

Significant Biodiversity Assessment Report

Flagstone City (Flagstone West B– Context Area 3)

Prepared for Peet Flagstone City Pty Ltd
19 December 2025

Job No. 9850 E

Document control

Document: 9850 E Significant Biodiversity Assessment Report for Flagstone City (Flagstone West – Context Area 3- West B), prepared by Saunders Havill Group for Peet Flagstone City Pty Ltd.

Document Issue

Issue	Date	Prepared By	Checked By
Issue A	19.12.2025	IP	AD

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Executive summary

The project site (Context Area 3- West B) is located within the South-west corner of the western extent of the Greater Flagstone Priority Development Area (PDA), approximately 30 km south-east of Ipswich and approximately 20 km south-west of Logan.

The subject site is located within the Flagstone West Context Area 3 and accounts for approximately 89 hectares of the Flagstone City site. The site does not currently adjoin any developed areas. To the immediate east of the site is Flagstone West Context Area 3- east, which currently consists of cleared paddock and scattered trees. The site abuts the Flinders-Karawatha Corridor to the west.

This Significant Biodiversity Assessment Report (SBAR) is based on a desktop analysis and detailed ecological field surveys. The desktop analysis identified characteristics and potential constraints mapped under various Federal, State and Local Government legislative mapping and database search tools. Field investigations focused on identifying significant biodiversity values within the areas mapped as 'Remnant' vegetation under the *Vegetation Management Act 1999* and within adjoining cleared areas and drainage corridors. The intent is to confirm values already identified within the endorsed Natural Environment Site Strategy for Flagstone City. Notably, the project maintains an approval under the EPBC Act (ref: EPBC 2014/7206).

Site features and ecological values

The site's ecological values trigger consideration against relevant legislation.

The site has been subject to a Property Map of Assessable Vegetation (PMAV) assessment which has been certified by the Department of Natural Resources, Mines and Energy (DNRME) (PMAV 2008/005503). The majority of the site is mapped as Category B (remnant) and includes Lots 988 on CP857841, Lot 5 on S312569, Lot 989 on SP348566 and Lot 9 on S312569 with a small region of Category X (non-remnant) vegetation within the eastern extent of CA3-West B within lot 989 on SP348566.

Higher ecological values are associated with the Flagstone and Sandy Creek Biodiversity Corridors. The site contains multiple *low risk* waterways for waterway barrier works (WWBW), one (1) *moderate risk* waterway and two (2) *low risk* waterways for WWBW. The Category B vegetation reflecting the PMAV consists of a mix of Regional Ecosystems, including Least Concern 12.9-10.2 and Of Concern 12.3.11 and RE12.9-10.7. While the proposal will result in the removal of vegetation within the Category B (remnant) mapping, it is noted that clearing works in a PDA are exempt under the *Planning Regulation 2017* and for removal of regulated vegetation of this status where for an urban purpose in an urban area outside the PDA.

A total of 34 fauna species and 19 flora species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) are identified as having potential to occur within a 5 km radius of the site. Four (4) fauna species and two (2) flora species are listed under the *Nature Conservation Act 1992* (NCA) as having potential to occur on-site. *Melaleuca irbyana*, which is listed as Endangered under the NCA, is known to occur in the broader Greater Flagstone PDA and has a high potential to occur on-site. A Likelihood of Occurrence Table was compiled for the Context Area 3 – West B to determine likelihood of MSES and MNES species occurring on-site based on desktop and field assessment. Detailed field assessments were conducted

over the site between 10th and 31st August 2021 which consisted of comprehensive fauna surveys, watercourse and vegetation and habitat assessments. These surveys were carried out over the larger Context Area 3, however this report will focus on just the region referred to as West B, also referenced as the site. Additional incidental surveys and tree plotting was conducted between 1st of July and the 3rd of December 2024 focused around the West B region.

No conservation significant species were detected on-site during surveys. The site is considered to provide low suitability for *Dasyurus maculatus* (Spotted-tailed Quoll), *Petauroides volans* (Greater Glider) and (Yellow-bellied glider) due to the lack of optimal habitat.

Development proposal

The development proposal is for the Flagstone City Context Area 3 – West B within the Greater Flagstone PDA. The Context Area 3 – West B site is predominantly zoned as Urban Living with a corridor of Environmental Management along the western boundary under the *Greater Flagstone Priority Development Area Development Scheme*, as implemented by EDQ and identified in the endorsed Natural Environment Site Strategy (NESS).

The site has been subject to extensive modification in the form of thinning and clearing activities within the remnant vegetation as evidenced by review of the historical aerial imagery. The proposed development will result in the removal of regulated vegetation mapping present over majority of the site, however, will retain vegetation in the form of environmental corridors within the associated rectified waterways and buffers.

Vegetation clearing is required to occur within the mapped Category B (remnant). This is required in order to deliver the urban development requirements within the Greater Flagstone PDA. Vegetation will be retained within an environmental corridor along the western boundary of the site, creating a buffer between the development and the adjoining conservation area. Extensive modification of land in the eastern portion of the site has resulted in a highly disturbed environment which lacks intact habitat required to facilitate safe movement for fauna (specifically ground-dwelling fauna) across the landscape. Fauna movement opportunities will be enabled in some capacity through the proposed retention and rehabilitation of environmental corridors. However, as the landscape to the east of the site is earmarked for residential development as part of the PDA and the presence of the Flinders-Karawatha Corridor that directly abuts the site to the west, it is considered appropriate to concentrate fauna movement intent to the adjacent corridor.

Summary

The proposed Flagstone City Context Area 3 – West B reflects the original outcomes outlined in the higher approval and reflected in the Greater Flagstone PDA Development Scheme. Potential environmental impacts as a result of the development are assessed against the endorsed NESS, and development impacts will be managed through the measures outlined in the *PDA Guideline No. 14 (Environmental Values and Sustainable Resource Use)* assessment or as per EPBC Act approval conditions (ref: EPBC 2014/7206). Impacts on Koala Habitat will be managed through the conditions of the EPBC Act approval. Therefore, a response to *PDA Guideline No. 17 (Remnant vegetation and Koala habitat obligations in Greater Flagstone and Yarrabilba PDAs)* is not required. The information included herein has been utilised to inform the Development Application.

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Acronyms and Abbreviations

ASL	Above sea level
ASRIS	Australian Soil Resource Information System
DBH	Diameter at Breast High
EVNT	Extinct, Endangered, Vulnerable and/or Near Threatened
FMP	Fauna Management Plan
GBO	General Biosecurity Obligation
ha	hectare
km	kilometres
KPA	Koala Priority Area
m	metres
mm	millimetres
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
OPWM	Operational Policy Wildlife Management
PDA	Priority Development Area
PMST	Protected Matters Search Tool
RE	Regional Ecosystem
RMP	Rehabilitation Management Plan
RVMM	Regulated Vegetation Management Map
SBAR	Significant Biodiversity Assessment Report
SEQRF	South East Queensland Ecological Restoration Guidelines
SHG	Saunders Havill Group
SRZ	Structural Root Zone
TEC	Threatened Ecological Community
TPZ	Tree Protection Zone
VMP	Vegetation Management Plan
WWBW	Waterway Barrier Works

Legislation and Government Departments

DAF	Department of Agriculture and Fisheries (Qld)
DAMS	Development Assessment Mapping System (administered by SARA)
DES	Department of Science and Environment (Qld)
DILGP	Department of Infrastructure, Local Government and Planning
DNRME	Department of Natural Resources, Mines and Energy (Qld)
ED Act	*Economic Development Act 2012*
EDQ	Economic Development Queensland (Qld)
EPBC	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
LCC	Logan City Council
NCA	*Nature Conservation Act 1992* (Qld)

NCAR	Nature Conservation (Animals) Regulation 2020 (Qld)
NCPR	Nature Conservation (Plants) Regulation 2020 (Qld)
PR	Planning Regulation 2017 (Qld)
SARA	State Assessment Referral Agency (part of DLGRMA)
SDAP	State Development Assessment Provisions
SPP	*State Planning Policy 2017* (Qld)
VMA	*Vegetation Management Act 1999* (Qld)

Reference Documents

ADR	*Acceptable Development Requirements for operational work that is constructing of raising waterway barrier works,* prepared by Queensland Government (dated 1 October 2018)
Development Scheme	*Greater Flagstone Urban Development Area Development Scheme (October 2011), Urban Land Development Authority, The State of Queensland.*
FSRDM	*Fauna Sensitive Road Design Manual: Volume 2- Preferred Practices*, prepared by the Department of Transport and Main Roads (dated June 2010).
IG 14	*PDA Implementation Guideline No. 14 (Environmental values and sustainable resources) (May 2015), Department of Infrastructure Local Government and Planning, The State of Queensland.*
IG 17	*PDA Implementation Guideline No.17 (Remnant Vegetation and Koala Habitat Obligations in Greater Flagstone and Yarrabilba PDAs) (May 2015), Department of Infrastructure Local Government and Planning, The State of Queensland.*
SEQERF	South East Queensland Ecological Restoration Framework: Manual, prepared on by Chenoweth EPLA and Bushland Restoration Services on behalf of SEQ Catchments and SEQ Local Governments (dated 2012).

1. Introduction

Saunders Havill Group (SHG) was engaged by Peet Flagstone City Pty Ltd to prepare a Significant Biodiversity Assessment Report (SBAR) in response to Economic Development Queensland's (EDQ) *PDA Implementation Guideline No. 14 (Environmental values and sustainable resources)* (IG14) and the criteria specified in the EDQ endorsed Flagstone City Natural Environment Site Strategy. This SBAR is required to support a proposed development in Flagstone West. The relevant area addressed within this SBAR is described as 'Context Area 3 – West B'. The development context plan is provided in **Appendix A** and the key property details are provided in **Table 1**.

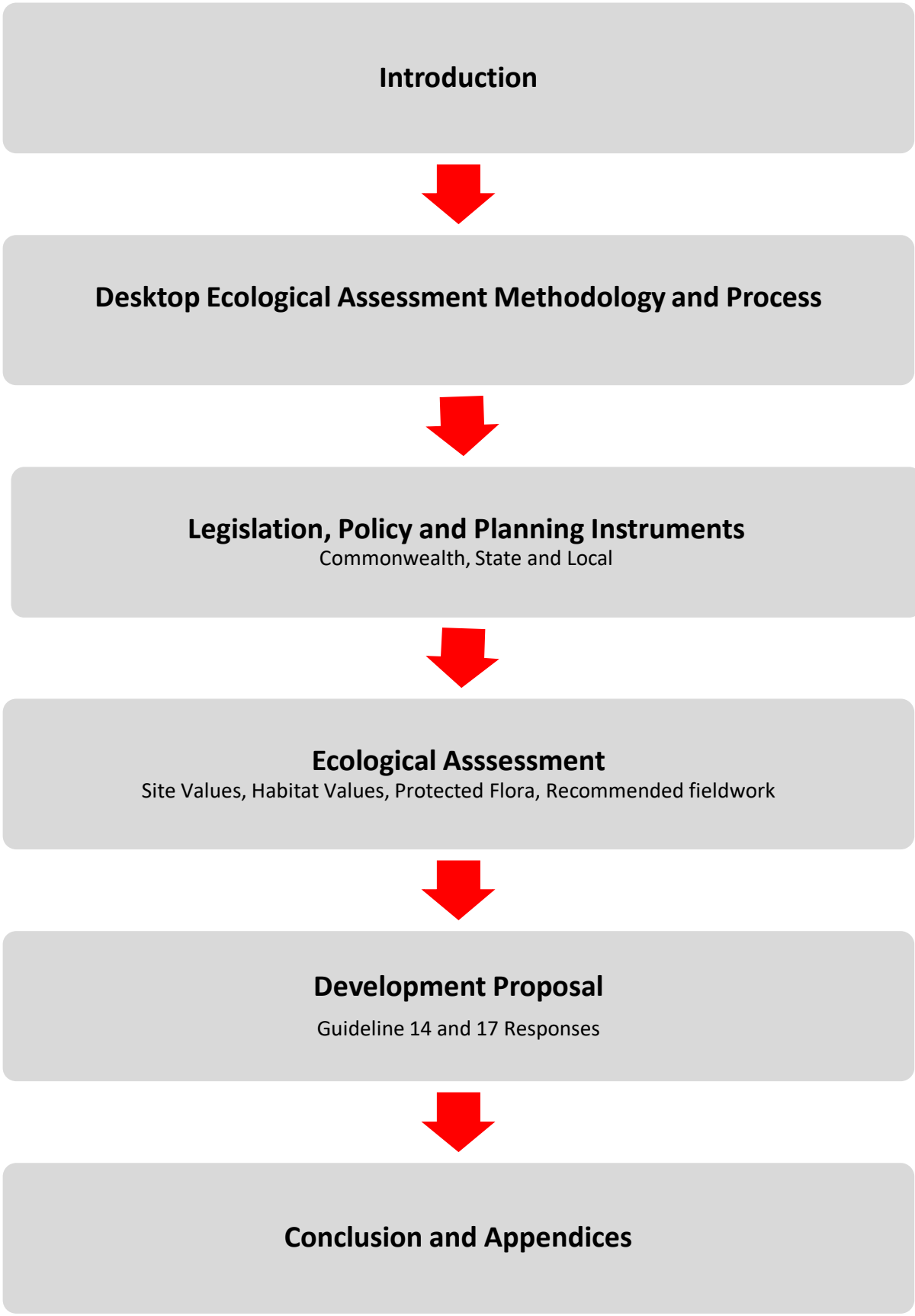
The site is located entirely within the Greater Flagstone Priority Development Area (PDA) and so it is subject to assessment by EDQ as the administrative authority for development in PDAs. This SBAR provides a detailed review of the site's ecological values in accordance with Commonwealth and State Government legislation and is intended to support the submission of a Development Application to EDQ.

Table 1: Property summary

Address	Flagstone City, Flagstone West, Queensland 4280
RPD	Lots 988 on CP857841, Lot 5 on S312569, Lot 989 on SP348566 and Lot 9 on S312569
Protected Plants	Partially within High Risk trigger area
VMA 1999	Category X (non-remnant) Category B (remnant) Least concern RE 12.9-10.2 and Of Concern RE's 12.9-10.7, 12.9-10.2/12.9-10.7 and RE12.3.11
Fisheries 1994	*Low risk* (Green) and *moderate risk* (Amber)
MSES	Wildlife Habitat (Koala habitat areas – core) Regulated Vegetation (category B, essential habitat and intersecting a Watercourse) High ecological value waters (Watercourse)
Koala Habitat	Koala Habitat Area (core)
PDA	Greater Flagstone Priority Development Area
LGA	Logan City
Planning Scheme / Local Plan	Greater Flagstone Urban Development Area Development Scheme
Zoning	Urban Living, Environmental Protection
Existing Land Use	Rural
Proposed Land Use	Residential development

1.1. Report Structure

This SBAR adopts the following structure:



1.2. Context and Background

Contextually, the site is located within the Greater Flagstone PDA, approximately 30 kilometres (km) south-east of Ipswich and approximately 20 km south-west of Logan (refer **Figure 1**). The site is surrounded by remnant bushland to the north, south and west and residential developments to the east (refer **Figure 2**).

The proposed Flagstone City master development is separated into five Context Areas of which this SBAR concerns Context Area 3. Context area 3 is further split into four regions, two of which relate to the western extent of the site. This SBAR relates to the southern region within the western extent of Context Area 3 referred to as West B. West B is situated on the western extent of the PDA and abuts the Flinders-Karawatha Bioregional Corridor directly to the west and adjoins the eastern region of CA3 to the East. The north of site adjoins the sub-area within the western region of CA3 referred to as West A.

Within the wider area, the Flagstone City Master Plan is bounded by Brisbane-Sydney Interstate Rail Line is to the east. A mixed matrix of land uses including agricultural production, mixed densities of residential estates, and conservation areas are present within the surrounding broader landscape.

The Flagstone City Context Area 3 – West B site encompasses approximately 88ha of land comprising Category X (non-remnant) vegetation and Category B Vegetation consisting of four different remnant Regional Ecosystems (RE's) confirmed by PMAV including, Least concern RE 12.9-10.2 and Of Concern RE's 12.9-10.7, 12.9-10.2/12.9-10.7 and RE12.3.11. Aerial imagery indicates eastern portions of the site are partially cleared thus is characteristic of a highly modified environment. The western portion of the site is mapped as Category B (remnant) vegetation which connects to the Flinders-Karawatha Bioregional Corridor to the west. One *moderate risk* waterway and two *low risk* waterways intersect the site and are not associated with any watercourse mapped under the *Water Act 2000*.

The eastern portion of West B has undergone some clearing and modification throughout the 1900s (refer **Plan 1**). The western portion, which is mapped as Category B (remnant) vegetation under the *Vegetation Management Act 1999* (VMA) has remained generally intact, however, some historical clearing has occurred. Since the early to mid-1900s where clearing was most widespread, regrowth of vegetation has occurred, although the eastern and northern portion of the sites have been subject to ongoing paddock maintenance.

An EPBC Act approval for the purpose of managing impacts on Koala habitat exists for the project (ref: EPBC 2014/7206). It should be noted that impacts on Koala habitat values will not be managed through the measures outlined in Implementation Guideline 17 as the development, management and offset of site Koala Habitat values is governed through the approval from the former Commonwealth Department of Agriculture, Water and the Environment, which is principally interested in achieving the same outcomes for the site. As such, a response to Guideline 17 is not required.

The project site will be developed in accordance with the proposed Development Context Plan (refer **Appendix A**). The Development Plan refines outcomes of the site in alignment with the Development Scheme.



LEGEND

★ CA3 west B location

Figure 1

Site Context

CLIENT

PEET

Flagstone

FILE REFERENCE
9850 E Figure 1 CA3 W-B Site Context B

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (B)

0 1 2 3 4 5 km

COORDINATE SYSTEM
GDA 2020 MGA Z56

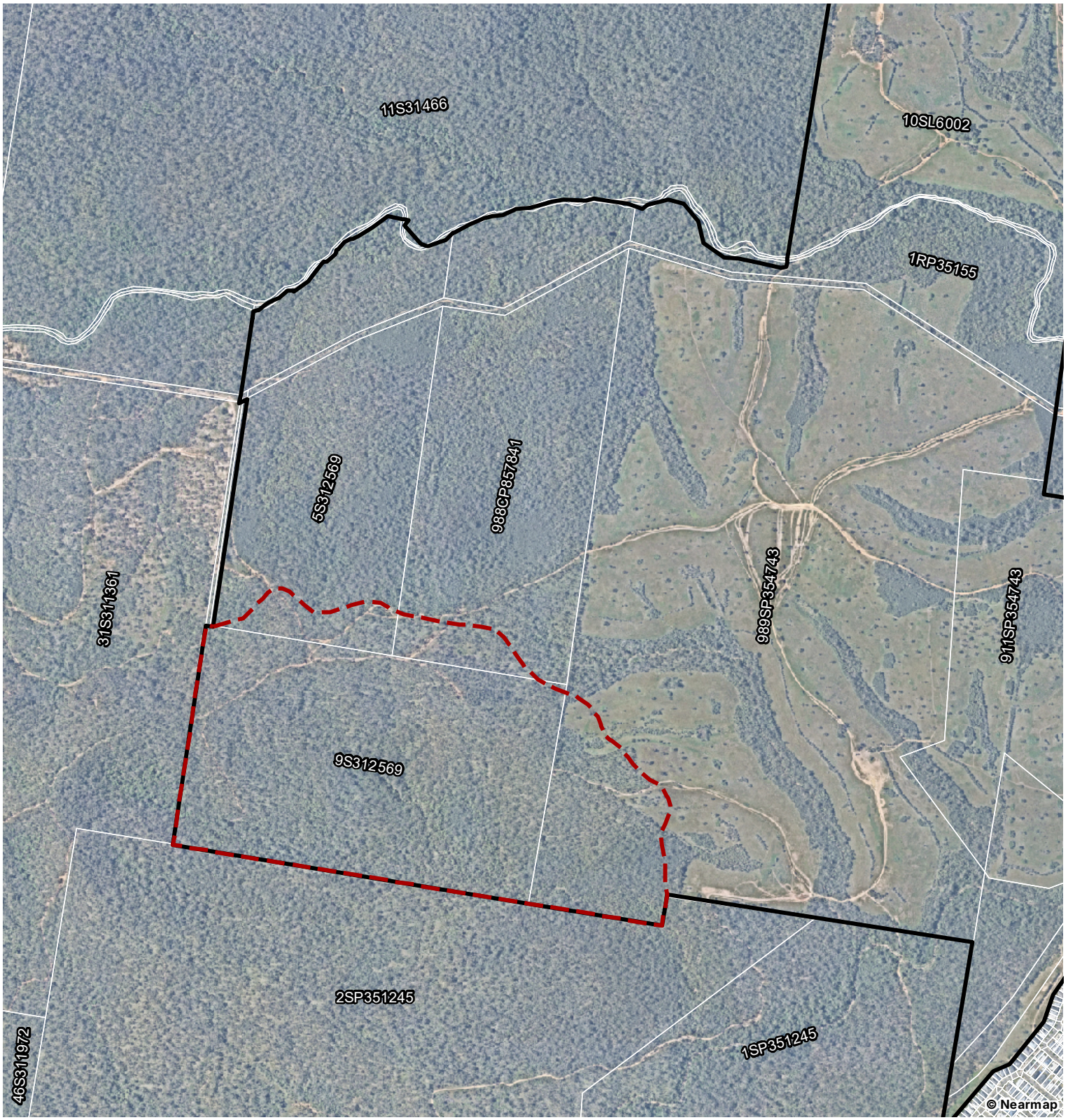
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LEGEND

- Qld DCDB
- Context Area 3 boundary
- Context Area 3 - West (B)

Figure 2

Site Aerial

FILE REFERENCE
9850 E Figure 2 CA3 W-B Site Aerial B

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (B)

0 100 200 300 400 500 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
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CLIENT

