	-27.78317339

■ Species Management Program

ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
1196	1	Eucalyptus crebra	670	24	14	Small	-	-	-	152.9529463	-27.78717506
1207	2	Eucalyptus crebra	920	20	12	Small	-	-	-	152.9544701	-27.78605145
1211	1	Dead/Stag	500	8	2	Small	-	-	-	152.952441	-27.78316429
1225	1	Dead/Stag	400	10	3	Small	-	-	-	152.9520101	-27.78385855
1249	0	Dead/Stag	390	14	4	Small	-	-	-	152.9524019	-27.782573
1251	0	Dead/Stag	385	9	1	Large	-	-	-	152.9574556	-27.78227657
1252	0	Eucalyptus crebra	560	15	8	Small	-	-	-	152.959272	-27.78248007
1253	0	Dead/Stag	720	17	10	Small	-	-	-	152.9592966	-27.78238238
1262	0	Dead/Stag	400	10	4	Large	-	-	-	152.9581409	-27.78254072
1312	1	Eucalyptus crebra	390	15	7	Small	-	-	-	152.9526124	-27.78534574
1325	1	Eucalyptus crebra	420	15	6	Small	-	Termite nest	-	152.9517327	-27.78598555
1329	2	Dead/Stag	350	17	6	Small	-	-	-	152.9518728	-27.78556743
1338	4	Dead/Stag	450	16	7	Small	-	-	-	152.9523554	-27.78511336
1361	1	Dead/Stag	720	17	8	Small	-	-	-	152.951896	-27.78280688
1362	7	Dead/Stag	650	16	7	Small & Large	-	-	-	152.9528881	-27.78231822
1363	2	Eucalyptus crebra	590	15	8	Small	-	-	-	152.9567856	-27.78170182
1364	3	Eucalyptus crebra	500	15	9	Small	-	-	-	152.9575959	-27.78182085
1410	1	Dead/Stag	200	7	1	Small	-	-	-	152.959152	-27.78244215

■ Species Management Program

ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
2225	1	Dead/Stag	400	15	7	Large	-	-	-	152.9569011	-27.77885622
2303	1	Dead/Stag	710	18	8	Large	-	-	-	152.9559975	-27.77903816
2333	3	Dead/Stag	340	17	5	Small	-	-	-	152.9567884	-27.77882693
2357	1	Dead/Stag	230	12	5	Small	-	Termite nest	-	152.9570187	-27.77867309
2416	0	Dead/Stag	650	14	9	Yes	-		-	152.9556384	-27.779739
2431	0	Dead/Stag	480	17	6	Yes	-		-	152.9560709	-27.77992033
2508	0	Eucalyptus crebra	760	24	9	Yes	-		-	152.9567524	-27.7797874
2665	0	Dead/Stag	670	22	9	Yes	-		-	152.9576429	-27.77866952
2722	0	Eucalyptus crebra	340	17	8	Yes	-		-	152.9572218	-27.7788679
2726	0	Dead/Stag	270	9	4	Yes	-		-	152.9572518	-27.77866535
2746	0	Dead/Stag	370	13	3	Yes	-		-	152.9451281	-27.77836182
2747	0	Corymbia intermedia	540	24	14	Yes	-		-	152.9452263	-27.77807948
2748	0	Eucalyptus tereticornis	450	22	15	Yes	-		-	152.945341	-27.77784772
2749	0	Dead/Stag	140	3	1	Yes	-		-	152.9453212	-27.77775365
2754	0	Dead/Stag	330	14	4	Yes	-		-	152.9445961	-27.77648504
2781	0	Corymbia citriodora	500	28	8	Yes	-		-	152.9462342	-27.77813347
2782	0	Corymbia citriodora	440	26	6	Yes	-		-	152.9461854	-27.77802225
2793	0	Dead/Stag	350	5	1	Yes	-		-	152.947677	-27.78296179

ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
2799	0	Dead/Stag	540	18	7	Yes	-	-		152.9490147	-27.78470358
2803	0	Dead/Stag	330	20	3	Yes	-	-		152.947006	-27.78257337
2804	0	Dead/Stag	310	5	1	Yes	-	-		152.9465536	-27.78239236
2805	0	Eucalyptus crebra	460	26	17	Yes	-	-		152.9461218	-27.781636
2807	0	Dead/Stag	370	16	6	Yes	-	-		152.9452183	-27.7813033
2808	0	Dead/Stag	280	16	5	Yes	-	-		152.946313	-27.7829013
2812	0	Dead/Stag	190	13	2	Yes	-	-		152.9454575	-27.78308299
2813	0	Dead/Stag	630	26	13	Yes	-	-		152.9470866	-27.78531923
2820	0	Dead/Stag	470	9	1	Yes	-	-		152.9507347	-27.78798239
2854	0	Corymbia intermedia	1090	25	16	Yes	-	-		152.9447686	-27.78907118
2855	0	Dead/Stag	560	10	3	Yes	-	-		152.9561643	-27.778092
2875	0	Corymbia intermedia	560	23	11	Yes	-	-		152.9557976	-27.77631841
2880	0	Corymbia intermedia	660	25	9	Yes	-	-		152.9556389	-27.77668131
2882	0	Dead/Stag	540	18	9	Yes	-	-		152.9554666	-27.77639656
2887	0	Eucalyptus tereticornis	1050	26	16	Yes	-	-		152.9555571	-27.77615257
2890	0	Dead/Stag	1100	29	11	Yes	-	-		152.9548501	-27.77624063
2898	0	Corymbia citriodora	560	25	9	Yes	-	-		152.955097	-27.77783604
2899	0	Dead/Stag	520	18	7	Yes	-	-		152.954969	-27.77759566

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ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
2900	0	Corymbia intermedia	520	22	7	Yes	-	-		152.9551415	-27.77738554
2928	0	Dead/Stag	470	17	9	Yes	-	-		152.9551801	-27.77837848
2933	0	Eucalyptus tereticornis	510	22	9	Yes	-	-		152.9538093	-27.77930873
2934	0	Dead/Stag	530	26	7	Yes	-	-		152.9541106	-27.77869994
2943	0	Dead/Stag	450	20	5	Yes	-	-		152.9536065	-27.77853461
2946	0	Dead/Stag	480	11	1	Yes	-	-		152.9537161	-27.77812687
2956	0	Dead/Stag	330	16	3	Yes	-	-		152.9526741	-27.77841161
2980	0	Corymbia citriodora	480	23	8	Yes	-	-		152.9519714	-27.77860567
2994	0	Dead/Stag	960	28	13	Yes	-	-		152.9584792	-27.7766926
2996	0	Corymbia citriodora	590	22	14	Yes	-	-		152.9598891	-27.77665031
3018	0	Dead/Stag	690	32	5	Yes	-	-		152.959428	-27.77866519
3019	0	Dead/Stag	290	9	3	Yes	-	-		152.958938	-27.77864598
3021	0	Eucalyptus crebra	900	34	17	Yes	-	-		152.9582896	-27.77835005
3022	0	Dead/Stag	620	25	18	Yes	-	-		152.9580261	-27.7782976
3027	0	Dead/Stag	210	4	1	Yes	-	-		152.9570826	-27.777516
3028	0	Dead/Stag	260	15	2	Yes	-	-		152.9564954	-27.77819649
3029	0	Dead/Stag	370	8	1	Yes	-	-		152.9586734	-27.7810588
3030	0	Eucalyptus crebra	1080	26	15	Yes	-	-		152.9592255	-27.78119579
3031	0	Dead/Stag	490	17	8	Yes	-	-		152.9589177	-27.7791482

ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
3036	0	Dead/Stag	320	6	1	Yes	-		-	152.9550514	-27.78112339
3037	0	Dead/Stag	240	8	1	Yes	-		-	152.9554119	-27.78119554
3040	0	Eucalyptus crebra	700	22	14	Yes	-		-	152.9575369	-27.78153422
3041	0	Dead/Stag	330	11	3	Yes	-		-	152.9591085	-27.78219569
3043	0	Dead/Stag	450	23	6	Yes	-		-	152.9572979	-27.78072722
3045	0	Dead/Stag	420	16	5	Yes	-		-	152.9561049	-27.78085534
3052	0	Dead/Stag	615	19	7	Yes	-		-	152.9490622	-27.7757047
3055	0	Dead/Stag	450	16	9	Yes	-		-	152.9486664	-27.77631852
3058	0	Dead/Stag	450	16	6	Yes	-		-	152.9485669	-27.7770903
3060	0	Dead/Stag	580	15	9	Yes	-		-	152.9482278	-27.77698059
3084	0	Corymbia intermedia	680	25	18	Yes	-		-	152.9487806	-27.77510095
3117	0	Dead/Stag	290	9	1	Yes	-		-	152.9486454	-27.78549385
3118	0	Dead/Stag	360	14	4	Yes	-		-	152.9487225	-27.78580337
3120	0	Dead/Stag	390	12	3	Yes	-		-	152.9492272	-27.78653369
3121	0	Dead/Stag	380	19	6	Yes	-		-	152.9482942	-27.78668066
3131	0	Dead/Stag	430	8	1	Yes	-		-	152.944167	-27.78603353
3132	0	Dead/Stag	490	14	6	Yes	-		-	152.9439331	-27.7867342
3133	0	Corymbia intermedia	880	33	18	Yes	-		-	152.9440846	-27.78824246
3157	0	Corymbia intermedia	780	30	20	Yes	-		-	152.9450246	-27.78880887

ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
3158	0	Corymbia intermedia	430	24	14	Yes	-	-		152.9453631	-27.78864341
3183	0	Dead/Stag	480	22	6	Yes	-	-		152.9539266	-27.77603009
3250	0	Dead/Stag	650	24	14	Yes	-	-		152.9525601	-27.77721821
3280	0	Eucalyptus crebra	620	21	15	Yes	-	-		152.9453042	-27.77808553
3285	0	Corymbia intermedia	490	17	10	Yes	-	-		152.9442614	-27.77682528
3318	0	Eucalyptus seeana	630	17	6	Yes	-	-		152.9457025	-27.77719294
3329	0	Corymbia citriodora	650	18	10	Yes	-	-		152.9446597	-27.78274331
3333	0	Corymbia citriodora	450	22	16	Yes	-	-		152.9449974	-27.78358895
3352	0	Angophora leiocarpa	400	16	7	Yes	-	-		152.9440229	-27.78264975
3353	0	Dead/Stag	500	16	1	Yes	-	-		152.9439162	-27.7827054
3367	0	Eucalyptus crebra	540	22	10	Yes	-	-		152.9429697	-27.78643556
3371	0	Corymbia citriodora	430	15	6	Yes	-	-		152.9477497	-27.78444702
3378	0	Dead/Stag	490	25	14	Yes	-	-		152.9466552	-27.78370491
3382	0	Dead/Stag	550	15	5	Yes	-	-		152.9458485	-27.78414493
3391	0	Dead/Stag	660	18	13	Yes	-	-		152.9438283	-27.78812726
3403	0	Dead/Stag	500	19	12	Yes	-	-		152.9448348	-27.78837608
3408	0	Dead/Stag	540	21	13	Yes	-	-		152.9460544	-27.7890874

ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
3409	0	Eucalyptus tereticornis	600	26	19	Yes	-		-	152.9457231	-27.78923009
3519	0	Eucalyptus siderophloia	600	16	11	Yes	-		-	152.9537352	-27.78211348
3545	0	Eucalyptus crebra	760	16	9	Yes	-		-	152.9568105	-27.78170205
3546	0	Eucalyptus crebra	310	14	8	Yes	-		-	152.9567349	-27.78166888
3577	0	Dead/Stag	310	8	2	Yes	Large		-	152.9589953	-27.78221458
3600	0	Corymbia citriodora	520	10	7	Yes	-		-	152.958792	-27.78012585
3622	0	Dead/Stag	290	14	3	Yes	-		-	152.9546459	-27.78132187
3623	0	Dead/Stag	350	4	1	Yes	-		-	152.9546329	-27.78142555
3641	0	Dead/Stag	330	11	1	Yes	-		-	152.9565901	-27.78070524
3647	0	Dead/Stag	510	17	3	Yes	-		-	152.9569265	-27.78036953
3657	0	Dead/Stag	320	7	1	Yes	-		-	152.9576007	-27.78101861
3661	0	Eucalyptus crebra	620	18	16	Yes	-		-	152.9571615	-27.78108947
3702	0	Dead/Stag	310	18	4	Yes	-		-	152.9584455	-27.7808475
3852	0	Corymbia citriodora	340	13	6	Yes	-		-	152.9441777	-27.78033317
3867	0	Dead/Stag	310	5	1	Yes	-		-	152.9437202	-27.78084656
3872	0	Dead/Stag	530	12	2	Yes	-		-	152.9438381	-27.78115382
3878	0	Dead/Stag	450	4	1	Yes	-		-	152.9447582	-27.78091033
3892	0	Dead/Stag	350	9	3	Yes	-		-	152.9461279	-27.78170034

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ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
3894	0	Dead/Stag	340	12	2	Yes	-		-	152.9462817	-27.78153851
3902	0	Corymbia citriodora	460	14	4	Yes	-		-	152.9461039	-27.78175727
3925	0	Dead/Stag	320	14	3	Yes	-		-	152.9458008	-27.78187919
3958	0	Dead/Stag	410	5	1	Yes	-		-	152.9468133	-27.78295585
4111	0	Eucalyptus tereticornis	610	24	18	Present	-		-	152.9467159	-27.77551584
4131	0	Dead/Stag	360	20	6	Present	-		-	152.9460141	-27.7754768
4231	0	Dead/Stag	320	14	6	Present	-		-	152.9460661	-27.77659801
4257	0	Dead/Stag	460	18	8	Present	-		-	152.9456217	-27.77669416
4298	0	Corymbia citriodora	860	19	13	Present	-		-	152.9457198	-27.77705666
4301	0	Eucalyptus tereticornis	600	20	10	Present	-		-	152.9443852	-27.77796504
4600	0	Eucalyptus tereticornis	430	21	9	Present	-		-	152.9479708	-27.77640545
4816	0	Eucalyptus crebra	510	17	6	Present	-		-	152.9493282	-27.77760823
4927	0	Dead/Stag	560	25	7	Present	-		-	152.9541055	-27.77869626
5125	0	Dead/Stag	630	23	7	Present	-		-	152.9538642	-27.77599285
5368	0	Dead/Stag	690	21	5	Present	-		-	152.9520194	-27.77667742
5435	0	Dead/Stag	300	17	4	Present	-		-	152.9546022	-27.77869548
5490	0	Dead/Stag	310	17	6	Present	-		-	152.9556475	-27.78031982
5491	0	Dead/Stag	300	17	6	Present	-		-	152.95565	-27.78032569
5514	0	Dead/Stag	335	16	7	Present	-		-	152.9535691	-27.77957868

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ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
5540	0	Dead/Stag	430	14	7	Present	-	-		152.9525688	-27.77929715
5633	0	Dead/Stag	370	15	5	Present	-	-		152.952101	-27.77918737
5637	0	Dead/Stag	270	17	6	Present	-	-		152.9513888	-27.77923697
5639	0	Dead/Stag	320	16	5	Present	-	-		152.9514466	-27.77935446
5798	0	Dead/Stag	365	15	4	Present	-	-		152.9584486	-27.77903924
5837	0	Dead/Stag	320	18	2	Present	-	-		152.9594707	-27.77669539
6070	0	Eucalyptus moluccana	495	20	11	Present	-	-		152.9581404	-27.7779437
6121	0	Corymbia citriodora	620	15	6	Present	-	-		152.9595057	-27.7792542
6145	0	Dead/Stag	340	17	6	Present	-	-		152.958701	-27.77948535
6169	0	Dead/Stag	350	14	1	Present	-	-		152.9596654	-27.77979929
6176	0	Dead/Stag	485	17	8	Present	-	-		152.9578565	-27.77999247
6191	0	Dead/Stag	395	17	8	Present	-	-		152.9590787	-27.78039668
6199	0	Dead/Stag	335	17	6	Present	-	-		152.9594957	-27.77965093
6304	0	Dead/Stag	370	8	4	Present	-	-		152.9533781	-27.78334164
6745	0	Dead/Stag	480	16	10	Present	-	-		152.9529438	-27.78459534
6841	0	Dead/Stag	440	18	12	Present	-	-		152.9497748	-27.78645902
6879	0	Dead/Stag	320	10	5	Present	-	-		152.9496518	-27.78556878
6884	0	Corymbia citriodora	305	17	7	Present	-	-		152.9490476	-27.78675257
6886	0	Dead/Stag	390	10	5	Present	-	-		152.9492173	-27.7863167
7051	0	Dead/Stag	350	14	7	Present	-	-		152.9487091	-27.78580324