PEET

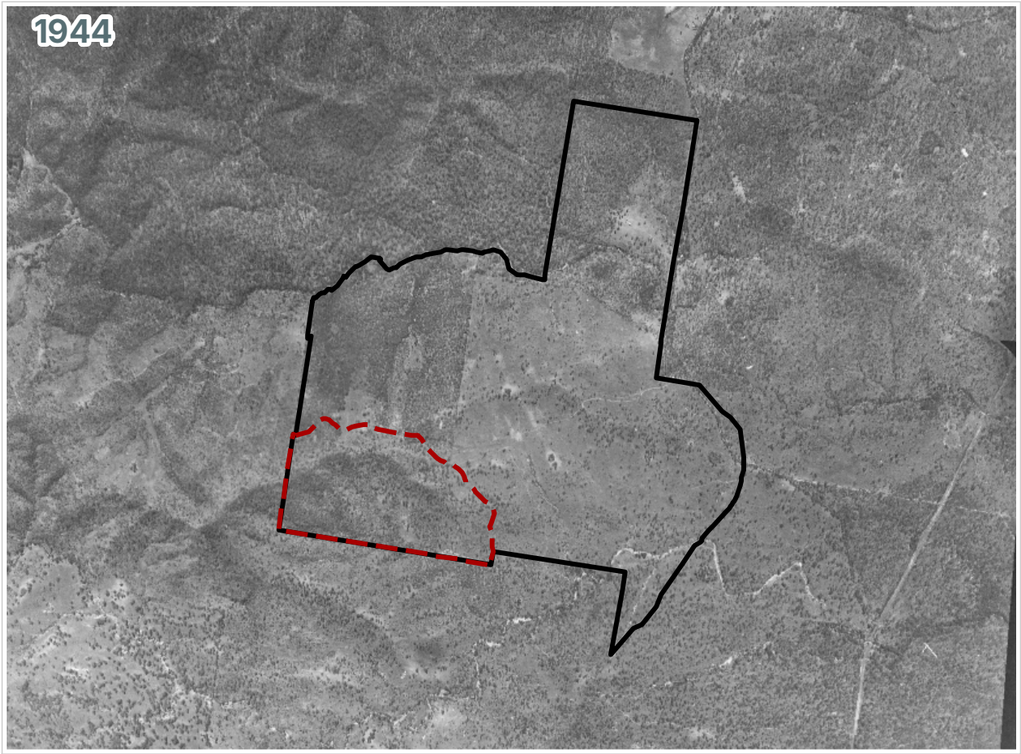
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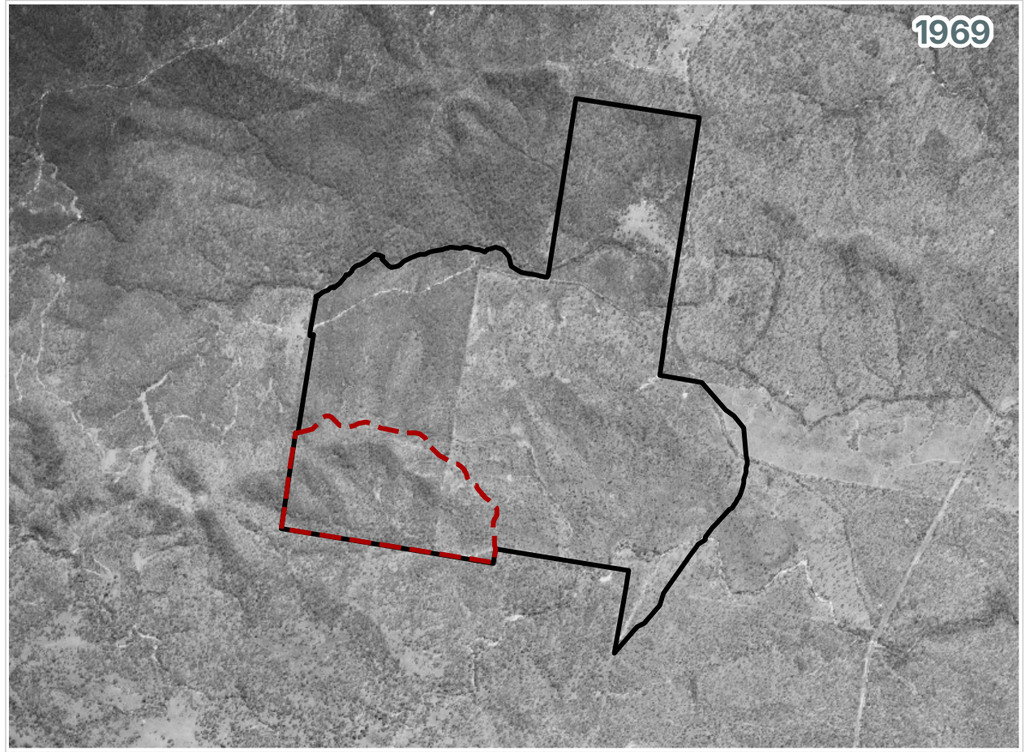
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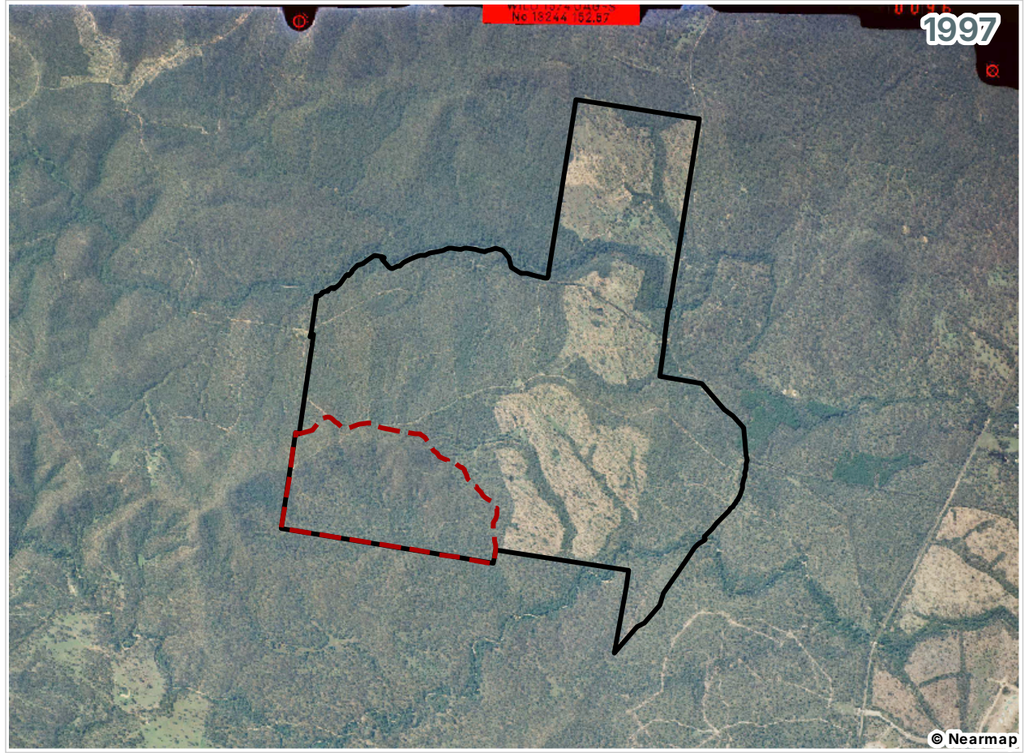
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1. HISTORICAL AERIAL IMAGERY









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LEGEND

Context Area 3 Boundary

Context Area 3 - West (B) boundary

AMENDMENTS

Issue	Date	Description	Drawn	Checked
B	8/12/2025	REBRAND	TC	AD

N

0 500 1,000 1,500 m

1:40,000 @ A3 | Transverse Mercator | GDA 1994 | Zone56

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PEET

Flagstone

CONTEXT AREA 3 - WEST (B)

Address / RPD: Flagstone City

Date: 8/12/2025

9850 E 01 CA3 W-B Aerial History B

2. 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.

2.1. Desktop Analysis Methodology

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

- Commonwealth Matters of National Environmental Significance (MNES) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on and around the site using the Protected Matters Search Tool (PMST);
- *Nature Conservation Act 1992* (NCA) listed threatened species on and around the site using the Wildlife Online Database;
- Public Environmental Databases including Atlas of Living Australia;
- State Government Environmental Overlay Mapping including:
    - Regulated Vegetation Maps under the *Vegetation Management Act 1999* (VMA);
    - Flora Survey Trigger Areas under the NCA;
    - 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.

A review of aerial photography history was undertaken to assist with the broad delineation of vegetation communities and to determine historical patterns to local vegetation communities (refer **Plan 1**).

2.2. Field survey methodology

Ecological field surveys were conducted across the entirety of CA3 between the 10th and 31st August 2021 in the attempt to confirm presence of potential matters of ecological significance (MNES, MSES and MLES). Additional surveys targeted around the CA3- West B region were undertaken from the 1st of July and the 3rd of December 2024 for tree plotting, further incidental surveys were undertaken for threatened species at this time. Fauna survey techniques were conducted under the following permits held by Saunders Havill Group:

- Scientific Purposes Permit **WA0022007** granted under Section 12(f) of Nature Conservation (Administration) Regulation 2017
- Department of Agriculture and Fisheries (DAF) Ethics clearance **CA 2020/02/1355**
- Scientific User Registration **SUR000451**

Specific methodology employed is described in the following sections. **Table 2** demonstrates the survey requirements for the target species while **Table 3** demonstrates the field survey effort across the entirety Context Area 3.

2.2.1 Ecological Assessment Areas

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

- Area 1 – Flagstone Creek corridor
- Area 2 – Eucalypt woodlands and ridges
- Area 3 – Sandy Creek corridor
- Area 4 – Paddocks and drainage lines
- Area 5 – Northern Creek corridor

This SBAR relates to only a restricted region of the combined ecological assessment areas, encompassing a portion of assessment areas 2, 3 and 4 (refer **Plan 2**). For clarity discussion will be focused on the area defined as West B, however, where results cannot be restricted to this area they will be discussed across the entirety of the ecological assessment area.

Table 2: Survey Requirements

Species	Survey Requirements		Survey Achieved	
	Person Hours	**Days/ survey events**	**Person hours achieved**	**Survey days/events**
Calyptorhynchus lathami lathami (Glossy Black Cockatoo)	5 hours per 50 ha	4 days	Diurnal: 89 hours across 11 days.	Including targeted bird surveys and incidental searches
Ninox sternua (Powerful Owl)	No specific Qld or Federal guidelines		Nocturnal: 6 hours Diurnal: 89 hours	Spotlighting Bird surveys and incidental surveys
Dasyurus maculatus maculatus (Spotted-tail Quoll)	None listed	Remote cameras Diurnal searches for denning habitat (logs/gorges/rocky outcrops/crevice) and signs of activity (scats, latrines)	Camera traps: 5 traps for 14 days Diurnal: 89 hours Nocturnal: 6 hours	Camera traps: 5 traps set up for a 14 day period each 11 days onsite conducting diurnal searches 1 night of spotlighting
Phascolarctos cinereus (Koala)		Direct Observations Indirect survey methods (including SAT Surveys)	Camera traps: 5 traps for 14 days Diurnal: 89 hours Nocturnal: 6 hours	Camera traps: 5 traps set up for a 14 day period each 11 days onsite conducting diurnal searches 1 night of spotlighting 5 SAT Surveys completed across the subject site
Petauroides volans (Greater Glider)	None listed	Spotlighting, Stag watching at dusk, Habitat searching for suitable den trees	Camera traps: 5 traps for 14 days Diurnal: 89 hours Nocturnal: 6 hours	Camera traps: 5 traps set up for a 14 day period each

				11 days onsite conducting diurnal searches 1 night of spotlighting
Erythrotriorchis radiatus (Red Goshawk)	80 hours	10 days	Diurnal: 89 hours across 11 days.	11 days
Petrogale penicillata (Brush-tailed Rock Wallaby)		Remote cameras Diurnal searches for rocky habitat availability and potential use (rocky outcrops/ caves/ shelters/ escarpments) and signs of activity (scats, active resting sites within rocky caves etc.)	Camera traps: 5 traps for 14 days Diurnal: 89 hours Nocturnal: 6 hours	Camera traps: 5 traps set up for a 14 day period each 11 days onsite conducting diurnal searches for potential habitat 1 night of spotlighting
Pteropus poliocephalus (Grey-headed Flying-fox)		Desktop survey for location of camps Vegetation community surveys Spotlighting surveys	Diurnal: 89 hours Nocturnal: 6 hours	11 days on-site for potential roost sites and assessing vegetation communities. 1 night of spotlighting
Anthochaera phrygia (Regent Honeyeater)	20 hours	5 days (targeting flowering patches) March - mid August	Diurnal: 89 hours across 11 days.	11 days of surveys, located outside of recommended time frame but EPBC approval granted prior to surveys,
Lathamus discolor (Swift Parrot)	20 hours	8 days - March - July	Diurnal: 89 hours across 11 days.	11 days of surveys, located outside of recommended time frame but EPBC approval granted prior to surveys,
Falco hypoleucos (Grey Falcon)	N/A	N/A	Diurnal: 89 hours across 11 days.	Species considered during diurnal site searches, fauna surveys and nest/habitat
Hirundapus caudacutus (White-throated Needletail)	N/A	N/A	Diurnal: 89 hours across 11 days.	

Myiagra cyanoleuca (Satin Flycatcher)	N/A	N/A	Diurnal: 89 hours across 11 days.	searches, and morning and evening bird surveys
Rhipidura rufifrons (Rufous Fantail)	N/A	N/A	Diurnal: 89 hours across 11 days.	*Rhipidura rufifrons* (Rufous Fantail) has been removed as a migratory species since surveys.
Melaleuca irbyana (Swamp Tea-tree)		NCA Surveys in areas mapped as high risk areas.		

Table 3: Survey Effort

Date	Survey Hours (2 people)		
	Fauna Trapping	**Diurnal**	**Nocturnal**
10 August 2021		16	
11 August 2021		16	
12 August 2021		16	
13 August 2021		16	
23 August 2021	12	4	
24 August 2021	12	4	
25 August 2021	7	9	
26 August 2021	7	9	
27 August 2021	7	9	
28 August 2021	4	12	
31 August 2021		10	3
Total	49	89	3

2.2.2 Ground-truthing of vegetation communities

Vegetation was ground-truthed and assessed against current and pre-clear VMA Regional Ecosystem (RE) mapping. 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.

2.2.3 Observational survey for significant flora and fauna, habitat trees and biodiversity values

Each Ecological Assessment Area and drainage lines were walked to ensure the potential for ideal habitat for threatened species was identified. Specific micro-assemblages, which may support these threatened species, were also recorded when observed. This included observations of vertebrate fauna present within or proximal to the study area, including faunal lists and status of species significance under the Commonwealth's EPBC Act (using JAMBA, CAMBA, ROKAMBA and the Bonn Convention) and Queensland's NC Act.

Observational assessment included identification of ecological features and values such as broad vegetation communities, fauna habitats, and areas ideal for inclusion within proposed ecological corridors.

The observational survey included identification of ecological features and values such as broad vegetation communities, fauna habitats, and ecological corridors. Recording fauna habitat features within the application area included identification of habitat trees present.

2.2.4 Waterway Assessment

Data recording sheets were completed at regular intervals along the waterway 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.

2.2.5 Standardised fauna assessment

The Queensland State Government sets certain standards for assessing the fauna of an area. The Terrestrial Vertebrate Fauna Survey Guidelines for Queensland (2018) (referred to hereafter as the Guidelines), outlines recommendations for standardised survey techniques and sets the minimum standards for adequately assessing habitat for fauna species. The initial site visit provided preliminary information for ecologists to construct a plan for fauna assessment. A full fauna assessment was conducted between 23rd and 31st August 2021, employing standardised fauna survey site methodology in addition to several specialised survey techniques targeting specific fauna taxa and species. The following sections detail the fauna assessment methodology employed within the site.

2.2.6 Standardised fauna sites

Two (2) full fauna survey sites were installed within the West B region in accordance with the Guidelines within the NESS identified investigation area (refer **Plan 3**). The sites were spatially separated to minimise repeated detection of mobile taxa such as macropods and birds.

Installation of a pitfall trap array in the centre of each 1 ha site involved excavating a shallow trench and installing fencing into the ground in a T-shape (refer **Figure 3**). Four 20L buckets were installed flush to the ground, with the fencing acting to direct fauna into the buckets. Three pairs of funnel traps were set against the fencing between buckets to capture additional fauna. Twenty Elliott box traps were placed in two parallel lines of ten along the length of the 1ha site.

Each fauna site remained active for a minimum of four nights (approximately 96 hours). During this time, ecologists monitored and reset all traps each morning between 0630 and 0900 hrs and again between 1530 and 1715 hrs. All fauna were identified and released in situ as quickly as possible. Pitfall buckets and funnel traps remained open at all times whereas Elliott traps were closed from 0900 hrs to 1530 hrs to avoid heat stress and injury to fauna.

2.2.7 Bird Surveys

An active area search to provide a direct census of diurnal bird species occurrence was conducted at different times of the day to improve detectability and provide best estimates of species richness during transects. Surveys were conducted by two observers, walking slowly and quietly along the transect, looking and listening, taking a different path on each occasion. High quality binoculars were used to observe. Birds seen or heard within the site were recorded, along with birds feeding or searching directly over the site.

In addition, bird species that were observed during all other surveys were recorded as incidental species and included within the fauna list.

2.2.8 GPS Tree Plot

A tree survey was conducted across the site to locate and describe the vegetation values, namely trees over 100 mm DSH in the development interface and habitat trees over 300 mm DSH in the balance areas.. A handheld GPS device (Trimble) is used to record sub metre accurate locations (in some cases use survey accurate locations), 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 is measured using the standard method of Diameter at Breast Height (DBH);
- height of the tree is 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, scats).

The Tree Protection Zone (TPZ) of the tree was calculated using the formula outlined in Australian Standard AS4970-2009 – Protection of Trees on Development Sites (TPZ = DBH x 12). In accordance with AS4970-2009, a TPZ should not be less than 2 metres and no greater than 15 metres (except where crown protection is required.) The Structural Root Zone (SRZ) was calculated using the measured DBH and the following formula: SRZ radius = (DBH x 50)0.42 x 0.64.

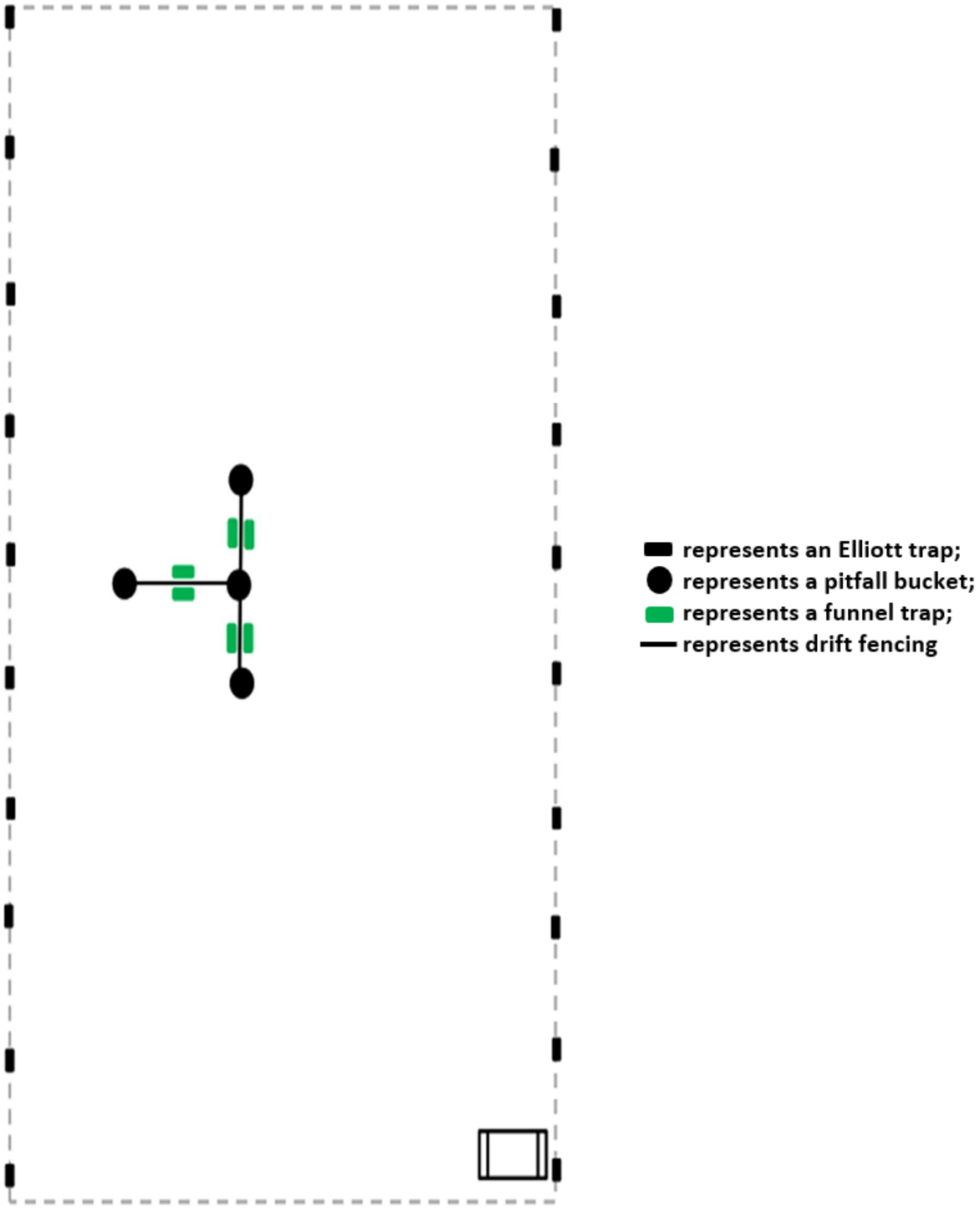


Figure 3: Standardised fauna survey site.

2.2.9 Alterations and limitations to standardised survey sites

Although adherence to standardised methodology was the objective, often modifications are required during installation due to issues with access, soil consistency and land use.

During the course of the surveys, cattle and horses destroyed trap site four a minimum of once per day. This site was reinstalled each time but missed potential for fauna trapping likely occurred during the time each fence was down.

2.2.10 Targeted Fauna Habitat Search

Identification of habitat values relevant to threatened fauna within vegetation patches on site, namely turning of logs that may provide habitat. This also included recording of any hollow-bearing trees, nest sites, rocky areas, leaf litter, denning or roosting structures and ecological features. The survey covered all habitat features on-site negating the need for subsampling.

2.2.11 Spot Assessment Technique (SAT) koala surveys

Surveys to understand Koala presence were undertaken across the referral area in accordance with the methodology developed by the Australian Koala Foundation[1] and specified in the *EPBC Act Referral Guidelines for the Vulnerable Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)* (hereby referred to as 'the Koala referral guideline'). SAT surveys were conducted in areas with potential koala food trees across the site. These focused on the remnant REs and strayed into parts of non-remnant vegetation containing significant remnant trees. The aim was to assess Koala use of different areas in relation to optimising future corridor placement.

SAT surveys involve 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 (30) trees meeting the specifications are analysed during each SAT survey.

Meanders involve walking a winding transect and checking under all trees meeting specifications encountered. Detailed records of each tree are not recorded unless scats are detected. The location of the meander is recorded.

Two (2) SAT surveys were conducted across the West B within remnant vegetation that is suitable habitat.

2.2.12 Scats, tracks and other traces search

Surveys for scats, tracks and other fauna traces were conducted throughout the survey period the survey period. Both predator and non-predator scats were sought during all searches. Only those samples definitively identified were included in the survey results. 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 notice of potential dens, scats and tracks for invasive species, such as European Red Fox and domestic cats, was taken to identify predator-prey interactions and understand existing impacts within the site.

[1] Phillips, S & Callaghan, J 2011, "The *Spot Assessment Technique*: a tools for determining localised levels of habitat use by Koala *Phascolarctos cinereus*", *Australian Zoologist*, 35:3.

2.2.13 Spotlight surveys

Spotlight searches were conducted on 31st August 2021 from 1730 to 2000 hrs by two ecologists. High-powered spotlights (Fenix HP25R Rechargeable LED Headlamp – 1000 lumens) were used to detect cryptic and nocturnal fauna. The site was not easily accessed via vehicle therefore meanders were conducted on foot. Wetland areas and large habitat trees were specifically targeted during the surveys.