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ID	Number of Hollows	Botanical Name	Total DBH (mm) [AS 4970-2009]	Height (m)	Spread (m)	Hollows	Nest	Termite Nest	Habitat Value	Longitude	Latitude
7059	0	Eucalyptus tereticornis	340	17	11	Present	-	-		152.947132	-27.78420682
7131	0	Dead/Stag	395	17	9	Present	-	-		152.9486639	-27.78488951
7132	0	Dead/Stag	300	16	8	Present	-	-		152.9486918	-27.78489748
7158	0	Corymbia citriodora	370	17	8	Present	-	-		152.9475814	-27.78501236
7540	0	Dead/Stag	450	13	9	Present	-	-		152.9436894	-27.78743583
7584	0	Dead/Stag	490	13	6	Present	-	-		152.9457601	-27.78425059
7622	0	Dead/Stag	350	15	7	Present	-	-		152.9439298	-27.78383523
7633	0	Dead/Stag	355	17	8	Present	-	-		152.9436044	-27.78408157
7638	0	Dead/Stag	485	14	8	Present	-	-		152.9437648	-27.78447834
7639	0	Dead/Stag	335	16	6	Present	-	-		152.9438077	-27.78468896
7757	0	Dead/Stag	445	14	7	Present	-	-		152.9426055	-27.78691289

Appendix F

Example of Electronic Registry

Animal breeding place register

Wildlife management

Authority holder's name: include Person in Charge where relevant	
Authority number or description: e.g. SMP project title etc	
Approval date/s: e.g. valid from *x*-to *x* / approved on *x* for *x* years	

ACTIONS Codes (mark column with 'X') - **Legend:**

R1 = release, no further action	**R2** = Release with first aid - Note **V** or **C** in column (V = Vet / C = Carer)	**D** = Death	**I** = Investigation

EHP contacts - Wildlife Assessment Team
wildlife@des.qld.gov.au

Low Risk SMP Email protocol: annually from the registered date and upon expiry of the SMP.

High Risk SMP Email protocol: within 6 months of interaction with high risk of impact SMP species and upon expiry of the SMP.

Running report to be completed for all animal breeding places tampered with - all columns must be completed, with form emailed to the department upon expiry of approval and, for high risk SMP within 6 months of each interaction.

DATE (dd/mm/yyyy)	**TIME** (24 hrs)	**SPECIES** (Scientific name)	**SPECIES** (Common name)	**LOCATION of animal breeding place**				**Relocated animal breeding place location details (if applicable)**					**ACTIONS**				**COMMENTS / OUTCOME/AUTHORITY HOLDER** (e.g. of investigation - further management practices put in place etc. Permit references for DMP - removal and relocation or rehabilitation permit).
				Location Description	Lot on Plan	**Latitude** - Decimal Degrees	**Longitude** - Decimal Degrees	**Date** (dd/mm/yyyy)	**Location Description / Lot Plan**	**Latitude** - Decimal Degrees	**Longitude** - Decimal Degrees	**Count**	**R1**	**R2**	**D**	**I**	

Note: To insert extra lines in Windows 7 select 'Home' tab then click the 'Cells' tab and select 'insert sheet rows' otherwise go to the ' Insert' menu and click 'Rows'.