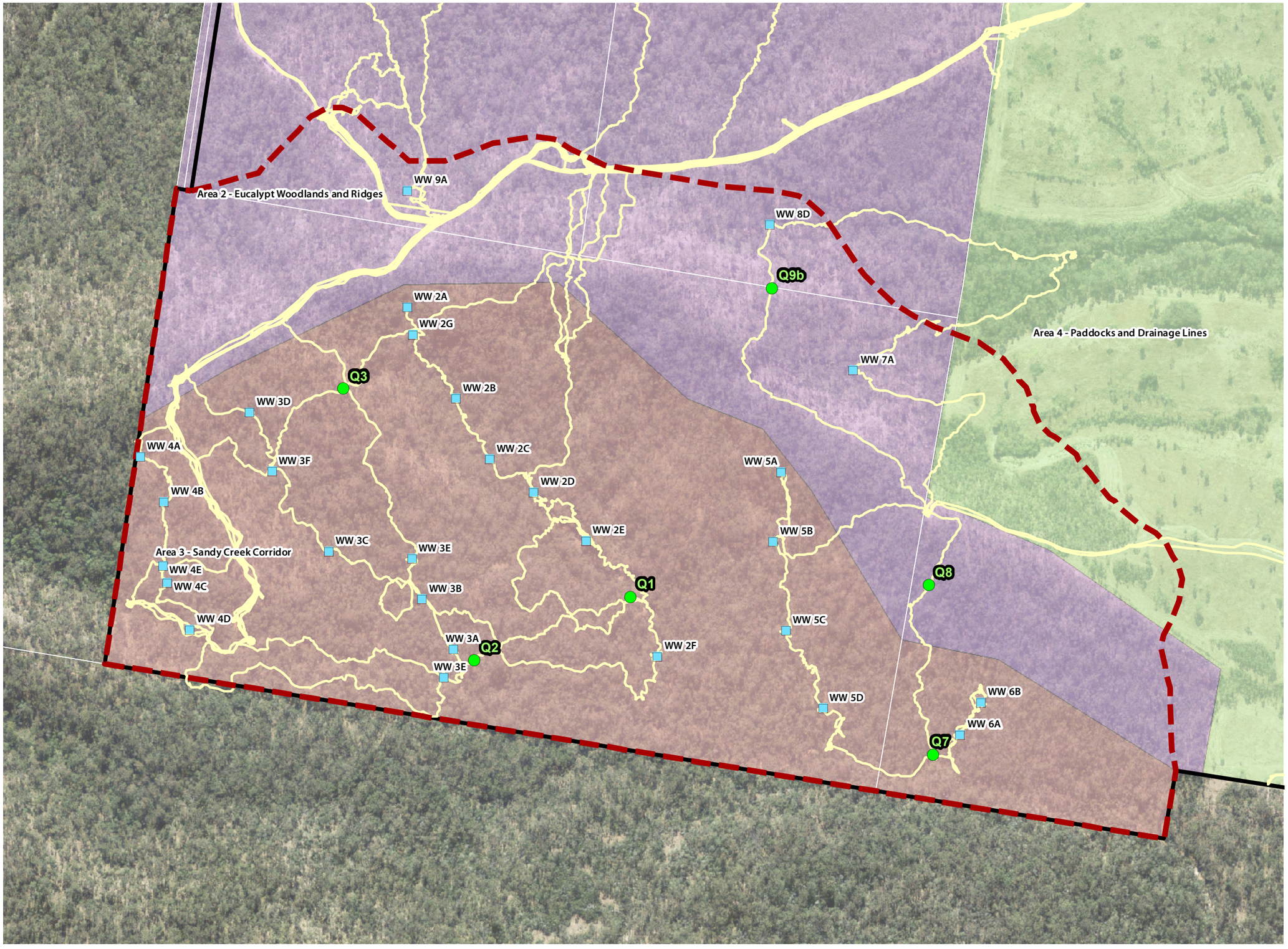
The survey results are obtained from a total of 5-person hours of spotlight searches.

2.2.14 Camera sites

Remote-triggered camera traps were installed in two (2) locations within the West B development area targeted at threatened species and cryptic fauna. Specifically, spotted-tail quolls are potential inhabitants and are most likely detected through use of a camera trap. The cameras were deployed on the 10th August 2021 and collected on 28th August 2021 for a period of 17 days, exceeding the recommended 14 days Camera traps were baited with a trap containing chicken necks, with cameras fixed to a tree approximately 70 cm from the ground and 100-150 cm in front of the bait station.

Camera images were downloaded and analysed with all species identified included in the site fauna list.

2. Field Survey Flora and Waterways



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 Group 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 the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan.

Layer Sources

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Legend

- Qld DCDB
- Context Area 3 boundary
- Context Area 3 - West (B) boundary

Ecological Assessment Units

- Area 1 - Flagstone Creek Corridor
- Area 2 - Eucalypt Woodlands and Ridges
- Area 3 - Sandy Creek Corridor
- Area 4 - Paddocks and Drainage Lines
- Area 5 - Northern Creek Corridor
- Quaternary Survey Locations
- Waterway Assessment Locations
- Track Log

Issue	Date	Description	Drawn	Checked
A	11/03/2025	Preliminary	TC	JP

0 100 200 m

Transverse Mercator | GDA 1994 | Zone 56 | 1:5,000 @ A3

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PEET

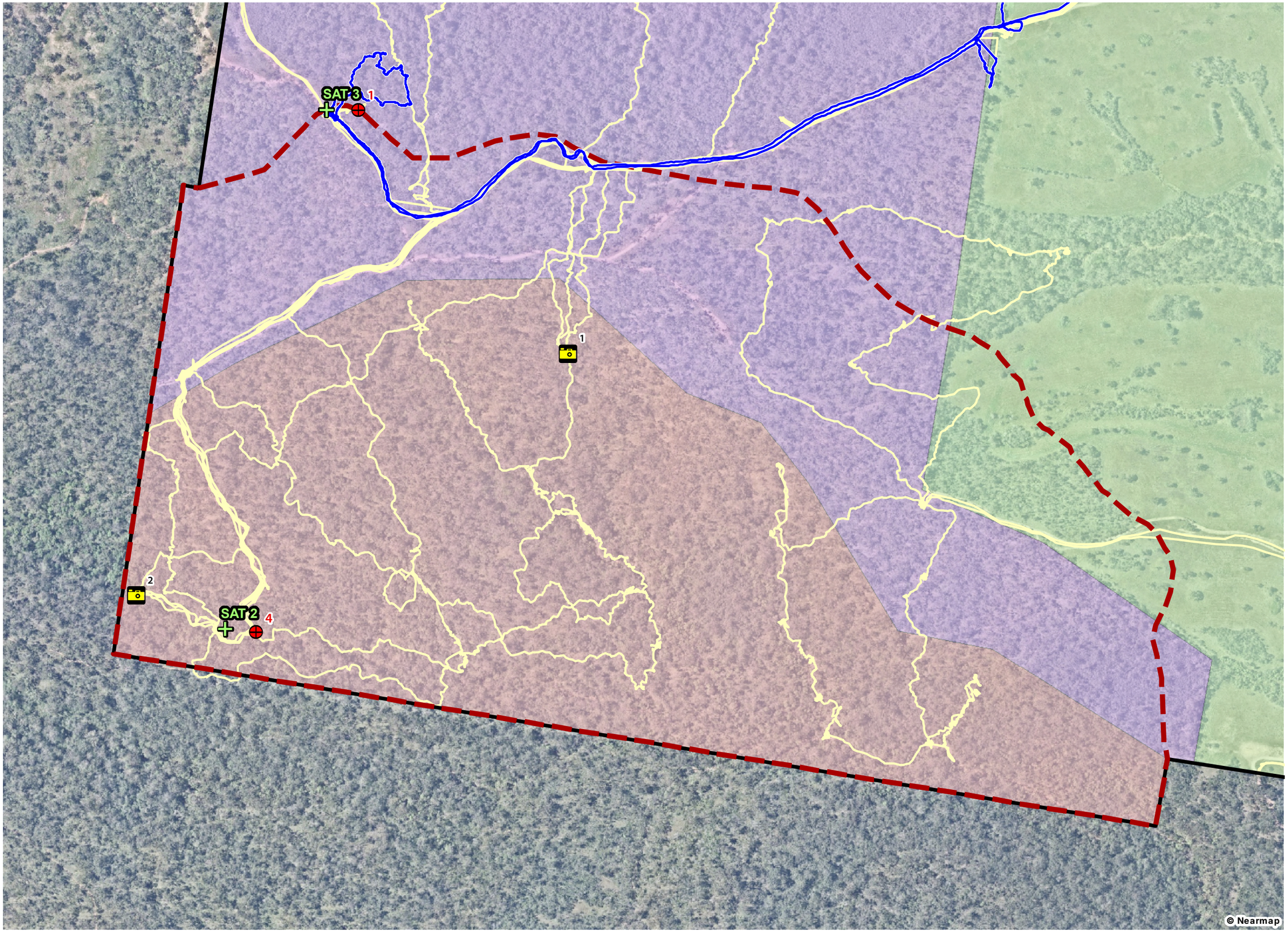
Flagstone

Context Area 3 West (B)

Address / RPD: Flagstone City

11/03/2025 | 9850 E 02 CP3 W-B Field Survey Flora and Waterways A

3. FIELD SURVEY FAUNA



Notes:
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LEGEND

- Context Area 3 boundary
- Context Area 3 - West (B)

Ecological Assessment Units

- Area 1 - Flagstone Creek Corridor
- Area 2 - Eucalypt Woodlands and Ridges
- Area 3 - Sandy Creek Corridor
- Area 4 - Paddocks and Drainage Lines
- SAT Survey Locations
- Standardised Fauna Trap Locations
- Camera Trap Locations
- Anabat Survey Locations
- Spotlighting Transects
- GPS tracklog

AMENDMENTS

Issue	Date	Description	Drawn	Checked
B	8/12/2025	REBRAND	TC	AD

N

0 100 200 m

1:5,000 @ A3 | Transverse Mercator | GDA 1994 | Zone 56

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PEET

Flagstone

CONTEXT AREA 3 - WEST (B)

Address / RPD: Flagstone City

Date: 8/12/2025

9850 E03 CP3 W-B Field Survey Fauna B

3. Legislation, Policy and Planning Instruments

3.1. *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.

A search using the Commonwealth's PMST was conducted for the subject site. The search provides a list of wetlands of international significance, threatened ecological communities (TECs) and threatened species which have the potential to be temporarily or permanently located within a 5 km radius from the central point of the site. **Table 4** lists a summary of these results relevant to the site. The complete results of this search are included in **Appendix B**.

Table 4: EPBC Act PMST Search Results

Threatened Ecological Communities		
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland – Endangered (community likely to occur within area) **Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland** – 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 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). **White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland** – Critically Endangered (community likely 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, Large Sand Plover	Vulnerable
Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)	Vulnerable
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	Critically Endangered

Threatened Species		
Scientific Name	**Common Name**	**Status**
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
Insects		
Argynnis hyperbius inconstans	Australian Fritillary	Critically Endangered
Fish		
Maccullochella mariensis	Mary River Cod	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, Pookila	Vulnerable
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable
Plants		
Arthraxon hispidus	Hairy-joint Grass	Vulnerable
Bosistoa transversa	Three-leaved Bosistoa	Vulnerable
Coleus habrophyllus	-	Endangered (listed as Plectranthus habrophyllus)
Cryptostylis hunteriana	Leafless Tongue-orchid	Vulnerable
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	Vulnerable

Threatened Species		
Scientific Name	**Common Name**	**Status**
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	Vulnerable
Macadamia tetraphylla	Rough-shelled Bush Nut	Vulnerable
Notelaea x ipsviciensis	Cooneana Olive	Critically Endangered
Notelaea lloydii	Lloyd's Olive	Vulnerable
Picris evae	Hawkweed	Vulnerable
Planchonella eerwah	Shiny-leaved Condoo	Endangered
Rhodamnia rubescens	Scrub Turpentine	Critically Endangered
Rhodomyrtus psidioides	Native Guava	Critically Endangered
Samadera bidwillii	Quassia	Vulnerable
Thesium australe	Austral Toadflax	Vulnerable
Reptiles		
Delma torquata	Adorned Delma	Vulnerable
Furina dunmalli	Dunmall's Snake	Vulnerable
Hemiaspis damelii	Grey Snake	Vulnerable

An EPBC Approval (ref: EPBC 2014/7206) has been granted for the site to offset impacts of the project. The approval primarily includes conditions for offsets of Koala habitat and clearing area limitations.

Specifically, for the purpose of protecting Koala habitat, the approval holder is required to provide offset payments for four context areas (1, 3, 4 and 5) to the Queensland State Government within the specified timeframe. The approval holder is also required to demonstrate compliance with the conditions of the approval. The approval holder may be requested to revise the plan where it is identified as necessary for the purpose of protecting Koala. Refer **Appendix D** for a copy of the EPBC approval.

3.2. *Nature Conservation Act 1992*

The NCA 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 NCWR with the potential to occur around the subject site are shown in **Table 5**. Refer to **Appendix C** for full search results.

Table 5: NCA Wildlife Online Search Results

Scientific Name	Common Name	Status
Hirundapus caudacutus	White-throated Needletail	Vulnerable
Calyptorhynchus lathami lathami	Glossy Black-cockatoo	Vulnerable
Ninox strenua	Powerful Owl	Vulnerable
Phascolarctos cinereus	Koala	Endangered
Coleus habrophyllus	-	Endangered
Melaleuca irbyana	Swamp Tea-tree	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 NCPR 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:

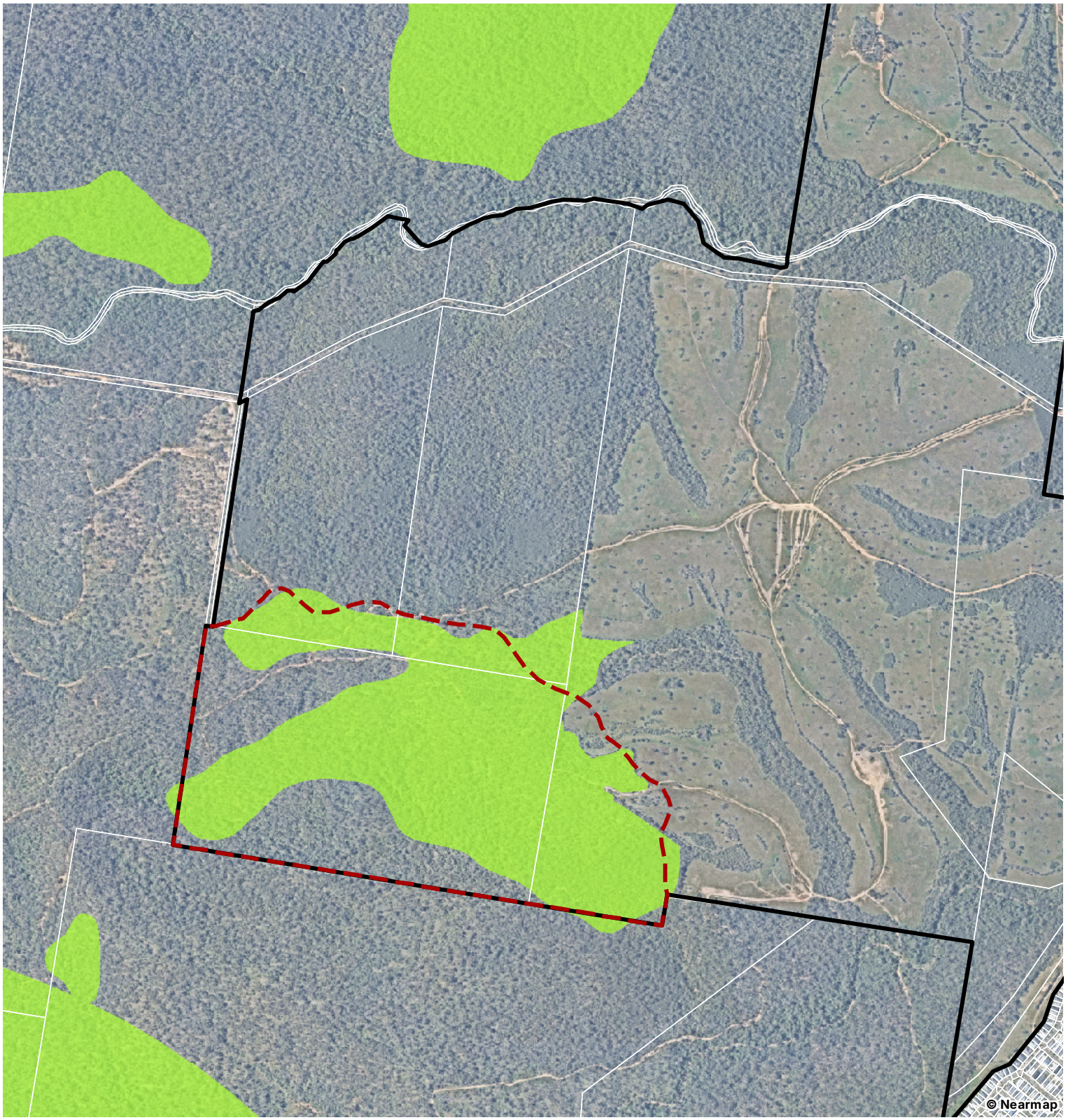
- a conservation plan applicable to the plant;
- a license, permit or other authority under a regulation; or
- an exemption under a regulation.

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 4**).



LEGEND

- Qld DCDB
- Context Area 3 boundary
- Context Area 3 - West (B)
- High risk area - flora survey trigger

Figure 4

NCA: Protected Plants
Flora Survey Trigger

CLIENT

PEET

Flagstone

FILE REFERENCE
9850 E Figure 4 CA3 W-B NCA B

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (B)

0 100 200 300 400 500 m

N

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:15,000

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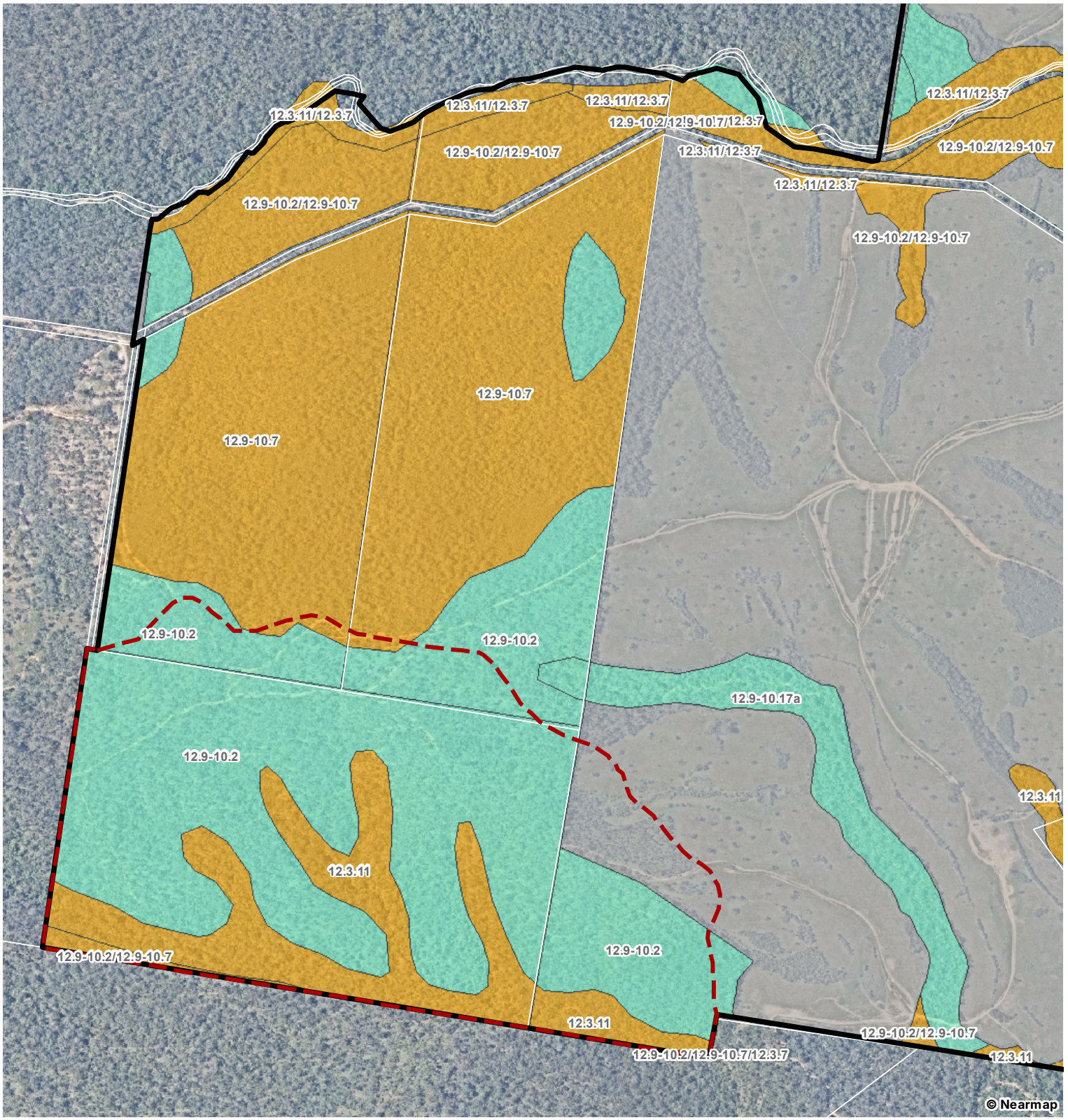
Layer Source: © State of Queensland 2025

3.3. *Vegetation Management Act 1999*

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 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. 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) which is a division of the Department of Infrastructure, Local Government and Planning (DILGP).

A Property Map of Assessable Vegetation (PMAV) assessments have been conducted over the site (PMAV 2008/005503). Under the VMA 1999, the majority of the eastern portion of the site is mapped as Category X (non-remnant). The site, which includes Lots 988 on CP857841, Lot 5 on S312569, Lot 989 on SP348566 and Lot 9 on S312569, is mostly mapped as Category B (remnant) vegetation, as rectified by PMAV, that is Least concern RE 12.9-10.2 and Of Concern RE's 12.9-10.7, 12.9-10.2/12.9-10.7 and RE12.3.11 (refer **Figure 5**). 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.



LEGEND

- Qld DCDB
- Context Area 3 boundary
- Context Area 3 - West (B)

PMAV REs

- Cat. B - Of Concern REs
- Cat. B - Least Concern REs
- Cat. X - non-remenant

Figure 5

VMA Property Map of Assessable Vegetation

FILE REFERENCE
9850 E Figure 5 CA3 W-B PMAV B

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (B)

0 100 200 300 400 500 m

N

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:11,000

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3.4. *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).

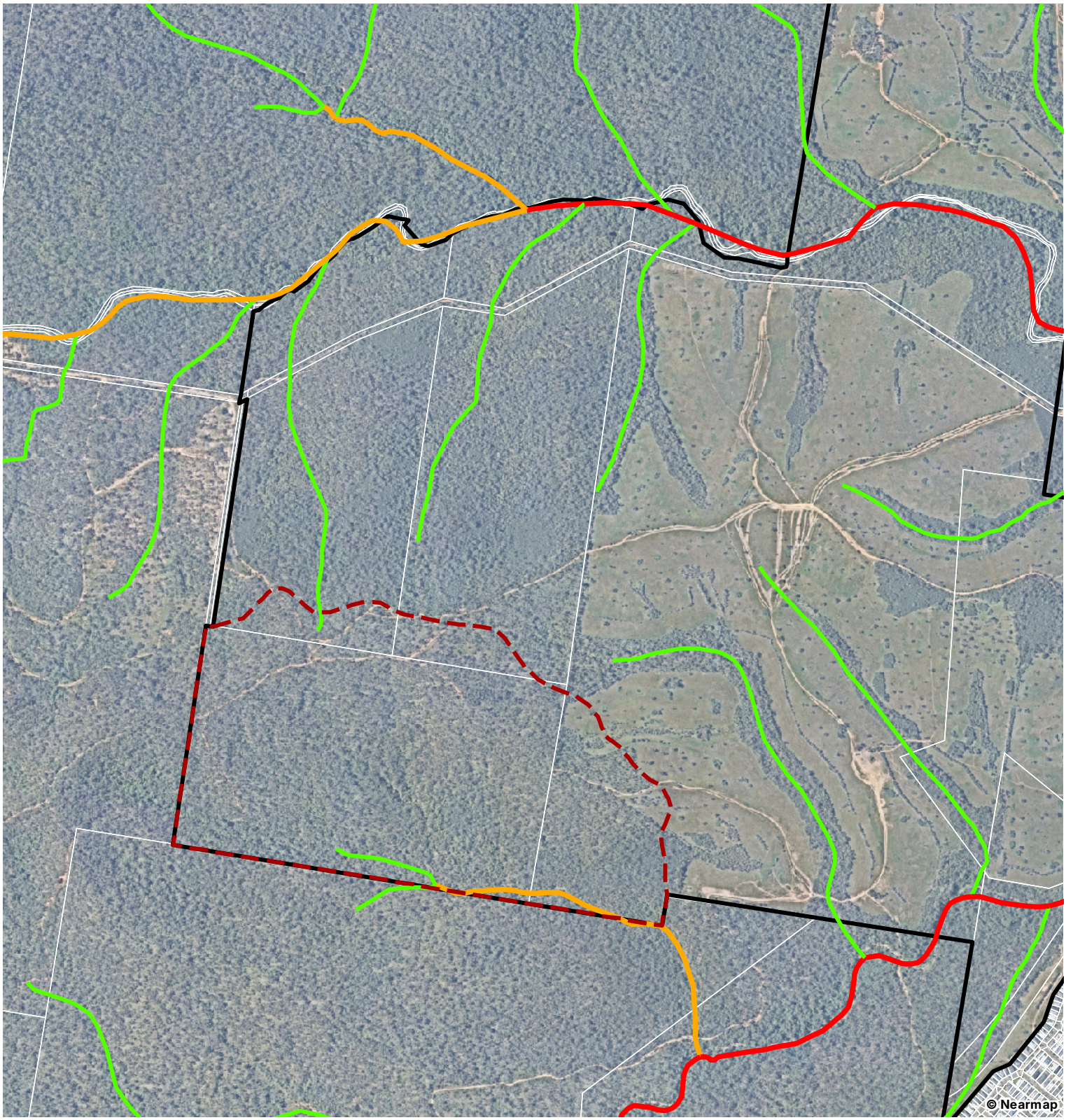
The *Biosecurity Act 2014* categorises restricted matter (restricted plants and animals) into the following:

- 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).

3.5. *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 Primary Industries (DPI).

The site is mapped as containing two (2) *low risk* waterways and one (1) *moderate risk* waterway for WWBW under SARA's Development Mapping Assessment System (DAMS) (refer **Figure 6**). These areas are proposed to be retained in open space as part of the development. Should any works be undertaken within the mapped 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
- Context Area 3 boundary
- Context Area 3 - West (B)

Waterways

Risk of Impact

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

Figure 6

Fisheries - Waterway for Waterway Barrier Works

FILE REFERENCE
9850 E Figure 6 CA3 W-B Fisheries B

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (B)

0 100 200 300 400 500 m

N

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
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3.6. Other Queensland Environmental Legislation

Other Queensland environmental legislation has been reviewed in the context of the proposed development. **Table 6** lists other relevant Queensland legislation that is not triggered by the proposed development, the purpose of the legislation, and its relevance to the proposed development site.

Table 6: Site Relevant to Other Queensland Environmental Legislation

Legislation	Purpose	Relevance to development site
Coastal Protection and Management Act 1995	The *Coastal Protection and Management Act 1995* seeks to protect the coastal resources of the coastal zone.	The site does not contain any coastal areas.
State Planning Policy 2017	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.	The site is mapped as containing Biodiversity MSES for Wildlife Habitat (Koala habitat areas – core), and Regulated Vegetation (category B, essential habitat and intersecting a watercourse). This mapping does not trigger any specific requirements for development due to the location of the site within the Greater Flagstone PDA, but can provide guidance on matters that may occur.
Planning Regulation 2017 – Schedule 11	Schedule 11 of the *Planning Regulation 2017* (PR) details specific assessment benchmarks where development is proposed within mapped Koala habitat and/or Koala priority areas. It regulates the clearing of mapped Koala habitat through stipulating how it must be cleared (e.g. staging, presence of a Koala spotter, etc.) when a development approval is sought for a material change of use, operational work, or reconfiguring a lot to create an additional lot. Schedule 10 Part 10 Division 2 of the PR outlines what is and is not prohibited development interfering with Koala habitat in a Koala priority area and Koala habitat area. This legislation was enforced in February 2020.	The site contains mapped Koala habitat areas (core) aligned with regional ecosystem mapping. Clearing of mapped Koala Habitat Area is exempt from assessment under the Koala framework in a PDA. Koala Habitat mapping does trigger requirements under IG17, specifically in relation to offsets, however, this site maintain an EPBC approval relating to Koala habitat matters and offsets.

3.7. 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 7**). Descriptions of these soils are provided in **Table 7**.

Table 7: Soil Description

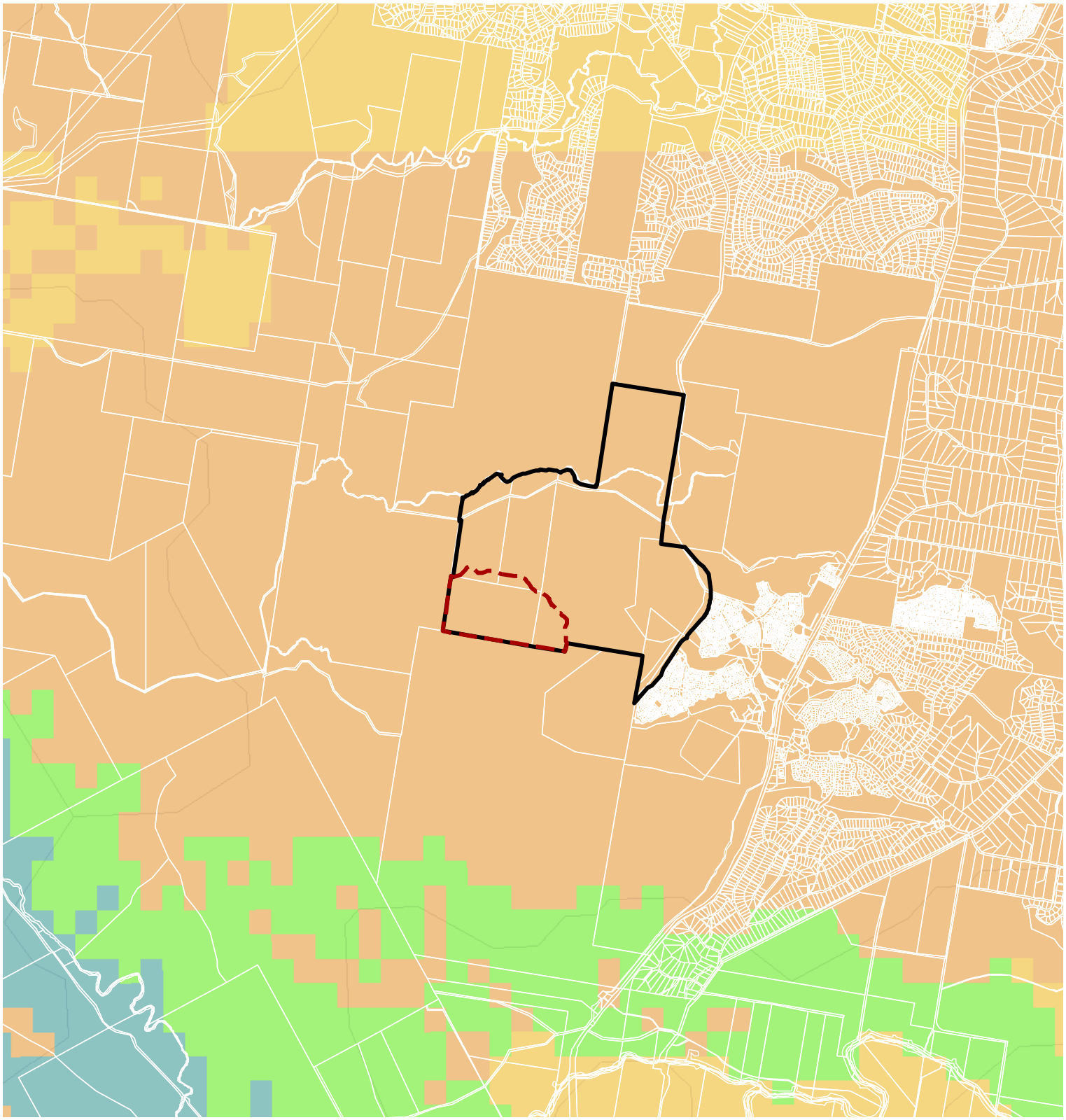
Soil Classification	Soil Description
Chromosol	Chromosols have a strong contrasting texture. They are not strongly acidic or sodic in the upper B horizon. The parent material of Chromosols ranges from highly siliceous, siliceous to intermediate in composition. These soils are found in imperfectly drained 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.

3.8. Town Planning Instruments

The development proposal occurs within the Greater Flagstone PDA, declared under the *Urban Land Development Authority Act 2007,* now replaced by the *Economic Development Act 2012* (ED Act). This legislation supersedes the requirements of Local Government planning provisions (in this case, the Logan Planning Scheme) and selective other state legislation (e.g. *Planning Act 2017*, VMA, and others).

On 8 October 2011, the Development Scheme for Greater Flagstone PDA was approved by the State Government. The Development Scheme is the primary planning instrument which regulates development within the Greater Flagstone PDA. The Development Scheme zones the majority of the site as *urban living* with a band of *Environmental protection* along the western border (refer **Figure 8**).

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 NESS and approved Context Plan.



LEGEND

- Qld DCDB
- Context Area 3 boundary
- Context Area 3 - West (B)

Australian Soil Classification

- Chromosols
- Dermosols
- Kurosols
- Sodosols

Figure 7

Australian Soil Classification

CLIENT

PEET

Flagstone

FILE REFERENCE
9850 E Figure 7 CA3 W-B ASRIS Soils B

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (B)

0 500 1,000 1,500 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

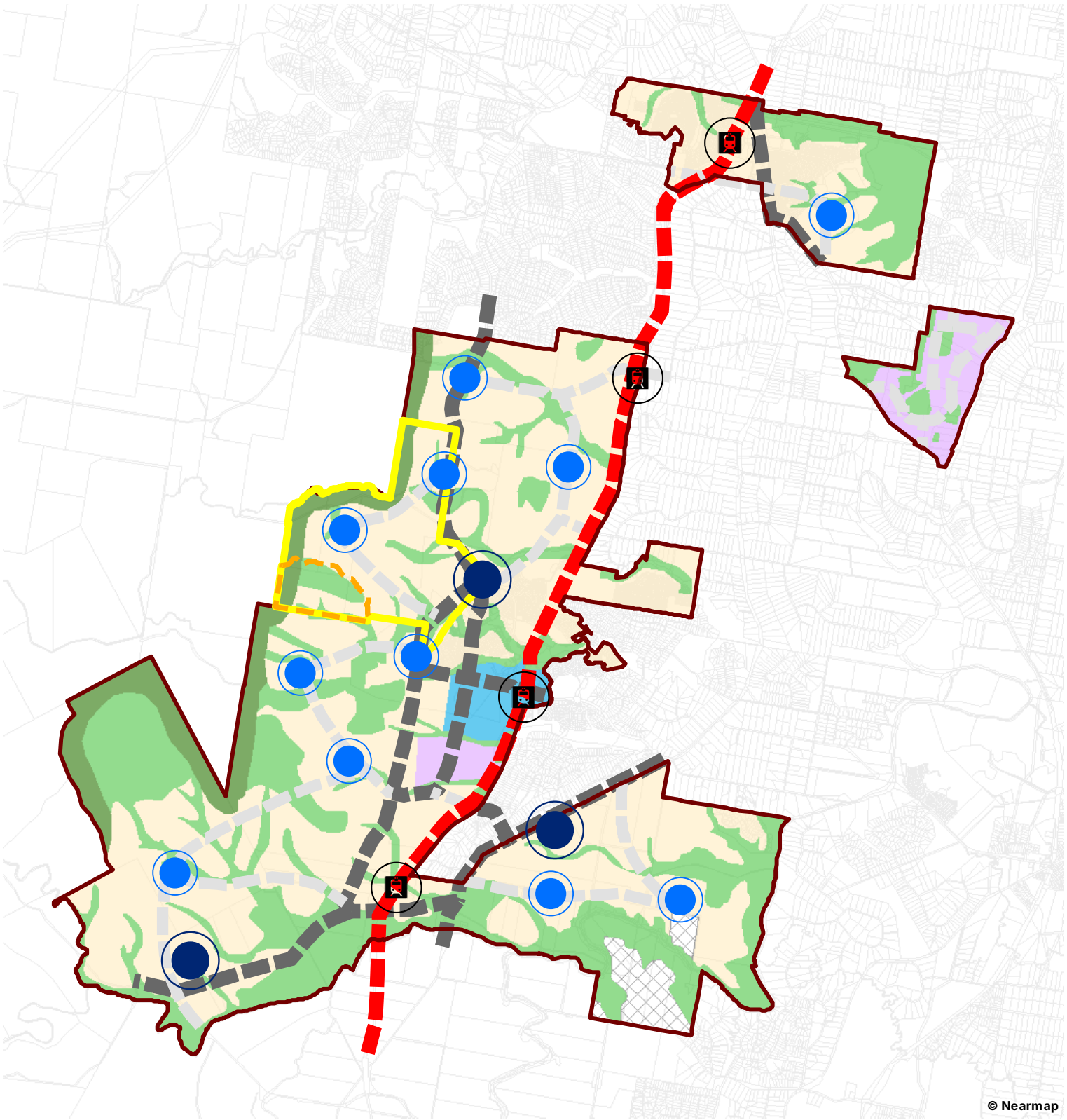
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LEGEND

- Qld DCDB
- Context Area 3 boundary
- Context Area 3 - West (B)
- Greater Flagstone Boundary
- District Centre
- Neighbourhood Centre
- Potential Rail Station
- Primary Road
- Rail
- Regional Road
- Conservation
- Greenspace
- Industry & Business
- Major Centre
- Urban Living
- Utilities

Figure 8

Greater Flagstone PDA - Zoning

FILE REFERENCE
9850 E Figure 8 CA3 W-B GF PDA Zoning B

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (B)

0 1,000 2,000 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

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4. Natural Environment Strategy (NESS)

4.1. NESS Site Strategies

The EDQ endorsed Natural Environment Site Strategy (NESS) was prepared for Peet Flagstone City Pty Ltd by SHG in 2015 in accordance with PDA Guidelines 14 and 17.

The NESS criteria below are used to assess the Context 3 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

4.2. Natural Environmental Features

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

- Primary site corridors
- Secondary fauna connections
- Unconnected supporting habitat areas

- Ecological buffer areas
- Low order remnant vegetation development zones
- Regulated regrowth development zones
- Scenic amenity / ridgeline (Round Mountain)

5. Desktop Analysis

A detailed review of desktop environmental values has been conducted over Context Area 3. The following sections present results from the desktop analysis with a focus on potential MNES and MSES. A potential field scope is also provided based on the findings of the desktop analysis.

5.1. PMAV Regional Ecosystems

The site has been subject to three Property Map of Assessable Vegetation (PMAV) assessments which have been certified by the Department of Natural Resources, Mines and Energy (DNRME) (PMAV 2008/005503).

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 X (non-remnant). The western portion of the site which includes Lots 988 on CP857841, Lot 5 on S312569 and Lot 9 on S312569 is mapped as Category B (remnant) vegetation. The Category B vegetation as rectified by PMAV consists of a mix of Regional Ecosystems, including Least concern RE 12.9-10.2 and Of Concern RE's 12.9-10.7, 12.9-10.2/12.9-10.7 and RE12.3.11. Importantly, Endangered REs that are considered significant biodiversity values under the NESS, are not mapped within the approval area.

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 of relevance to the site.

The Regional Ecosystems are summarised in the below table:

Table 8: Mapped Regional Ecosystem Descriptions

Regional Ecosystem	Structure Category	Description
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 confertus* (whipstick form) often present in northern parts of bioregion. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 10b)

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)
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)

5.2. Fisheries Waterways

Two *low risk* (green) waterways for WWBW, one (1) *moderate risk* (amber) waterway intersect the site. These waterways are proposed to be retained within open space as part of the development.

5.3. Threatened Species

A Likelihood of Occurrence Table was compiled for the Context Area 3 to determine likelihood of MSES and MNES species occurring on-site based on desktop environmental values. Refer to **Appendix E** for likelihood of occurrence table.

A total of 34 fauna species and 19 flora species listed under the EPBC Act are identified as having potential to occur within a 5 km radius of the site (refer **Table 4).** Four (4) fauna species and two (2) flora species are listed under the NCA as having potential to occur on-site (refer **Table 5**).

Threatened and migratory species that achieved a likelihood of occurrence of Moderate or High based on the assessment criteria in **Table 9** are listed **Table 10**. This likelihood assessment is based purely on desktop analysis. Detailed field surveys have been conducted throughout the site to confirm the likelihood of occurrence based on ground-truthed environmental values.

Table 9: Likelihood of occurrence assessment criteria.

Assessment	Criteria
Moderate	Species previously recorded within the locality and one or more of the following criteria is met: • Previously recorded in proximity to the referral area (*i.e.,* vagrant individuals); or • Potential habitat typologies or resources are present on the referral area.
High	Species previously recorded within the locality and one or more of the following criteria is met:

- Previously recorded on the referral area;
- Dependent on habitats or habitat resources that are available on the referral area; or
- Suitable habitats are available on the referral area that are capable of supporting a resident population or individuals of the species.

Table 10: Species with a likelihood of occurrence of moderate or high.

Species	EPBC Act / NC Act Status*	Analysis	Desktop Likelihood of Occurrence
Birds			
Anthochaera Phrygia (Regent Honeyeater)	CE / CE	There are 6 records of this species occurring within 10km of the site in the last 20 years four (4) of which occur within 5km. There are no records of this species within 1km of the site. The site contains remnant vegetation which contains eucalypt dominated Regional Ecosystems. The remnant vegetation is suitable foraging habitat for the Regent Honeyeater due to the dominance of winter flowering eucalypts including Corymbia citriodora, Eucalyptus crebra and Eucalyptus tereticornis. In addition to the presence of foraging habitat on-site, the Regent Honeyeater was observed in 2019 approximately 1.4 km south-west of the site in the Lyons area	High
Calyptorhynchus lathami lathami (Glossy Black-cockatoo)	V/ V	There have been 5 records of this species occurring within 10km of the site within the previous 20 years The western half of the site is mapped as remnant vegetation with eucalypt dominated Regional Ecosystems. 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.	Moderate
Erythrotriorchis radiatus (Red Goshawk)	V / V	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. There is potential for the Red Goshawk to use the remnant vegetation on-site as it comprises eucalypt woodland and riverine vegetation communities.	Moderate
Falco hypoleucos (Grey Falcon)	V / V	There have been zero (0) records of the species within 10 km of the site within the previous 20 years. The site is wholly cleared in the eastern half and the western half is mapped as remnant vegetation containing eucalypt dominated REs. Watercourses also intersect the site which may provide	Moderate

		suitable nesting habitat. The presence of eucalypt woodland on site indicates a moderate likelihood of occurring on-site.	
Hirundapus caudacutus (White-throated Needletail)	V / V	There are 65 records of this species occurring within 10km of the site in the last 20 years, 7 of which are within 5km. There are no records of this species within 1 km of the site. There are an additional 2 undated records within 10km of the site. Based on the presence of a large area of connected remnant habitat, there is potential that the vegetation may contain large eucalypts that are preferable foraging habitat for this species.	Moderate
Lathamus discolor (Swift Parrot)	CE / E	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. The site contains remnant vegetation which is eucalypt dominated Regional Ecosystems. The remnant vegetation is suitable foraging habitat for the Swift Parrot due to the dominance of winter flowering eucalypts including *Corymbia citriodora, Eucalyptus crebra* and *Eucalyptus tereticornis*. The Swift Parrot has been sighted in the broader locality within the Springfield Lakes area in 2019 and in Kingston in 2014. Given the large area of remnant habitat and, the connectedness of the vegetation on-site and the mapped REs dominated by favourable foraging species *Corymbia citriodora*, there is a high likelihood that the species may occur on-site.	Moderate
Myiagra cyanoleuca (Satin Flycatcher)	-/-	There is potential that the eucalypt woodland on-site may support this species, particularly in the mapped Land Zone 3. Satin Flycatchers are commonly recorded in Logan and Ipswich.	High
Ninox sternua (Powerful Owl)	-/V	There is potential for the remnant vegetation to provide habitat for the Powerful Owl. However, extensive surveys have been completed across Context Area 3, where the species or evidence of the species was not observed. Surveys included bird surveys and spotlighting.	Moderate
Mammals			
Dasyurus maculatus maculatus (Spotted-tailed Quoll)	E / E	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. The presence of connected remnant habitat on-site may present potential for the Spotted-tailed Quoll to occur on-site and in the adjacent bushland. The vegetation on-site may contain suitable denning habitat. Significant survey efforts to detect this species have been conducted within the locality in the past 10 years with the most	Moderate

		significant survey effort demonstrated in a published study by [2]Wildlife Preservation Society of Queensland (2015). Evidence, although minimal, of this species has been detected in the past few years in the form of scents and potential scats, however, no evidence was found during 2020 surveys. Based on potential evidence of this species in the locality, there is a moderate likelihood this species would occur on-site.	
Petauroides volans (Greater Glider)	E/ V	There are 4 records of this species occurring within 10 km of the site within the previous 20 years and one (1) additional record without a date. The presence of connected remnant habitat on and adjacent to the site may present potential for the Greater Glider to occur on-site and in the adjacent bushland. Key requirements of the species including presence of large hollow-bearing trees confirmed through field surveys will determine the likelihood of this species occurring on the site.	High
Petaurus australis australis (Yellow-bellied Glider (south-eastern))	V/V	There are 20 occurrence records of this species within 10km, 3 of which are within 5km, of this site within the last 20 years. Theres also an additional one undated record. Eucalypt forest does occur on site presenting potential suitable habitat for this species on site. However, due to historical logging, the vegetation is lacking large, old-growth trees that this species prefers. Given the large area and connectedness of the remnant vegetation on-site, there is potential for the Yellow-bellied Glider to utilise the vegetation during foraging periods. As such, the likelihood of occurrence is considered moderate.	High
Petrogale penicillata (Brush-tailed Rock Wallaby)	V / V	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Field surveys found the remnant woodland on-site lacks rocky escarpments that this species inhabits. Based on mapped contours over the site, north-facing rocky escarpments which this species uses as primary habitat are likely to be absent from site. However, the site shares its boundary with the Flinders-Karawatha Bioregional Corridor where this species is known to occur. Therefore, there is potential this species could occur on-site.	Moderate

[2] Barrenger, H., Whyte, I., (2015). Looking out for Quolls in Logan. Wildlife Preservation Society of Queensland.

Phascolarctos cinereus (Koala)	E / E	There are 246 records of this species occurring within 10 km of the site within the previous 20 years, 11 of which occur within 5km. There is also an additional 84 records within 10km without dates. The site is mapped as containing remnant vegetation which is dominated by Koala food species. Koalas are also known to occur within the locality. Due to the presence of habitat and sightings in the area, there is a high likelihood that this species would occur on-site.	High
Pteropus poliocephalus (Grey-headed Flying Fox)	V / -	There are 21 records of this species occurring within 10 km of the site within the previous 20 years, 1 of which is within 5km of the site. There are an additional 5 records within 10km which are not dated. Suitable foraging habitat is mapped on-site in the form of remnant eucalypt forest. A Grey-headed Flying Fox roost is located on Homestead Drive, approximately 1.5 km south-east of the site. There is a high likelihood that the species would opportunistically forage on-site.	High
Plants			
Coleus habrophyllus		There are no records of this species within 10km of this site however the site is less than 15km from White Rock conservation park where one of the three populations of this species is known to occur. Suitable habitat for the species was also observed on site.	High
Melaleuca irbyana (Swamp Tea-tree)	-/ E	*Melaleuca irbyana* is known to occur within the locality. There is potential that this species could occur on-site.	High

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

6. Ecological survey results

Ecologists from Saunders Havill Group (SHG) assessed the impact site between the 10th and 31st August 2021 and between the 1st of July and the 3rd of December 2024 with specific days and weather conditions detailed in **Table 11**. 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 11: Weather Conditions

Date	Weather Conditions	High (°C)	Low(°C)	Rain (mm)
10 August 2021	Sunny and partially cloudy	22.6	8.2	0
11 August 2021	Sunny and partially cloudy	23.1	7.3	0
12 August 2021	Fine and sunny	25.2	7.1	0
13 August 2021	Fine and sunny	25.4	9.9	0
23 August 2021	Fine and sunny	26.2	9.8	0
24 August 2021	Sunny and partially cloudy	20.7	14	4.0
25 August 2021	Fine and sunny	21.4	3.8	0
26 August 2021	Fine and sunny	22.1	2.5	0
27 August 2021	Fine and sunny	23.6	0.2	0
28 August 2021	Fine and sunny	25.4	0.9	0
31 August 2021	Fine and sunny	23.1	9.6	0
1 July 2024	Sunny and partially cloudy	18.6	15.2	6.0
27 September 2024	Overcast with occasional showers	21.2	15.1	28.8
30 September 2024	Fine and sunny	30.6	11.3	0.2
9 October 2024	Overcast with occasional showers	23.6	16.4	14.8
14 November 2024	Fine and sunny	24.2	13.8	0
15 November 2024	Fine and sunny	27.8	12.8	0
18 November 2024	Fine and sunny	28.2	16.8	0
19 November 2024	Fine and sunny	33.2	16.4	0
25 November 2024	Fine and sunny	29.7	18.5	0
2 December 2024	Fine and sunny	31.8	21.6	0
3 December 2024	Sunny and partially cloudy	30.7	22.2	0.6

Source: Bureau of Meteorology, Greenbank (Defence) Station for daily max and min temperatures and Maclean Bridge Alert for daily rainfall.

6.1. General site survey details

The following observations have been made based on detailed field survey.

- The investigation area comprises approximately 594 ha of land with a focus on remnant vegetation values and drainage corridors within the western portion of the site. This report focuses on the site termed West B, approximately 88 ha, however results for the entire investigation area will be presented where they could not be refined to the site area.
- The remnant vegetation on-site as rectified by PMAV consists of a mix of Regional Ecosystems including Least concern RE 12.9-10.2 and Of Concern RE's 12.9-10.7, 12.9-10.2/12.9-10.7 and RE12.3.11.

6.2. Flora survey results

Flora was assessed during visits to the investigation area between 10th and 31st August 2021 (refer **Plan 2**).

- A total of 131 species of flora were detected across the entirety of the CA3 area during surveys, 95 of these are native species (refer **Appendix F** for full list).
- A total of 36 flora species detected within the CA3 area are introduced to Australia or the local region. Eight (8) of these species are classified as Restricted Invasive under the Biosecurity Act 2014 and will require some form of targeted management on-site. All are listed as Category 3 under the Biosecurity Act, meaning they must not be distributed either by sale or gift, or released into the environment. Refer **Appendix F** for full list.
- A small region of the eastern portion of the site is dominated by cleared grazing paddocks, reflecting rural land uses. Some vegetated drainage lines are present within the paddock portion of the site.
- At the time of initial surveys in 2021 EPBC Act PMST listed Five (5) Threatened Ecological Communities (TECs) that may occur in, or relate to, the subject site. An additional two (2) endangered TEC's, Grey box-grey gum wet forest of subtropical eastern Australia and Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland, have been listed since the time of initial surveys during 2021 (see **section 3.1**). No TEC's, nor any conditions to support them, were observed on-site at the time of initial surveys. While RE12.3.11, associated with TEC Subtropical eucalypt floodplain forest and woodland, is present on-site the RE has not been confirmed on-site. The area of RE12.3.11 on site has also not been identified as important habitat in the NESS or EPBC approval, and these areas have not been identified for retention under the EPBC Act approval due to it predating the listing.
- 19 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 investigation area.
- A search of the NC Act Wildlife Online database listed two (2) species, *Melaleuca irbyana* (Swamp Tea-tree) and *Coleus habrophyllus* as potentially occurring within the area. No flora species protected under the NC Act were recorded during the field survey.

6.3. GPS tree plot

A GPS Tree Plot Survey was carried out on-site locating and identifying all trees with a DSH greater than 100 millimetres (mm) (measured at 1.4 m above ground) within interface area inclusive of a six-meter buffer. Data from the GPS Tree Plot Survey has been extracted and summarised below (refer VMP accompanying this submission).

- The GPS Tree Plot Survey recorded twenty (20) tree species; all are native species. In total one-thousand five-hundred and thirty-four (1534) seventy (70) of which were dead/stag trees. **Table 12** provides a summary of the results of the GPS Tree Plot Survey completed.
- The most abundant species recorded was identified as *Eucalyptus crebra (*Narrow-leaved Ironbark) with 18.36% (282 specimens) followed by *Corymbia intermedia* (Pink Bloodwood) with 17.42% (267 specimens), and *Eucalyptus tereticornis (*Forest Red Gum) with 14.73 % (226 specimens) (refer **Table 12**).
- Eighty-eight (88) tree hollows were recorded fifty-three (53) small and thirty-three (33) medium and two (2) large.
- **Table 13** provides a summary of the total DSHs of trees recorded during the field survey. The vegetation is predominantly comprised of trees with a DSH between 100 and 300 mm with a total trees were recorded of 923 specimens (60.17%) recorded within this range. This indicates that the vegetation within the site is mostly reflective of regrowth trees, as suggested by the VMA RE mapping.

Table 12: Tree plot summary

Scientific name	Common name	Native/introduced	Number recorded	Percentage recorded (%)
Eucalyptus crebra	Narrow-leaved Ironbark	Native	282	18.38%
Corymbia intermedia	Pink Bloodwood	Native	267	17.41%
Eucalyptus tereticornis	Forest Red Gum	Native	226	14.73%
Corymbia citriodora	Spotted Gum	Native	223	14.54%
Lophostemon suaveolens	Swamp Box	Native	197	12.84%
Eucalyptus acmenoides	White Mahogany	Native	134	8.74%
Dead/Stag	-	-	70	4.56%
Corymbia tessellaris	Moreton Bay Ash	Native	38	2.48%
Angophora leiocarpa	Smooth-barked Apple	Native	23	1.50%
Corymbia trachyphloia	Brown Bloodwood	Native	16	1.04%
Angophora subvelutina	Broad-leaved Apple	Native	13	0.85%
Eucalyptus microcorys	Tallowwood	Native	9	0.59%
Acacia disparrima	Hickory Wattle	Native	8	0.52%

Alphitonia excelsa	Soap Tree	Native	8	0.52%
Allocasuarina littoralis	Black She-oak	Native	7	0.46%
Petalostigma pubescens	Quinine Bush	Native	6	0.39%
Acacia leiocalyx	Early-flowering Black Wattle	Native	4	0.26%
Allocasuarina tortulosa	Forest She-oak	Native	1	0.07%
Ficus macrophylla	Moreton Bay Fig	Native	1	0.07%
Melaleuca quinquenervia	Broad-leaved Paperbark	Native	1	0.07%
Total			**1534**	**100**

Table 13: Tree plot DSH summary

DBSH (mm)	Number recorded	Percentage Recorded (%)
110-209	178	11.60%
210-309	745	48.57%
310-409	242	15.78%
410-509	131	8.54%
510-609	178	11.60%
610-709	38	2.48%
710-809	16	1.04%
810-909	2	0.13%
910-1009	2	0.13%
1010-1109	1	0.07%
1110-1209	1	0.07%
Total	**1534**	**100**

6.4. Ecological assessment areas

The broader context area site was divided into five (5) ecological assessment areas, however, this report focuses on the region referred to as West B, which encompasses a portion of ecological assessment areas 2, 3 and 4 (refer **Plan 3**). A description of on-ground vegetation values for the ecological assessment area relevant to the West B region is presented in the following subsections.

6.4.1 Area 2 – Eucalypt woodlands and ridges

The vegetation within Area 2 is mapped under the PMAV as composite Least concern RE 12.9-10.2 and Of Concern REs 12.9-10.7. Area 2 is approximately 125.1 ha, of which approximately 33 ha is within West B. The vegetation in Area 2 has been subject to selective logging and is highly disturbed in areas. In the central and western portion of the Area 2, the canopy vegetation is sparse and dominated by *Corymbia intermedia* (Pink Bloodwood) and *Eucalyptus tereticornis* (Forest Red Gum). The eastern portion is dominated by *Corymbia citriodora* (Spotted Gum) with *E. crebra* (Narrow-leaved Ironbark). The vegetation contains a sparse subcanopy and shrub layer with regrowth *C. intermedia* and *Acacia* sp. The shrub layer is dominated by *Trema tomentosa* (Poison Peach) with moderate infestations of *Lantana camara* (Lantana), *Passiflora suberosa* (Corky Passion Vine) and *Ageratum houstonianum* (Blue Billygoat Weed). Refer **Appendix G** for full vegetation descriptions within the West B region. The vegetation present is reflective of the PMAV regional ecosystems.

Other than the ground rectified watercourses, no unique or significant ecological features were identified, including no endangered vegetation nor listed species. No significant habitat values were observed with high levels of disturbance observed across the area. In general, the area is not considered an ecological constraint as per PDA Guideline definitions. Slope affected land is present within this area.

6.4.2 Area 3 – Sandy Creek corridor

Vegetation within Area 3 is mapped under the PMAV as Least concern RE 12.9-10.2 and Of Concern RE's 12.9-10.2/12.9-10.7 and RE12.3.11. Area 3 is approximately 53 ha, the entirety of which falls within West B. Area 3 encompasses the upstream portion of a tributary of Sandy Creek and adjoining eucalypt woodland vegetation values. Vegetation within the drainage lines is reflective of RE12.3.11 with canopy species observed including *Eucalyptus tereticornis* (Forest Red Gum), *Corymbia intermedia* (Pink Bloodwood) and *E. siderophloia* (Grey Ironbark). The subcanopy is dominated by *Lophostemon suaveolens* (Swamp Box) with *Alphitonia excelsa* (Soap Tree), *Allocasuarina littoralis* (Black She-oak) and *C. tessellaris* (Moreton Bay Ash).

Upslope of the drainage lines, the vegetation transitions into RE12.9-10.7 with regenerating *E. crebra* (Narrow-leaved Ironbark) and *C. citriodora* (Spotted Gum) dominating. Historical logging is evident with large canopy species lacking across the area and a dominance of regenerating, subcanopy vegetation.

A number of weed species are present in Area 3 and with varying levels of disturbance across the area. Dense infestations of *Lantana camara* (Lantana), *Praxelis clematidea* (Praxelis), *Passiflora suberosa* (Corky Passion Vine) and *Desmodium intortum* (Greenleaf Desmodium) present within portions of the drainage line.

No significant habitat values were observed with high levels of disturbance observed across the area. In this area, only the rectified watercourse portions of Sandy Creek tributaries and /or Landzone 3 Of Concern Remnant are considered noteworthy ecological constraints. Refer **Appendix G** – Quaternary 1, 2, 3 and 7 for full vegetation descriptions.

6.4.3 Area 4 – Paddocks and drainage lines

Area 4 is predominantly cleared and is mapped as Category X (non-remnant) vegetation under the PMAV. Area 4 is approximately 341.4 ha of which approximately 5 ha falls within West B. The majority of Area 4 is comprised of cleared paddock which was historically used as a cattle agistment.

Within Area 4, only the rectified watercourses are included as noteworthy ecological constraints. No quaternaries for this ecological assessment area were conducted within the area defined as West B.

6.5. Fauna survey results

Fauna was assessed through opportunistic and targeted surveys throughout the survey period. The fauna assessment aligns with the recommendations set out in the Terrestrial Vertebrate Fauna Survey Guidelines for Queensland. All fauna species encountered were recorded.

A total of 60 fauna species were detected definitively within the three ecological assessment area present within West B (Areas 2, 3 and 4) including thirteen (13) species of mammal, thirty-seven (37) species of bird, three (3) species of amphibian and seven (7) species of reptile. Observed fauna across the three (3) ecological assessment areas which occur in the West B area are presented in **Table 14**. Notably, one significant fauna species was recorded within one of the ecological assessment areas present within West B. However, this species was not within the West B area itself. The Grey-headed Flying Fox, listed Vulnerable under the EPBC Act and NCA, was observed during spotlighting within West A.

Consideration was also given to the ecological significance of the site in the context of the local area and the broader region. Within the great CA3 area one additional significant fauna species was located being Koala listed as Endangered under both the EPBC Act and NCA. Rufous Fantail (*Rhipidura rufifrons)* which was listed as a migratory/ marine under the EPBC Act in 2001 was detected within the great CA3 area but has since been delisted. Targeted surveys for reptiles, frogs and nocturnal species were conducted and fauna trap sites were installed, utilising the equipment detailed in **Section 2.2.**

Table 14: Observed fauna species.

Scientific name	Common name	Area 2	Area 3	Area 4
Amphibian				
Lymnodynastes peronii	Striped Marsh Frog	Y – trapline		
Pseudophryne raveni	Copper-backed broodfrog	Y – trapline		
Rhinella marina	Cane Toad	Y		
Bird				
Alisterus scapularis	Australian King-Parrot	Y		
Aquila audax	Wedge-tailed Eagle			Y
Cacatua galerita	Sulphur-crested Cockatoo			
Cacatua sanguinea	Little Corella			Y
Chalcites basalis	Horsfield's bronze-Cuckoo	Y		
Coracina novaehollandiae	Black-faced Cuckoo-shrike	Y		Y
Cormobates leucophaea	White-throated Treecreeper	Y	Y	
Corvus orru	Torresian Crow	Y	Y	
Coturnix ypsilophora	Brown Quail		Y	
Cracticus torquatus	Grey Butcherbird	Y	Y	Y
Eopsaltria australis	Eastern Yellow Robin	Y		
Geopelia humeralis	Bar shouldered dove	Y		
Gerygone olivacea	White-throated Gerygone		Y	

Scientific name	Common name	Area 2	Area 3	Area 4
Grallina cyanoleuca	Magpie-lark			Y
Gymnorhina tibicen	Australian Magpie			Y
Hirundo neoxena	Welcome Swallow			Y
Lichenostomus chrysops	Yellow-faced Honeyeater	Y	Y	
Malurus melanocephalus	Red-backed Fairy Wren	Y	Y	
Manorina melanocephala	Noisy Miner	Y		
Meliphaga lewinii	Lewin's Honeyeater	Y	Y	
Melithreptus albogularis	White-throated honeyeater	Y	Y	
Merops ornatus	Rainbow Bee-eater	Y	Y	
Pachycephala pectoralis	Golden Whistler	Y	Y	
Pachycephala rufiventris	Rufous Whistler	Y		
Pardalotus striatus	Striated Pardalote	Y	Y	
Phaps chalcoptera	Common Bronzewing	Y	Y	
Philemon corniculatus	Noisy Friarbird	Y	Y	
Platycercus adscitus	Pale-headed Rosella	Y		
Psophodes olivaceus	Eastern Whipbird	Y		
Rhipidura fuliginosa	Grey Fantail	Y	Y	
Rhipidura leucophrys	Willie Wagtail			Y
Strepera graculina	Pied Currawong	Y		
Taeniopygia bichenovii	Double-barred finch		Y	
Trichoglossus chlorolepidotus	Scaly-breasted Lorikeet	Y		
Trichoglossus haematodus moluccanus	Rainbow Lorikeet	Y		
Tyto alba	Barn Owl	Y - spotlight		
Vanellus miles	Masked Lapwing			Y
Mammal				
Antechinus flavipes	Yellow-footed Antechinus	Y – trapline		
Canis familiaris	Feral Dog	Y – print	Y – camera	
Isoodon macrourus	Northern brown bandicoot		Y - camera	
Macropus giganteus	Eastern Grey Kangaroo			Y
Macropus rufogriseus	Red-necked Wallaby		Y - camera	
Macropod sp.		Y – scats		
Mus musculus	House Mouse		Y - camera	
Pteropus poliocephalus	Grey-headed Flying Fox	Y – spotlight		
Rattus fuscipes	Bush Rat	Y – trapline		
Sus scrofa	Feral Pig	Y		
Sminthopsis murina	Common Dunnart	Y – trapline	Y - camera	
Trichosurus vulpecula	Common Brush-tail Possum		Y – camera	
Vulpes vulpes	Red Fox		Y – camera	
Reptile				
Calia vivax	Lively rainbow skink	Y		
Diporiphora australis	Tommy Roundhead	Y – trapline		
Lampropholis delicata	Grass Skink	Y		
Lampropholis guichenoti	Common Garden skink	Y – trapline		
Morethia teniopleura	Eastern Fire-tailed skink	Y – trapline		

Scientific name	Common name	Area 2	Area 3	Area 4
Pogona barbata	Eastern bearded dragon	Y – trapline		
Varanus varius	Lace Monitor		Y	

6.6. Fauna assessment sites

Five (5) types of fauna survey sites were used to assess the presence and potential presence of fauna species across the greater CA3 area. Each type of site is suited to trapping or detecting specific fauna taxa.

6.6.1 Full fauna sites

Two (2) full fauna survey sites were installed over two days in accordance with the Guidelines within the remnant vegetation within the western portion of the site. Two were located within the West B area one within Assessment area 3, and one within Assessment area 2 these were Fauna site 1 & Fauna site 4 (refer **Plan 3** for locations).

Fauna site 1 – Area 2

Fauna site 1 was installed in the morning of 23rd August 2021 within Assessment Area 2. This site remained open for a period of five (5) days from 23rd to 28th August.

The site was located within eucalypt woodland dominated by *Corymbia citriodora* (Spotted Gum) and *Eucalyptus crebra* (Narrow-leaved Ironbark) in Area 2 (refer **Photo set 1** and **Plan 3** for location). The ground layer was dominated by leaf litter with some patches of bare ground. On multiple occasions, several of the Sherman traps were opened by crows.

Only common species were detected in the trapline. No species of conservation significance, including threatened species, were detected. A fauna list for the site is presented below in **Table 13**.



Photo set 1: Fauna site 1.

Table 15: Fauna detected within Fauna site 1

Date	Scientific Name	Common Name	No. individuals	Trapping method
24/08/2021	*Mus musculus*	House mouse	4	Sherman trap
24/08/2021	*Diporiphora australis*	Tommy roundhead	1	Funnel
24/08/2021	*Carlia vivax*	Lively Rainbow skink	1	Pit fall
25/08/2021	*Mus musculus*	House mouse	2	Sherman trap
26/08/2021	*Diporiphora australis*	Tommy roundhead	1	Funnel
27/08/2021	*Mus musculus*	House mouse	1	Sherman trap

Fauna site 4 – Area 3

Fauna site 4 was installed in the afternoon of August 24th in riparian vegetation within the south-western drainage line of Area 3. This site remained open for a period of four (4) days from 24th to 28th August.

The canopy layer is dominated by *Eucalyptus tereticornis* (Forest Red Gum) and *Corymbia intermedia* (Pink Bloodwood) (refer **Photo set 6** and **Plan 3** for location). The subcanopy is dominated by *Lophostemon suaveolens* (Swamp Box) and *Alphitonia excelsa* (Soap Tree). The shrub and ground layer is relatively dense with regrowth Acacia, leaf litter and a mix of native and introduced ground cover species.

Recorded fauna was limited to relatively common species (refer **Photo set 7**). No significant fauna species were detected within the site. A fauna list for the site is presented below in **Table 16.**



Photo set 6: Fauna site 4



Photo set 7: *Lampropholis guichenoti* (Common Garden Skink) (left) and *Pseudophyryne raveni* (Copper-backed Broodfrog) (right) detected at Fauna site 4

Table 16: Fauna detected within Fauna site 4

Date	Scientific Name	Common Name	No. individuals	Trapping method
25/08/2021	*Pseudophyryne raveni*	Copper-backed broodfrog	1	Pit fall
25/08/2021	*Mus musculus*	House mouse	6	Sherman trap
26/08/2021	*Mus musculus*	House mouse	4	Sherman trap
26/08/2021	*Lampropholis guichenoti*	Common garden skink	1	Pit fall
27/08/2021	*Mus musculus*	House mouse	3	Sherman trap
27/08/2021	*Lampropholis guichenoti*	Common garden skink	1	Funnel
28/08/2021	*Mus musculus*	House mouse	1	Pit fall
28/08/2021	*Carlia vivax*	Lively Rainbow skink	1	Pit fall

6.6.2 Spotlight Searches

One (1) spotlight meander was conducted on 31st August 2021 from 1730 hrs to 2000 hrs. The region of the transect walked during the spotlight search relevant to West B is presented in **Plan 3**. No species of significance were located during spotlighting conducted within West B, however within the greater CA3 area species recorded during spotlighting included the listed Vulnerable Grey-headed Flying Fox, Northern Brown Bandicoot, Barn Owl, Red-necked Wallaby and Red-bellied Black Snake.

6.6.3 SAT Surveys

Two (2) SAT surveys were conducted during the survey period withing West B. No koala scats were recorded during the SAT surveys, yielding 'low / nil' Koala usage scores across the site. The results of the SAT surveys are presented in **Appendix H**.

6.6.4 Camera sites

Two (2) motion sensor camera traps were installed for the duration of the survey period within the West B region, identified as Camera 1 and Camera 2. The cameras were securely attached to a tree with a bait station containing chicken necks. Refer **Plan 2** for locations of traps. The cameras were set to bursts of 3 photos with 15-second intervals. This sequence ensures enough photos to enable best opportunity for identification of fauna while prolonging battery life. The results of the camera trapping are presented in **Table 17** and **Appendix I** for camera trap images.

Table 17: Fauna detected at remote-triggered camera sites.

Scientific name	Common name	Camera 1	Camera 2
Sminthopsis murina	Common Dunnart	Y	
Isoodon macrourus	Northern Brown Bandicoot	Y	Y
Mus musculus	House mouse	Y	Y
Trichosurus vulpecula	Common Brush-tail possum	Y	
Canis familiaris	Feral dog	Y	
Macropus rufogriseus	Red-necked Wallaby		Y
Eopsaltria australis	Eastern Yellow Robin	Y	

Camera Site 1

Camera site one was installed within eucalypt woodland dominated by *Corymbia citriodora* (Spotted Gum) adjoining a drainage line in the northern portion of Area 3 (refer **Photo 8** and **Plan 3**). Several fauna species were observed. Native species included Common Dunnart, Eastern Yellow Robin, Northern Brown Bandicoot and Common Brushtail Possum. Introduced species included Feral Dog and House Mouse (refer **Appendix I**).

Camera Site 2

Camera site two was installed within a drainage line in the south-western portion of Area 3 (refer **Photo 9** and **Plan 3**). Recorded species included the native Northern Brown Bandicoot and Red-necked Wallaby and the introduced House Mouse (refer **Appendix I**).



Photo 8: Camera site 1 with bait station.



Photo 9: Camera site 2 with bait station.

6.7. Fauna Survey Summary

The following summarises the findings from the fauna field assessment:

- Overall, the ecological assessment areas which occur in West B, being 2 and 3 are considered to contain general connectivity value with the presence of riparian corridors and drainage lines. The vegetation, particularly in Area 2, shows evidence of disturbance and historical logging indicated by the lack of large, old growth trees and relatively new woodland growth. Fauna habitat values within the cleared open paddock portion of the site (4) are limited to vegetated drainage lines.
- Within West B Fauna movement opportunities are provided through the riparian corridors and drainage lines
- Two (2) full fauna sites were installed across the site within two of the different ecological assessment areas present (**Plan 3**).
- The EPBC Act lists 34 species as potentially occurring within 5 km of the site.
- The NCA lists four (4) species of conservation significance as being present within 5 km of the site. *Hirundapus caudacutus (*White-throated Needletail*)*, *Phascolarctos cinereus* (Koala), *Calyptorhynchus lathami* (Glossy Black Cockatoo) and *Ninox strenua* (Powerful Owl) are confirmed or likely within five (5) kilometres of the investigation area.

- A total of 60 fauna species were detected definitively within the three ecological assessment area present within West B (Areas 2, 3 and 4) including thirteen (13) species of mammal, thirty-seven (37) species of bird, three (3) species of amphibian and seven (7) species of reptile.
- Two (2) conservation significant species were detected within the CA3 area including the Koala and Grey-headed Flying Fox which are listed as Vulnerable under the EPBC Act and NCA. Of these grey-headed flying fox was detected within an ecological assessment area which occurs in West B, but not within west B itself.
- Indirect evidence of Koala in the form of scats was not recorded during SAT surveys on-site, suggesting low Koala usage within the West B region.
- Noteworthy habitat value for Spotted-tailed Quoll and Greater Glider was generally absent the site due to the lack of denning habitat and old-growth hollows.
- Pest species including Feral Dogs and Red Foxes were detected within the greater CA3 region, further reducing suitability for threatened species.

6.8. Threatened species

For the purposes of this report, a significant species has been defined as a species that is:

- Scheduled as critically endangered, endangered, vulnerable or conservation dependent under the Commonwealth EPBC Act; and/or
- Scheduled as endangered, vulnerable, or near threatened under the Queensland NC Act.

6.8.1 Threatened flora species

No flora species listed as threatened under the EPBC Act or the NC Act were recorded on-site.

Nineteen (19) flora species listed as threatened under the EPBC Act were indicated as having the potential to occur within 5 km of the site (refer **Appendix C** for the full list of species identified under the PMST). On-ground assessment determined that it was unlikely that any of these species would inhabit the site due to the level of grazing pressure, historical disturbance throughout the vegetation and lack of suitable microhabitat such as rocky outcrops. *Melaleuca irbyana* (Swamp Tea-tree), listed as Endangered under the NCA was identified as having a high likelihood of occurrence on-site. The species was not detected during surveys. Prior to comprehensive surveys *Coleus habrophyllus* was listed and determined to have a high likelihood of occurring on site. The entirety of CA3 was tree plotted and walked by qualified ecologists between 1st of July and the 3rd of December 2024. Incidental observation of flora were recorded during this process and *Coleus habrophyllus* was not detected on site.

The EPBC Act PMST listed seven (7) TECs that may occur in, or relate to, the subject site (see **Section 3.1**). These are described as the following:

- The Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland Ecological community occurs in coastal catchments, mostly at elevations of less than 20 m above sea level that are typically found within 30 km of the coast however distance can vary by catchment. The canopy layer is dominated by *Casuarina glauca* (Swamp Oak) and in Queensland is represented by

RE12.1.1 or RE12.3.20. None of these RE communities occur on site or within the immediate vicinity of the site.

- Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland The structure of the Coastal Swamp Sclerophyll Forest ecological community varies from open woodland to closed forest with a crown cover of at least 10% and typically no more than 70%. In an intact forest, the canopy can be layered, with a sub-canopy of melaleuca grading into a taller mixed melaleuca and/or eucalypt canopy. The Coastal Swamp Sclerophyll Forest typically features a canopy and/or subcanopy dominated by Melaleuca spp. and / or Eucalyptus robusta. In the northern extent of the ecological community (northern SYB to the SEQ bioregion) the canopy is typically dominated or co-dominated by Melaleuca quinquenervia (Broad-leaved Paperbark) and/or Eucalyptus robusta (Swamp Mahogany).
- The Lowland Rainforest of Subtropical Australia TEC typically has high species richness. In Queensland, this TEC is part of a number of RE communities including 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 12.12.16. None of these RE communities occur on site or within the immediate vicinity of the site.
- 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. This TEC is associated with RE11.3.2, RE11.3.17, RE11.4.7, RE11.4.12, and RE12.3.10. None of these RE communities occur on site or within the immediate vicinity of the site.
- 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 ecosystems range in conservation status from 'not of concern at present' to 'endangered'. None of these RE communities occur on site or within the immediate vicinity of the site.
- 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 recognised as endangered under this framework, including 12.3.2, 12.3.2a, 12.3.3, 12.3.3a, 12.3.3b, 12.3.3d, 12.3.4a, 12.3.7, 12.3.7c, 12.3.7d, 12.3.10, 12.3.11, 12.3.11a, 12.3.11b, 12.3.12, 12.3.14a, 12.3.15 and 12.3.19.
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – Critically Endangered (community **likely to** occur within area). This threatened community is characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs and the dominance of White Box, Yellow Box, or Blakely's Red gum trees. This community is usually associated with

Regional Ecosystem 11.8.2a, 11.8.8, 11.9.9a (superseded), 13.3.1, 13.11.8, 13.12.8 and 13.12.9. It can also be a small component of Regional Ecosystem 11.3.23, 12.8.16, 13.3.4, 13.11.3 and 13.11.4.

No TECs, nor any conditions to support them, were observed on-site at the time of initial comprehensive surveys. Since initial surveys an additional two TEC's have been added. RE12.3.11, present on site, is associated with one of these new TECs, Subtropical eucalypt floodplain forest and woodland. No flora species listed as threatened under the EPBC Act were recorded throughout the investigation area.

6.8.2 Threatened fauna species

No species of conservation significance were located on site during surveys. Two (2) conservation significant species were detected within the greater CA3 area. These included the *Phascolarctos cinereus* (Koala), which was detected within Flagstone Creek Corridor, and *Pteropus poliocephalus* (Grey-headed Flying Fox). *Rhipidura rufifrons* (Rufous Fantail) which was listed as migratory / marine under the EPBC Act at the time of initial searches was also detected but has since been delisted.

The EPBC Act PMST listed 34 fauna species listed as Threatened under the EPBC Act with the potential to occur within 5 km of the site (refer **Appendix C** for the complete PM search results). Field surveys did not detect the presence of species listed under the EPBC Act or NCA were detected on-site nor are they considered likely to occur on-site due to the lack of suitable habitat values.

A review of the threatened species that are considered likely to occur from a desktop perspective is provided in **Table 18** based on findings of the field surveys.

Table 18: 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				
		There are 6 records of this species occurring within 10km of the site in the last 20 years four (4) of which occur within 5km. There are no records of this species within 1km of the site.		
Anthochaera phrygia (Regent Honeyeater)	CE / CE	The site contains remnant vegetation which contains eucalypt dominated Regional Ecosystems. The remnant vegetation is suitable foraging habitat for the Regent Honeyeater due to the dominance of winter flowering eucalypts including Corymbia citriodora, Eucalyptus crebra and Eucalyptus tereticornis. In addition to the presence of foraging habitat on-site, the Regent Honeyeater was observed in 2019 approximately 1.4 km south-west of the site in the Lyons area.	High	Moderate

		However, due to historical logging, the vegetation is lacking large, old-growth trees that this species prefers. 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.		
Calyptorhynchus lathami lathami (Glossy Black-cockatoo)	V/ V	There have been 5 records of this species occurring within 10km of the site within the previous 20 years. The western half of the site is mapped as remnant vegetation with eucalypt dominated Regional Ecosystems. Allocasuarina species were lacking across the site, reducing suitability of the vegetation for the Glossy Black-cockatoo. Glossy Black-cockatoos are identified as occurring within the Flinders-Karawatha corridor which adjoins the site to the west.	Moderate	Low
Erythrotriorchis radiatus (Red Goshawk)	E / E	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. There is potential for the Red Goshawk to use the remnant vegetation on-site as it comprises eucalypt woodland and riverine vegetation communities. However, it is likely that occurrence would be limited to opportunistic foraging due to the lack of tall trees across the site. It is unlikely that it would be used for breeding.	Moderate	Low
Falco hypoleucos (Grey Falcon)	V / V	The remnant vegetation on-site contains eucalypt woodland and riverine vegetation communities. The watercourses contain large eucalypt trees which may provide suitable nesting habitat. The presence of eucalypt woodland but lack of records within a km of the site indicates a low likelihood of this species occurring on-site.	Moderate	Moderate
Hirundapus caudacutus (White-throated Needletail)	V / V	There are 65 records of this species occurring within 10km of the site in the last 20 years, 7 of which are within 5km. There are no records of this species within 1 km of the site. There are an additional 2 undated records within 10km of the site. Based on the presence of a large area of connected remnant habitat, there is potential that the	Moderate	Moderate

		vegetation may contain large eucalypts that are preferable foraging habitat for this species. However, surveys on site found large trees in this area are limited, with significant evidence of disturbance across site.		
Lathamus discolor (Swift Parrot)	CE / E	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. The site contains remnant vegetation which is eucalypt dominated Regional Ecosystems. The remnant vegetation is suitable foraging habitat for the Swift Parrot due to the dominance of winter flowering eucalypts including *Corymbia citriodora, Eucalyptus crebra* and *Eucalyptus tereticornis*. However, due to historical logging, the vegetation is lacking large, old-growth trees that this species prefers. As such, the likelihood of occurrence is considered moderate. Given the large area and connectedness of the remnant vegetation on-site, there is potential for the Swift Parrot to utilise the vegetation during foraging periods.	Moderate	Moderate
Ninox sternua (Powerful Owl)	-/V	There is potential for the remnant vegetation to provide habitat for the Powerful Owl. However, extensive surveys have been completed across Context Area 3, where the species or evidence of the species was not observed. Surveys included bird surveys and spotlighting.	Moderate	Low
Myiagra cyanoleuca (Satin Flycatcher)	-/-	There is potential that the eucalypt woodland on-site may support this species, particularly in the mapped Land Zone 3. Satin Flycatchers are commonly recorded in Logan and Ipswich.	High	High
Mammals				
Dasyurus maculatus maculatus (Spotted-tailed Quoll)	E / E	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. From a desktop perspective, the remnant habitat on-site is considered to provide potential for the Spotted-tailed Quoll to occur on-site, particularly as it is connected to the Flinders-Karawatha Bioregional Corridor to the west. However, detailed field surveys throughout the remnant bushland did not detect suitable denning habitat. Significant survey efforts to detect this species have been conducted within the locality in the past 10	Moderate	Low

		years with the most significant survey effort demonstrated in a published study by [3]Wildlife Preservation Society of Queensland (2015). Some evidence of this species has been detected in the past few years in the form of scents and potential scats, however, no evidence was detected on-site during 2021 surveys. In addition, threats are present on-site as Feral Dogs and Red Foxes were recorded, reducing the likelihood that the species would occur on-site. Based on the lack of evidence of this species on-site and the presence of threats, there is considered to be a low likelihood this species would occur on-site. Notably, the Wildlife Preservation Society of Queensland (Quoll Seeker's Network) in association with Logan City Council placed a number of wildlife cameras across the LGA over a 3-year program. Motion sensor cameras were located on private properties, Council Reserves, National Parks, Energex owned land and the Greenbank military airbase between 2011 and 2014 at 107 sites at 47 locations. They were placed in areas of reported sightings, or where detector dogs had indicated but direct searches were unable to substantiate evidence (e.g. scats). The 3-year program took over 205,000 pictures but did not photograph a single image of a Quoll. It is noted that a Quoll scat was recently recorded and confirmed near Flinders Peak, approximately 7 kilometres southwest of the subject site. Up until this recent record, the species was considered by many to be locally extinct.		
Petauroides volans (Greater Glider)	E / V	There are 4 records of this species occurring within 10 km of the site within the previous 20 years and one (1) additional record without a date. The presence of large area (230 ha) of remnant eucalypt woodland on-site is considered to provide potential for the Greater Glider to occur from a desktop perspective.	High	Low

[3] Barrenger, H., Whyte, I., (2015). Looking out for Quolls in Logan. Wildlife Preservation Society of Queensland.

		However, the site has been historically logged and few large, old-growth trees remain. The Greater Glider requires between 2-4 live hollows per ha. As such, breeding and shelter habitat to support the species are not provided on-site. As such, there is a low likelihood that this species would occur on-site.		
Petaurus australis australis (Yellow-bellied Glider (south-eastern))	V/V	There are 20 occurrence records of this species within 10km, 3 of which are within 5km, of this site within the last 20 years. Theres also an additional one undated record. Eucalypt forest does occur on site presenting potential suitable habitat for this species on site. However, due to historical logging, the vegetation is lacking large, old-growth trees that this species prefers. As such, the likelihood of occurrence is considered moderate. Given the large area and connectedness of the remnant vegetation on-site, there is potential for the Yellow-bellied Glider to utilise the vegetation during foraging periods.	High	Low
Petrogale penicillata (Brush-tailed Rock Wallaby)	V / V	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Field surveys found the remnant woodland on-site lacks rocky escarpments that this species inhabits. Field surveys found the remnant woodland on-site lacks rocky escarpments that this species inhabits. As the site is connected to the Flinders-Karawatha Bioregional Corridor to the west where this species is known to occur, the species was considered to have potential to occur based on desktop analysis. However, due to the lack of suitable habitat, there is a low likelihood this species would occur.	Moderate	Low
Phascolarctos cinereus (Koala)	V / V	There are 246 records of this species occurring within 10 km of the site within the previous 20 years, 11 of which occur within 5km. There is also an additional 84 records within 10km without dates. The site contains suitable habitat in the form of approximately of remnant eucalypt woodland. Koalas are also known to occur within the locality.	High	High

		A Koala was detected nearby to site within the Flagstone Creek corridor via remote-triggered camera trap. SAT surveys conducted across the site did not detect evidence of Koala in the form of scats, indicating low usage. It is likely that the Koala primarily utilises the riverine corridor network within Flagstone Creek where preferred foraging species (Eucalyptus tereticornis) are dominant. No records of this species are present within 30 km of site. Furthermore, while the understory is dense in areas it is dominated by weedy species and areas where a native understory is present in consists of grass species not grass-trees, sedges, ferns or heaths. Given the lack of sightings and unsuitable habitat on-site, it's considered unlikely that this species would occur on-site.		
Pteropus poliocephalus (Grey-headed Flying Fox)	V / -	There are 21 records of this species occurring within 10 km of the site within the previous 20 years, 1 of which is within 5km of the site. There are an additional 5 records within 10km which are not dated. Suitable foraging habitat is mapped on-site in the form of remnant eucalypt woodland. A Grey-headed Flying Fox roost is located on Homestead Drive, approximately 1.5 km south-east of the site. Grey-headed Flying Foxes were observed nearby to site during spotlighting surveys in other areas within CA3.	High	High

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

6.9. Watercourse Assessments

Watercourse assessments were completed within the mapped drainage lines across the site. Refer **Table 19** below for field survey reference, **Plan 2** or the location of watercourse assessments, **Plan 4** for the determinations of rectified values and **Appendix J** for complete watercourse assessments. The results are detailed in the following sub sections.

Table 19: Waterway Determination Reference

Determination Type	Definition
Rectified waterway	Defined bed and bank features Permanent or intermittent flow Fish habitat Generally contains riparian vegetation and/or macrophytes
Drainage feature	Inconsistent features Intermittent flow only Dominance of weeds
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.
Overland flow path - values absent	No evidence of drainage line.



Photo set 13: Overland flow path (left) and drainage line with scour pools (right) within Area 2.

6.9.1 Area 2

Multiple drainage lines are present within Area 2 which drain north into Flagstone Creek. Refer to Assessments 7a, 8d and 9a for the drainage lines present within West B. The upstream portion of the drainage lines were observed to be drainage features. Further downstream, some drainage lines formed defined channels with

some watercourse features such as pooling water and bed and bank features observed (refer **Photo set 13**). The dominant vegetation adjoining the drainage lines was *Lophostemon suaveolens* (Swamp Box), *Eucalyptus tereticornis* (Forest Red Gum) and *Melaleuca quinquenervia* (Broad-leaved Paperbark) which was observed further downstream. Low to moderate weed incursion was observed along the drainage lines in the form of Lantana camara (Lantana) and *Passiflora suberosa* (Corky Passion). Ground cover vegetation present along the downstream banks included *Lomandra longifolia* (Long-leaved Matrush), *L. multiflora* (Many-flowered Matrush), *Gahnia aspera* (Saw Sedge) and *Cyperus polystachyos* (Bunchy Sedge). Some macrophytes were observed including *Juncus usitatus (*Common Rush) were also present.

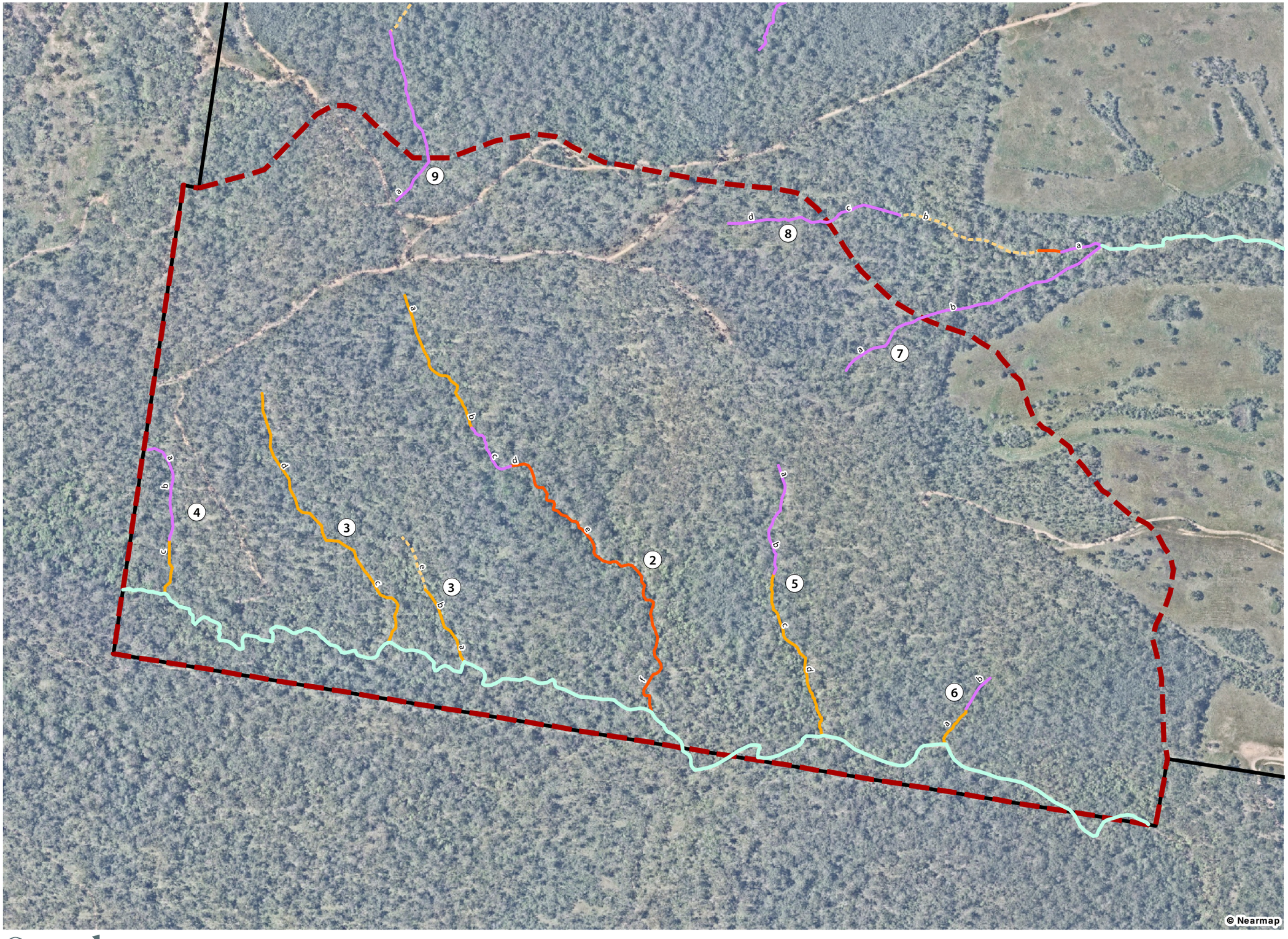
6.9.2 Area 3

Area 3 contains several mapped vegetation management watercourses which are tributaries of Sandy Creek. These were all identified during on-ground assessments to be drainage features as they lack watercourse features such as permanent water or macrophytes (Refer **Photo set 14)**. The upstream portions of the drainage lines are overland flow paths which transition into an eroded channel with discontinuous bed and bank features downstream. Refer to Assessments 2, 3, 4, 5, and 6 for full descriptions of assessments present within West B. The vegetation was dominated by adjoining eucalypt woodland values dominated by *Eucalyptus crebra* (Narrow-leaved Ironbark), *E. tereticornis* (Forest Red Gum) and *Corymbia citriodora* (Spotted Gum). *Angophora subvelutina* (Broad-leaved Apple) and *Lophostemon suaveolens* (Swamp Box) were also observed intermittently along the drainage lines, particularly in the downstream portions. Ground cover vegetation frequently observed included *Lomandra longifolia* (Long-leaved Matrush). Moderate to heavy weed infestations of *Lantana camara* (Lantana) and *Passiflora suberosa* (Corky Passion) are present.



Photo set 14: Eroded flow paths – drainage line 4 (left) and drainage line 2 (right) within Area 3.

4. WATERWAY ASSESSMENT



Notes:
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LEGEND

- Context Area 3 boundary
- Context Area 3 - West (B)

Waterway determinations

- Flowpath within EPBC approval critical Koala habitat
- Waterway
- Drainage feature
- Eroded drainage feature
- Severly eroded drainage feature
- Overland flow path
- Dam

AMENDMENTS

Issue	Date	Description	Drawn	Checked
B	8/12/2025	REBRAND	TC	AD

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Flagstone

CONTEXT AREA 3 - WEST (B)

Address / RPD: Flagstone City

Date: 8/12/2025

9850 E04 CP3 W-B Waterway Assessment B

6.10. Ground Rectified Constraints

Following the field survey, a ground rectified NESS constraints plan was completed for the subject site. **Plan 5** demonstrates the ground rectified NESS constraints, including, rectified watercourses, land zone 3 of concern that is along any rectified waterway extent and slope affected land.

6.10.1 Rectified Waterways, Flagstone Creek and Sandy Creek

Field surveys completed across the Context Area 3 site included detailed waterway assessments, those relevant to the site area identified as West B previously discussed in **Section 6.8**. The waterway assessments aided in the ground truthing and rectification of waterways located across the subject site.

Some drainage lines located across the subject site are mapped as Unconnected Supporting Habitat Areas under the approved NESS. The Unconnected Supporting Habitat Areas identified within the NESS include Category X vegetation, non-remnant gully lines and retained tree clusters. The approved NESS details that these areas need to be explored during detailed assessment but are considered at the site scale as potentially suitable for contributing to urban habitat outcomes.

The assessment of these areas during field surveys assisted to determine their value and whether or not they contribute to urban habitat outcomes. Where rectified watercourse were present, these are proposed to be retained within Open Space areas.

6.10.2 Land zone 3 of concern vegetation mapped on rectified watercourses

Vegetation mapped within Land zone 3, that is mapped as Of Concern vegetation, located on rectified waterways was included as an ecological constraint within **Plan 5**. This above the hierarchy of importance identified in Guideline 14 (endangered vegetation) but represents riparian values considered worthy of retention.

Low Order Remnant Vegetation Development Zones are identified within the approved NESS, primarily within the western portion of the subject site. The purpose of these areas is to assess the vegetation to determine suitable areas for proposed development.

Where 'Of Concern' vegetation is located outside of rectified watercourse, these areas are considered to provide for proposed development. The land zone 3 Of Concern vegetation located on rectified watercourse assessed during field surveys are considered a constraint.

6.10.3 Slope affected land

The presence of slope affected land, where the slope is greater than 15%, is considered under the approved NESS. Where clearing is proposed within slope sensitive areas, the development should utilise machinery, sequencing and techniques which minimise disturbances to existing ground surfaces. These areas are identified within **Plan 5**.

6.10.4 Ground-rectified Fisheries Waterways Barrier Works mapping alignment

Fisheries Act Waterway Barrier Works mapping was aligned during this assessment by a combination of ground-rectification during waterway assessments and desktop GIS mapping. **Plan 5** demonstrates the ground-rectified waterway as well as its Waterway Barrier Works risk as constraints.

6.10.5 Koala Habitat associated drainage line

Where Koala Habitat identified for retention under the EPBC Act approval is located in association with a drainage line, this habitat has been differentiated and included to augment the EPBC Act approval Koala Habitat Areas (refer to **Plan 5**).

5. GROUND CONFIRMED NESS CONSTRAINTS



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LEGEND

- Context Area 3 boundary
- Context Area 3 - West (B)
- EPBC approval critical Koala habitat
- Koala habitat associated drainage line
- Slope affected land
- NESS environmental areas
- Land Zone 3 Of Concern remnant where not mapped on rectified drainage features

Flagstone & Sandy Creek

- Core Corridor (measured 50m from top of banks)
- Indicative outer corridor – Average 200 m total width stretch target

Ground-rectified Fisheries waterway barrier works mapping alignment

- 1 - Green
- 2 - Amber
- 3 - Red

AMENDMENTS

Issue	Date	Description	Drawn	Checked
B	8/12/2025	REBRAND	TC	AD

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CONTEXT AREA 3 - WEST (B)

Address / RPD: Flagstone City

Date: 8/12/2025

9850 E05 CP3 W-B Confirmed NESS Constraints B

7. Impact Assessment and Development Analysis

7.1. Proposed Development

The development proposal is for the Flagstone City Context Area 3 within the Greater Flagstone PDA (refer **Plan 6** that identifies rectified constraints within the proposed Context Plan). The Context Area 3 site is predominantly zoned as Urban Living with a corridor of Environmental Protection along the western boundary under *Greater Flagstone Priority Development Area Development Scheme*, as implemented by EDQ.

The vegetation on-site has been rectified by PMAV under the VMA. The remnant vegetation on-site as rectified by PMAV consists of a mix of Regional Ecosystems including Least concern RE 12.9-10.2 and Of Concern RE's 12.9-10.7, 12.9-10.2/12.9-10.7 and RE12.3.11. The vegetation onsite is generally in accordance with the PMAV. The site has been subject to extensive modification in the form of thinning and clearing activities and selective logging and modification has occurred through the remnant vegetation in the western portion of the site. The small region of the site is comprised of cleared paddocks and modified drainage lines. This portion of the site is confirmed to contain relatively limited habitat values due to the presence of modified and fragmented ecological values. The proposed development will result in the removal of remnant vegetation mapping present in the majority of the site. One waterway for WWBW is present on the site which will be retained as part of the open space network as minor habitat linkages.

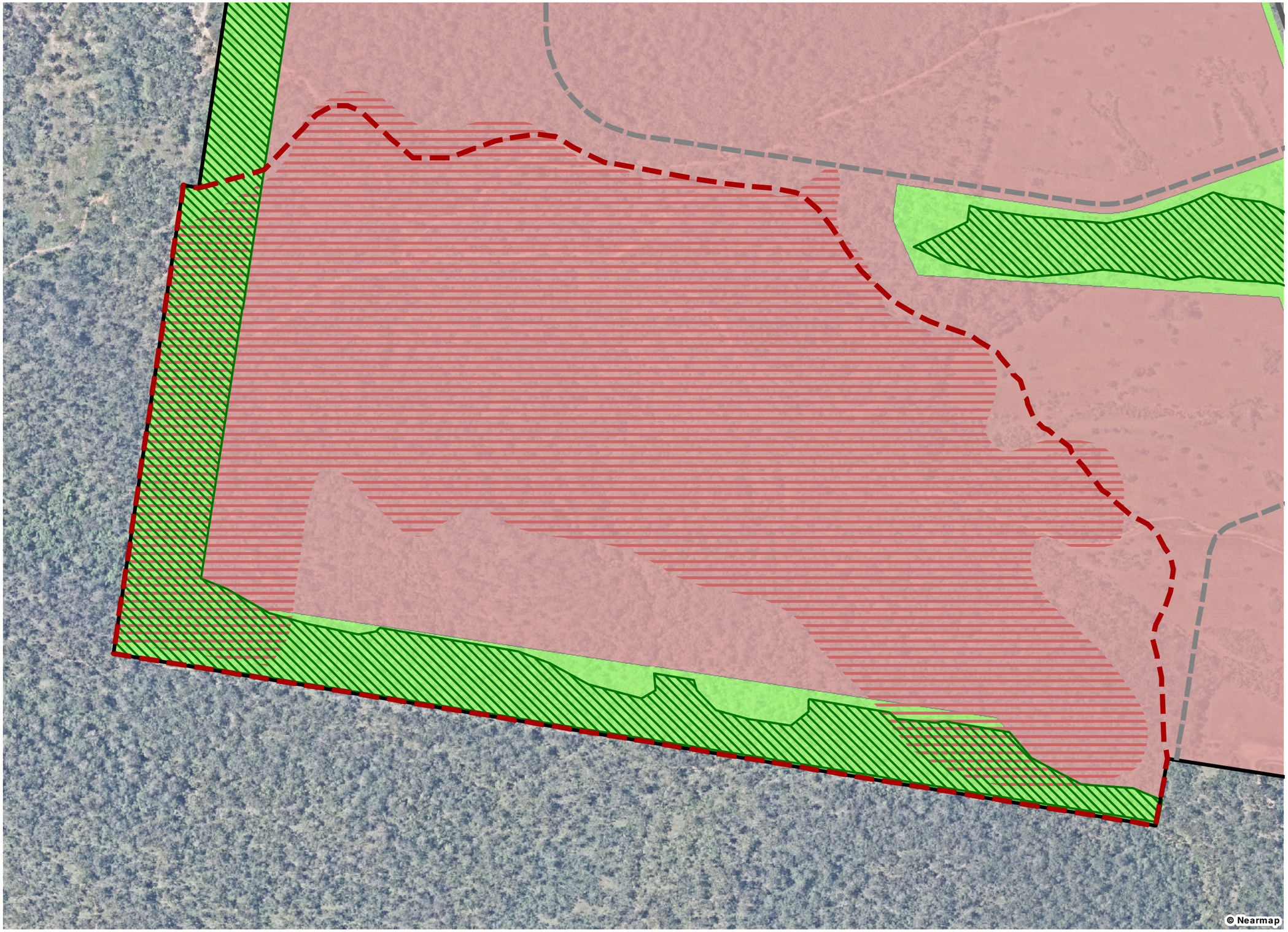
Under the proposed Context Plan, critical Koala habitat areas as specified in the EPBC Act approval will be retained, with the balance of Koala habitat that will be cleared offset under that approval. The application of these specific NESS criteria and EPBC Act approval conditions as required has given rise to some developable areas that fall within the indicative buffers mapped within the NESS, noting that these indicative buffers were always intended to be refined according to the specific criteria as has occurred in previous Context Area approvals guided by the NESS for Flagstone City.

Vegetation clearing is required to occur within the mapped Category B (remnant). This is required in order to deliver the urban development requirements 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 approval. Vegetation will be retained within a conservation buffer along the western boundary of the site, creating a soft buffer between the development and the adjoining conservation corridor. Extensive modification of land in the eastern portion of the site has resulted in a highly disturbed environment which lacks intact habitat required to facilitate safe movement for fauna (specifically ground-dwelling fauna) across the landscape. Fauna movement opportunities will be enabled in some capacity through the proposed retention and rehabilitation of environmental corridors. However, as the landscape to the east of the site is earmarked for residential development as part of the PDA and the presence of the Flinders-Karawatha Bioregional Corridor which directly abuts the site to the west, it is considered appropriate to encourage fauna movement to the west within the adjacent corridor.

No species of conservation significance were detected within the site identified as West B. Two conservation significant fauna species were detected within the Context Area 3, including the Koala and Grey-headed Flying-fox which are listed as Vulnerable under the EPBC Act and NCA. Presence of the Koala was confirmed within the Flagstone Creek Biodiversity Corridor via remote-triggered camera. Indirect evidence of Koala in the form of scats was not recorded during SAT surveys on-site, suggesting low Koala usage within the site. Notably, potential impacts on the Koala have been assessed and impacts offset at the Commonwealth level under the EPBC Act. It is not anticipated that the proposal will have a significant impact on the other two listed species or others identified in likelihood assessments primarily due to their high mobility and propensity to utilise retained corridors and more optimal habitat to the west of the site. Furthermore, Rufous Fantail which was identified within the great CA3 region has been delisted since surveys occurred.

Drainage lines within the development area mapped as RE12.3.11 are not considered representative of land zone 3 nor riparian floodplain as listed in the relevant TEC conservation advice under the EPBC Act. It is considered unlikely that the TEC occurs within the development area.

6. DEVELOPMENT ASSESSMENT



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LEGEND

- Context Area 3 boundary
- Context Area 3 - West (B)
- Rectified contraints layer

Context Plan Masterplan

- Residential/Commercial Development Area
- State Primary School
- Open space
- Sport & recreation park boundaries
- Arterial Road
- Trunk Connector Road
- Minor Road Linkages
- Slope affected land (>15%)
- Masterplan corridor measurements

AMENDMENTS

Issue	Date	Description	Drawn	Checked
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Flagstone

CONTEXT AREA 3 - WEST (B)

Address / RPD: Flagstone City

Date: 8/12/2025

9850 E06 CP3 W-B Development Assessment B

7.2. Potential Impacts

The following subsections address key potential ecological impacts associated with the development.

7.2.1 Vegetation clearing

Clearing of vegetation to support the development will overall reduce vegetation cover and habitat available for flora and fauna currently utilising the site. The retention of site corridors and offset at the federal level are considered mitigating factors for the proposed clearing.

7.2.2 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. With 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.

7.2.3 Vehicle movements

During construction, a minor increase in vehicles necessary to construct the road will be required on the site. Potential direct impacts from vehicle movements on flora and fauna, and vegetation communities include:

- removal of vegetation or fauna habitat by vehicles traversing these areas; and
- fauna strike.

Potential indirect impacts from vehicle movements include:

- interference of fauna through visual and noise impacts, which can subsequently affect feeding, roosting, breeding or nesting behaviour;
- introducing and / or spreading weeds carried on or in vehicles, resulting in deterioration of surrounding environments and potentially important fauna habitat; and
- smothering from excess dust generated by vehicles traversing the project area resulting in damage to retained vegetation.

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.

7.2.4 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:

- 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.

7.2.5 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 area. Some light spillage will be inevitable and is likely to be contained. Potential impacts associated with light emissions will be temporary and 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 light pollution during construction.

7.2.6 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 to 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 and current exposure to surrounding noise and vibration impacts, this is likely to be a temporary and negligible to minor impact.

7.2.7 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.

7.2.8 Hazardous and dangerous goods

Spills and leaks from transfers (e.g. fuel and/or 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 to be retained (resulting in degradation of vegetation quality), direct toxic impacts on fauna (from contact, inhalation or ingestion) or indirect impacts on flora and fauna 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.

7.2.9 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.

7.3. Ongoing disturbances

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

- vehicle strike;
- noise and light pollution; and
- increased human presence.

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

7.3.1 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.

7.3.2 Noise and light pollution

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 the development may affect nocturnal and diurnal animals by disrupting patterns, with quality of light (e.g. wave length and 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.

7.3.3 Increased human presence

Increased human activity in the form of increased traffic entering 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 specific 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.

7.4. Management and compensatory measures

Management and compensatory measures proposed to minimise and offset impacts associated with the development are discussed within the following subsections.

7.4.1 Vegetation Management Plan

A Vegetation Management Plan (VMP) forms part of the broader management document submitted as part of the development application for the project site.

The VMP covers clearing of all vegetation listed in this report and includes details on the following:

- trees marked for removal;
- all civil works likely to impact existing vegetation;
- temporary and permanent exclusion and protection fencing;
- roles and responsibilities for site contractors, the developer and the consultant group;
- stockpiling, reuse of cleared vegetation, and site access locations; and
- links to weed management and revegetation proposals.

7.4.2 Fauna Management Plan

A Fauna Management Plan (FMP) forms part of the broader management document submitted as part of the development application for the project site.

The FMP covers clearing of all vegetation listed in this report and includes details on the following:

- a list of relevant State and Commonwealth legislation constraints and controls for fauna potentially affected by construction works;
- species surveyed utilising the site, focusing on those most likely impacted by development works;
- details of the threats to existing fauna species;
- a clearing sequence plan showing the commencement of clearing and direction of removal to allow for the appropriate flushing of fauna towards safe havens and/or the application of an appropriate relocation program;
- management and mitigation measures – *i.e.*, temporary use of fauna exclusion fencing;
- description of fauna spotter role, contacts and certification; and
- specific fauna management procedures for potential or known habitat trees.

7.4.3 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.

7.5. Guideline 14 – Environmental Values and Sustainable Resource Use

Guideline 14 outlines the values and strategies for protecting the environment and optimising resource use in PDAs and includes the following strategies:

- Environmental values.
- Pollution sources.
- Climate change issues.
- Natural resources.

A response to Guideline 14, with respect to the project site, is presented below. It is important to note previous assessments against Guideline 14 criteria defined the constraints analysis outlined in the endorsed NESS, and that this assessment augments those findings with an emphasis on the identified further investigation area.

Ecological Processes and Systems

Values	Strategies	Comments
1. Significant terrestrial biodiversity values Areas of significant biodiversity value may include: ▪ Land mapped in the applicable PDA development scheme as having significant biodiversity values. ▪ Mapped biodiversity corridors identified in the applicable PDA development scheme. ▪ Other areas of significance identified in the applicable PDA development scheme. ▪ Viable areas of remnant vegetation containing endangered regional ecosystems as defined in Appendix 1. ▪ Listed threatened species habitat.	Identify significant terrestrial biodiversity values within and adjoining the development area by undertaking: ▪ Robust field surveys. ▪ Desktop assessments using local, state and commonwealth environment databases and mapping searches. Demonstrate how the development minimises impacts on significant biodiversity values by minimising vegetation clearing generally within the area and by specifically: ▪ Retaining and enhancing areas of viable remnant vegetation containing endangered regional ecosystems as defined in Appendix 1. ▪ Avoiding, minimising or off-setting the clearing of non-viable remnant vegetation containing endangered regional ecosystems as defined in Appendix 1. ▪ Minimising the clearing of remnant and regulated regrowth vegetation within the area. ▪ Providing adequate buffers between development and any identified significant biodiversity value within or adjoining the development site.	The project area and surrounding landscape has been subject to a detailed ecological assessment by SHG to identify existing and potential ecological values present at the site. The findings of the detailed fauna and flora surveys have been provided within this SBAR. The project area contains two broad vegetation types. A small portion of the site is cleared and retains minimal environmental value. The majority of the site is mapped as Category B (remnant) vegetation and abuts the Flinders-Karawatha Bioregional Corridor to the west. The remnant vegetation on-site contains a mix of Regional Ecosystems including Least concern RE 12.9-10.2 and Of Concern RE's 12.9-10.7, 12.9-10.2/12.9-10.7 and RE12.3.1. Under the PMAVs, the site does not contain any areas of viable endangered vegetation which is identified as significant under IG 14. The mapped remnant vegetation on-site is recognised as essential habitat for *Phascolarctos cinereus* (Koala) under the VMA. The desktop assessment identified the remnant vegetation on-site as containing potential habitat for a number of threatened species under the EPBC Act and NCA. On-ground assessments found the vegetation to remnant vegetation to lack significant habitat values. As discussed in detail within this SBAR, the project area has been subject to historic and ongoing modification in the form of clearing and thinning. As a result, many of the larger, habitat trees have been removed from the remnant portion of the site thus reducing the suitability of the vegetation for species such as Greater Glider. A small region in the eastern portion of the site is highly modified and currently consists of paddock not likely to meet the IG 14 definition of 'significant biodiversity value'.

Values	Strategies	Comments
	▪ Providing management plans to reduce and control clearing and manage other development and construction impacts in the area.	Multiple linear open space corridors are proposed across the site, buffering in situ ecological values from the development and retaining connectivity values within major ecological corridors. The remnant vegetation was relatively disturbed and determined to contain minimal habitat value for threatened species such as the Spotted-tailed Quoll and Greater Glider due to the lack of suitable habitat values including denning habitat and old-growth hollows. The removal of the low order remnant vegetation on-site and potential area of biodiversity value will be offset as part of the development and impacts will be minimised through the retention of buffers to biodiversity values. A linear open space network and conservation buffer are proposed throughout the site to allow the retention of ecological values *in situ* and to create a soft buffer between the development and adjoining environmental values (*i.e.,* Flinders-Karawatha Bioregional Corridor). A Vegetation Management Plans (VMP) and Fauna Management Plans (FMP) are recommended for this site to manage potential impacts of the development in the area. While the development proposes to remove some site vegetation, it will be appropriately offset under the EPBC Act approval and managed with the retention of environmental corridors to minimise the overall impact on the site.
2. Ecological connectivity	▪ Identify priority vegetation patches, fauna habitat features and fauna movement corridors in and beyond the application site through	Detailed field surveys were conducted in accordance with the IG 14 requirements to identify any significant biodiversity values on-site including waterways to determine the suitability of site vegetation as habitat for threatened species. Targeted fauna surveys were performed in accordance with the *Terrestrial*

Values	Strategies	Comments
	detailed site assessments completed in accordance with the relevant local government authority guidelines or planning scheme policies for ecological assessment ▪ Retain vegetation connections between priority vegetation patches, fauna habitat features and fauna linkages to ensure ecological connectivity is maintained or enhanced ▪ Minimise locating major infrastructure through identified corridor linkages ▪ Undertake strategic rehabilitation of degraded land where required to improve or create functioning corridors.	*Vertebrate Fauna Survey Guidelines for Queensland* to demonstrate adequate search effort for listed threatened species throughout the search area. Field surveys did not detect any significant habitat values on-site. Disturbance is present across the site and historical logging has removed many large habitat trees that may provide habitat for Greater Glider. The small region of the eastern portion of the site is mostly cleared and largely devoid of environmental values as a result of ongoing clearing activities. This portion of the site contains limited fauna habitat features, where usage of the site by threatened species would largely be opportunistic due to the high level of modification and fragmentation from surrounding potential habitat. Vegetation values are restricted to the drainage lines intersecting the paddock. Field surveys confirmed that the site does not contain areas of viable endangered remnant vegetation. Two (2) conservation significant fauna species were detected within the greater CA3 area including Koala and Grey-headed Flying Fox. The Koala was detected within the Flagstone Creek Biodiversity Corridor via remote-triggered camera. Notably, SAT surveys did not detect any evidence of Koala within Areas 2 and 3, indicating low usage across the site. No species of conservation significance were located within the West B site. A conservation buffer is proposed along the western boundary of the site which will separate the development from the Flinders-Karawatha Bioregional Corridor to the west. The sandy Creek corridor will also be retained. Environmental corridors will be rehabilitated in order to ensure the functioning of the corridors. Replanting using tree species consistent with existing rectified Regional

Values	Strategies	Comments
		Ecosystems where practical is considered appropriate to mitigate environmental impacts of clearing and development in the context of the PDA.
3. Sustainable landscaping practices	▪ Incorporate biodiversity friendly landscape principles and practices such as retaining habitat trees in road reserves and opens space areas. ▪ Maximise use of locally occurring native species in landscaping. ▪ Identified opportunities for revegetation and rehabilitation along waterways and biodiversity corridors.	Sustainable landscape principles and practices will be incorporated within the development area under the development proposal. These will include planting vegetation where possible that is reflective of currently mapped regional ecosystems associated with the site.
4. Bushfire risk management	▪ Ensure significant biodiversity values are protected from exempt clearing by ensuring new built infrastructure is adequately set back from identified biodiversity areas. ▪ Where a firebreak is required to protect new infrastructure ensure clearing associated with the firebreaks is located external to significant biodiversity areas.	It is understood that the need for a Bushfire Management Plan will be addressed separately.

Waterways and Wetlands

Values	Strategies	Comments
1. Wetlands	▪ Identify and accurately map the extent of, and describe the values for, any identified wetlands of high ecological significance and referrable wetlands ▪ Provide adequate buffers between development and wetlands that are in and adjacent to the PDA (where feasible incorporate open space, storm water treatment or fauna corridors within wetland buffers) ▪ Where a wetland of high ecological significance occurs, a minimum buffer of 50 metres between the development proposal and the wetland is recommended	SARA Wetland Protection Area mapping and SPP MSES mapping does not identify protected wetlands within or adjacent to the proposal area. Ecological field surveys did not detect wetland values within the site.
2. Waterways	▪ Identify and accurately map waterways in accordance with DES' stream order hierarchy (1-5). ▪ Determine existing and proposed waterway values of site stream orders (eg. Intact remnant vegetation, riparian values, fauna connectivity, natural water quality function, watercourse stability) ▪ Retain waterways in their undisturbed condition by minimising disturbance to natural drainage. Where this is not proposed provide a detailed waterway assessment report justifying encroachment or removal of waterway areas. ▪ Provide adequate buffers between development and retained waterways to provide waterway protection including temperature, bank stability, light, aquatic habitat, terrestrial habitat. ▪ Where waterways have been designated or identified to provide dual use (fauna corridor, open space connection, stormwater conveyance) provide additional buffer setback.	There are two mapped *low risk* waterways for WWBW under DAF intersecting the site. These are also identified as having a stream order hierarchy of 1 under the VMA. An additional *moderate risk* waterway for WWBW (steam order 2) is mapped in the southern extent of the site proximal to the southern boundary. Detailed on ground waterway values assessment were conducted to guide constraints mapping and ultimately the Context plan outcomes. Notably, the rectified waterway will be retained within an open space corridor. In addition, Stormwater Management and Erosion and Sediment Control Plans will be prepared as part of this application and will manage and minimise potential impacts on the mapped waterways.

Values	Strategies	Comments
3. Water Quality	▪ Water discharge to on-site and adjacent water systems (freshwater, estuarine and marine) must meet water quality standards under current Queensland legislation. ▪ Soil disturbance must be managed to avoid associated contaminants entering adjacent water systems. ▪ Identify nutrient hazard areas and appropriately manage soil and groundwater disturbance to avoid or minimise nutrient mobilisation that may increase the risk of coastal algal blooms. ▪ Avoid or minimise waste water discharge from the site in accordance with a waste water management plan prepared by a suitably qualified person. ▪ Avoid areas with highly permeable soils or a high water table when locating waste disposal activities or facilities. ▪ Provide adequate buffers for water quality between development and retained waterways.	Stormwater Management and Erosion and Sediment Control Plans will be prepared as part of this application and will manage and minimise potential impacts on mapped waterways.

7.6. Guideline 17 – Koala Habitat Obligations

Impacts on Koala habitat values will not be managed through the measures outlined in Implementation Guideline 17 as the development, management and offset of site Koala Habitat values is governed through an approval from the former Commonwealth Department of Agriculture, Water and the Environment (ref: EPBC 2014/7206), which is principally interested in achieving the same outcomes for the site. As such, a response to Guideline 17 is not required.

8. Conclusion

This SBAR was prepared by SHG on behalf of Peet Flagstone City Pty Ltd in response to EDQs *PDA Implementation Guideline No. 14 (Environmental values and sustainable resources)* and the requirements of the EDQ endorsed NESS for the proposed development of Context Area 3 located at Flagstone City.

This SBAR is based on a desktop analysis which has found the following conclusions:

- A search using the EPBC Act PMST identified the potential for seven (7) TECs, 19 threatened flora species and 34 threatened fauna species to occur on site.
    - The remnant vegetation provides suitable habitat for several listed threatened species under the EPBC Act and NCA may exist in the retained remnant vegetation and within the retained waterway corridors. However, key habitat values for Greater Glider, Brush-tailed Rock Wallaby and Spotted-tailed Quoll are lacking across the site.
    - No TECs were detected on-site during initial field surveys. Two additional TECs were added subsequent to detailed surveys. One of these is associated with RE 12.3.11 which does occur on site in the Sandy Creek corridor. Where regions of mapped RE12.3.11 have not been identified for retention under the EPBC Act approval due to it predating the listing these areas are not considered representative of land zone 3. No flora species listed as threatened under the EPBC Act were recorded throughout the investigation area.
- A Wildlife Online search for threatened species under the NCA identified the potential for four (4) threatened fauna species and two (2) threatened flora species, *Melaleuca irbyana* (Swamp Tea-tree) and *Coleus habrophyllus* to potentially occur on-site.
- No species of conservation significance were identified on site. Two (2) conservation significant species were detected within the greater CA3 region, including the Koala and Grey-headed Flying Fox. The Koala was detected within the Flagstone Creek Biodiversity Corridor which will be retained as an open space corridor. No other threatened flora and fauna species listed under the EPBC Act or NCA were detected on-site. The suitability of the site for threatened species is reduced as a result of historical logging which has removed the majority of the old-growth trees from the site and threats from feral dogs and foxes which are confirmed to be active within the site.
- The site has been subject to a Property Map of Assessable Vegetation (PMAV) assessments which have been certified by the Department of Natural Resources, Mines and Energy (DNRME) (PMAV 2008/005503).The site is mapped as containing Category X (non-remnant) vegetation and regulated (Category B – remnant) vegetation under the VMA. A small region of the site is cleared paddock which retains limited ecological values. The majority of the site is mapped Category B vegetation which consists of a mix of Regional Ecosystems as rectified by PMAV, including Least concern RE 12.9-10.2 and Of Concern RE's 12.9-10.7, 12.9-10.2/12.9-10.7 and RE12.3.11. The vegetation was found to be generally in accordance with the PMAV.
- The site contains two (2) *low risk* waterways for WWBW and one (1) *moderate risk* waterway for WWBW. These are proposed to be retained and rehabilitated within an open space corridor. Field surveys confirmed the presence of drainage features across the site of lower value and watercourse and

waterway values which will be retained. Any works that are conducted within Fisheries waterways are to be undertaken in accordance with the Accepted Development Requirements or will require a permit for WWBW through SARA.

- An existing EPBC Act approval applies to the site (ref: EPBC 2014/7206) whereby impacts on Koala habitat are to be managed through the conditions of the approval. Therefore, impacts on Koala will not be managed according to the measures described in IG 17.
- The development requires the removal of mapped Category B (remnant) vegetation in order to deliver the urban growth requirements of the Greater Flagstone PDA. The layout has been designed cognisant of prevailing environmental values, criteria specified in the endorsed NESS and EPBC Act approval requirements.

9. Recommendations

Given the size of the site and presence of significant environmental values in the surrounding landscape, particularly within the Flinders-Karawatha Bioregional Corridor to the west, the following management plans are recommended by this SBAR:

9.1.1 Vegetation Management Plan

A Vegetation Management Plan (VMP) forms part of the broader management document submitted as part of the development application for the project site.

The VMP covers clearing of all vegetation listed in this report and includes details on the following:

- trees marked for removal;
- all civil works likely to impact existing vegetation;
- temporary and permanent exclusion and protection fencing;
- roles and responsibilities for site contractors, the developer and the consultant group;
- stockpiling, reuse of cleared vegetation, and site access locations; and
- links to weed management and revegetation proposals.

9.1.2 Fauna Management Plan

A Fauna Management Plan (FMP) forms part of the broader management document submitted as part of the development application for the project site.

The FMP covers clearing of all vegetation listed in this report and includes details on the following:

- a list of relevant State and Commonwealth legislation constraints and controls for fauna potentially affected by construction works;
- species surveyed utilising the site, focusing on those most likely impacted by development works;
- details of the threats to existing fauna species;
- a clearing sequence plan showing the commencement of clearing and direction of removal to allow for the appropriate flushing of fauna towards safe havens and/or the application of an appropriate relocation program;
- management and mitigation measures – *i.e.*, temporary use of fauna exclusion fencing;
- description of fauna spotter role, contacts and certification; and
- specific fauna management procedures for potential or known habitat trees.

9.1.3 Rehabilitation Management Plan

A Rehabilitation Management Plan for the on-site waterways and proposed corridors may be developed to ensure complementary plantings and sensitive weed management techniques are implemented.

10. Appendices

Appendix A

Development Context Plan

Appendix B

Environment Protection and Biodiversity Conservation Act 1999

Protected Matters Search Tool Results

Appendix C

Nature Conservation Act 1992

Wildlife Online Search Results

Appendix D

EPBC Approval

Appendix E

Likelihood of Occurrence Assessment

Appendix F

Flora Species List

Appendix G

Quaternary Assessments

Appendix H

SAT Survey Results

Appendix I

Camera Trap Images

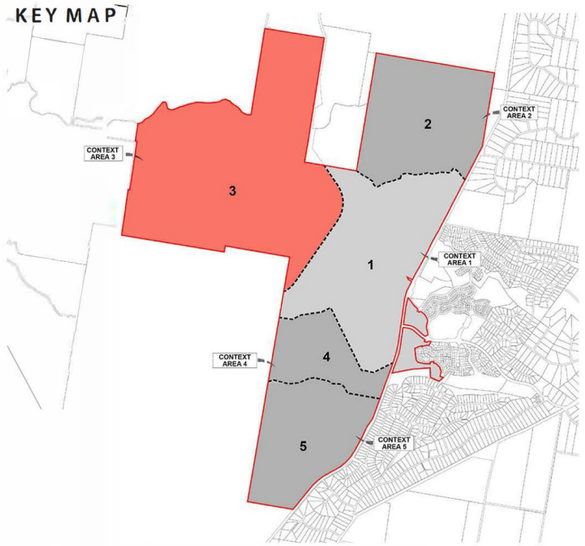
Appendix J

Watercourse Assessments

Appendix A

Development Context Plan

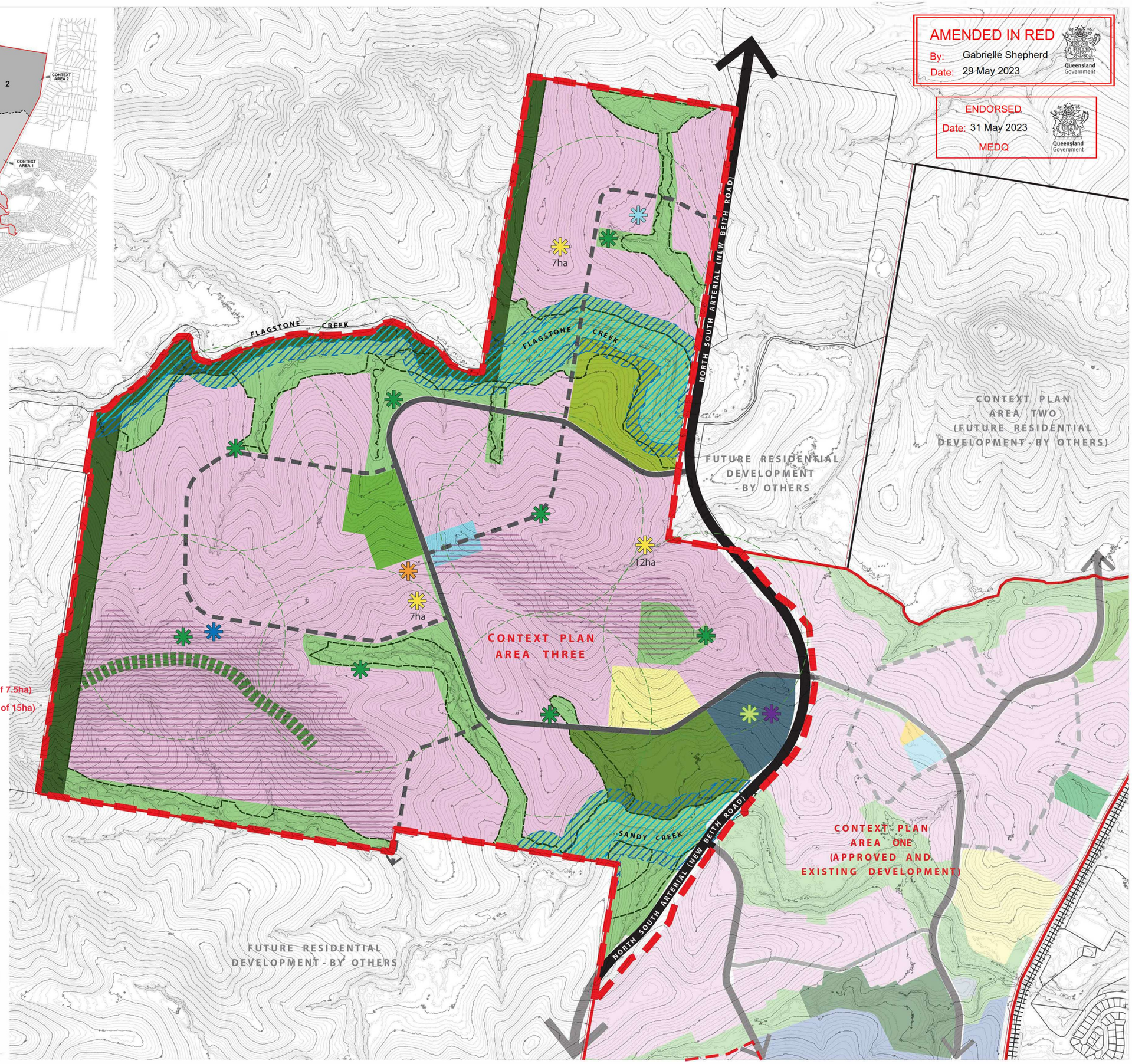
KEY MAP



LEGEND

- PEET Flagstone Site Boundary
- Context Area Three Site Boundary
- Other Context Area Boundaries
- Rail Line
- Slope Affected Land (≥15%)
- 400m Walkable Catchments
- Arterial Road
- Trunk Connector Road
- Minor Road Linkages
- Environmental ~~Protection Zone~~ Core Area
- Environmental Rectified Constraints (Refer Saunders Havill Group SBAR)
- Indicative Core Corridor (100m) (Refer Saunders Havill Group SBAR)
- Indicative Outer Corridor (200m) (Refer Saunders Havill Group SBAR)
- Linear Open Space Network / Stormwater Management
- District Recreation Park
- District Sports Park **(minimum useable area of 7.5ha)**
- Regional Sports Park **(minimum useable area of 15ha)**
- Scenic Amenity of Ridgeline to be Considered in Detailed Design
- Neighbourhood Recreation Node
- Civic Park Node
- State Primary School
- Low Density Residential - 15 dw / ha *
- District Centre (Residential Components - Minimum 25 dw / ha)
- Neighbourhood Centre
- Indicative Local Community Centre Location
- Potential Neighbourhood Centre Location (Subject to Feasibility Studies)
- 7ha Potential Indicative School Site Location and Indicative Size (Subject to State Agency Acquisition)
- Indicative Ambulance Station Location (x 2) (1 x Subject to State Agency Acquisition)
- Indicative HLZ Reservoir

* Slope Affected Land (≥15%) may adopt <15 dw/ha, subject to EDQ approval during detailed design.



AMENDED IN RED
By: Gabrielle Shepherd
Date: 29 May 2023
Queensland Government

ENDORSED
Date: 31 May 2023
MEDQ
Queensland Government

FLAGSTONE
CONTEXT AREA 3
CONTEXT PLAN

PLAN REF: 110056-499F
DATE: 09 FEBRUARY 2023
CLIENT: PEET
DRAWN BY: MD
CHECKED BY: DG

DISCLAIMER

The contents of this plan are conceptual and for discussion purposes only. All areas and dimensions are approximate and subject to relevant studies, survey, engineering and Council approval.

The information used in this plan is drawn from the following sources:
Site Boundaries: Veris.
Cadastre: DCDB.
Contours: ELVIS.
Environmental Constraints: Saunders Havill Group.
Engineering: Colliers.

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Appendix B

Environment Protection and Biodiversity Conservation Act 1999

Protected Matters Search Tool Results

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: 10-Mar-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:	7
Listed Threatened Species:	53
Listed Migratory Species:	11

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:	25
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	30 - 40km 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
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
BIRD			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	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
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely 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 buffer area only
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 known 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 likely 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 feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
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 likely to occur within area	In feature area

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 feature area
Cupaniopsis tomentella Boonah Tuckeroo [3322]	Vulnerable	Species or species habitat likely to occur within area	In feature area
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Picris evae			
Hawkweed [10839]	Vulnerable	Species or species habitat may occur within area	In feature area
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			
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 buffer area only
[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
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 buffer area only
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
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
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
Stewartdale	Nature Refuge	QLD	In buffer area only
Undullah	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
DT0018 Matt Court Wastewater Conveyance	2023/09529		Completed	In buffer area only
Kagaru Residential Development	2024/10083		Referral Decision	In buffer area only
Kagaru to Acacia Ridge and Bromelton Inland Rail Project	2021/8927		Completed	In buffer area only
New Beith Road Upgrade	2023/09505		Assessment	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 feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Flagstone West Urban Development Project, QLD	2014/7206	Controlled Action	Post-Approval	In feature area
Flinders Residential Development, Undullah Road, Undullah, Qld	2017/8109	Controlled Action	Further Information Request	In buffer area only
Greater Flagstone master planned residential development, Undullah, Qld	2015/7530	Controlled Action	Post-Approval	In feature area
Inland Rail Calvert to Kagaru Project	2017/7944	Controlled Action	Assessment Approach	In buffer area only
Residential Development, Lot 4 RP45728, New Beith, Qld	2019/8398	Controlled Action	Further Information Request	In buffer area only
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
Tarnbrae Greater Flagstone Residential Development, New Beith, QLD	2019/8412	Controlled Action	Further Information Request	In feature area
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 buffer area only
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

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action (particular manner)				
Construction & Operation 275/330kV Transmission Line	2006/2820	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

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

Nature Conservation Act 1992
Wildlife Online Search Results

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: -27.7894
Longitude: 152.9212
Distance: 5
Email: isabellapaxton@saundershavill.com
Date submitted: Tuesday 04 Mar 2025 10:17:01
Date extracted: Tuesday 04 Mar 2025 10:20:09

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		1
animals	mammals	Petauridae	*Petaurus australis australis*	yellow-bellied glider (southern subspecies)		V	V	1
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		E	E	34
plants	land plants	Lamiaceae	*Coleus habrophyllus*			E	E	3/3
plants	land plants	Myrtaceae	*Melaleuca irbyana*			E		3

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

EPBC Approval

Australian Government
Department of the Environment

Approval

Flagstone West Urban Development Project, QLD (EPBC 2014/7206)

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted	Peet Flagstone City Pty Ltd
proponent's ACN	ACN: 151187594
proposed action	To construct a mixed use development (including residential, commercial and community developments and associated infrastructure) on a 1,245.26 ha site at Flagstone, Queensland [See EPBC Act referral 2014/7206]

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved

conditions of approval

This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 31 December 2035

Decision-maker

name and position	Deb Callister Queensland and Sea Dumping Assessment Branch
signature	
date of decision	30 October 2014

Conditions attached to the approval

Conditions

Offsets

1. For the purpose of protecting **koala habitat** the approval holder must provide the minimum offset payment listed in Appendix 1 of these conditions, for each of the **Context Plan areas**. Payment must be provided to the **Queensland State Government** for the entire **Context Plan** offset payment within 12 months of receiving **Context Plan area** approval or in accordance with the following sunset dates to each **Context Plan area** (Appendix 1), whichever is sooner:

    - **Context Plan Area 1** – by 31 October 2015
    - **Context Plan Area 3** – by 31 October 2029
    - **Context Plan Area 4** – by 31 October 2020
    - **Context Plan Area 5** – by 31 October 2024

2. Notwithstanding the above, within 15 years of the Commonwealth approval of the action all outstanding financial contributions must be paid to **the Queensland State Government**.

3. Within 30 days of payment being made, the **approval holder** must provide written evidence to the **Minister** that the offset contribution for each **Context Plan area** has been paid to the **Queensland State Government**. Actions must not **commence** within an approved **Context Plan area** until the offset contribution has been paid.

4. Within 6 months of each offset payment made to the **Queensland State Government**, the approval holder must provide the **Department** written evidence on the actions that have been taken with the offset payment.

Clearing

5. **Clearing** of up to a maximum of 148 ha must be within the **project area** shown in Appendix 1.

Standard Conditions

6. Within ten days after the **commencement of the action**, the **approval holder** must advise the **Department** in writing of the actual date of commencement.

7. The **approval holder** must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the plans required by this approval, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the **EPBC Act**, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department**'s website. The results of audits may also be publicised through the general media.

8. Any potential or suspected non-compliance with these conditions of approval must be reported to the **Department** in writing within 48 hours of the **approval holder** becoming aware of the potential or suspected non-compliance. Within three months of every 12 month anniversary of the **commencement of the action**, the **approval holder** must publish a report on their website addressing compliance with each of the conditions of this approval. Documentary evidence providing proof of the date of publication must be provided to the **Department** at the same time as the compliance report is published. The compliance report must remain on the website for the life of the approval.

9. Upon the direction of the **Minister**, the **approval holder** must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to

the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.
10. If the **approval holder** wishes to carry out any activity otherwise than in accordance with a plan, the **approval holder** must submit to the **Department** for the **Minister**'s written approval a revised version of that plan. The varied activity shall not commence until the **Minister** has approved the varied plan in writing. If the **Minister** approves the revised plan, that plan must be implemented in place of the plan originally approved.
11. If the **Minister** believes that it is necessary or convenient for the better protection of the **listed koala** to do so, the **Minister** may request that the **approval holder** make specified revisions and submit the revised plan for the **Minister**'s written approval. The **approval holder** must comply with any such request. The revised approved plan must be implemented. Unless the **Minister** has approved the revised plan, then the **approval holder** must continue to implement the plan originally approved, as specified in the conditions.
12. If, at any time after five years from the date of this approval, the **approval holder** has not **commenced the action**, then the **approval holder** must not **commence the action** without the written agreement of the **Minister**.

Definitions

Approval holder: means the person to whom the approval is granted.

Clearing: means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of native vegetation.

Commencement of the action: means any works involved in the construction phase of the project, including **clearing** vegetation, the erection of any onsite temporary structures and the use of heavy duty equipment for the purpose of breaking the ground for buildings or infrastructure. This excludes the erection of signage, fences, barriers or bunting for the purposes of excluding areas containing listed threatened species.

Context Plan area: means the area defined by the proponent for development (refer to Appendix 1 for map)

Department: the Australian Government Department responsible for the *Environment Protection and Biodiversity Conservation Act 1999*.

EPBC Act: means the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

EPBC Act Offsets Policy: means the *Environment Protection and Biodiversity Conservation Act 1999 environmental offsets policy* (October 2012) or any subsequent revisions.

Koala food trees: means species of tree whose leaves are consumed by koalas. See lists of known koala food trees prepared by state and local government and non-government organisations. Note that food trees may vary spatially and temporally and information specific to the local area is likely to be most accurate.

Koala habitat: means areas of vegetation containing **Koala food trees**.

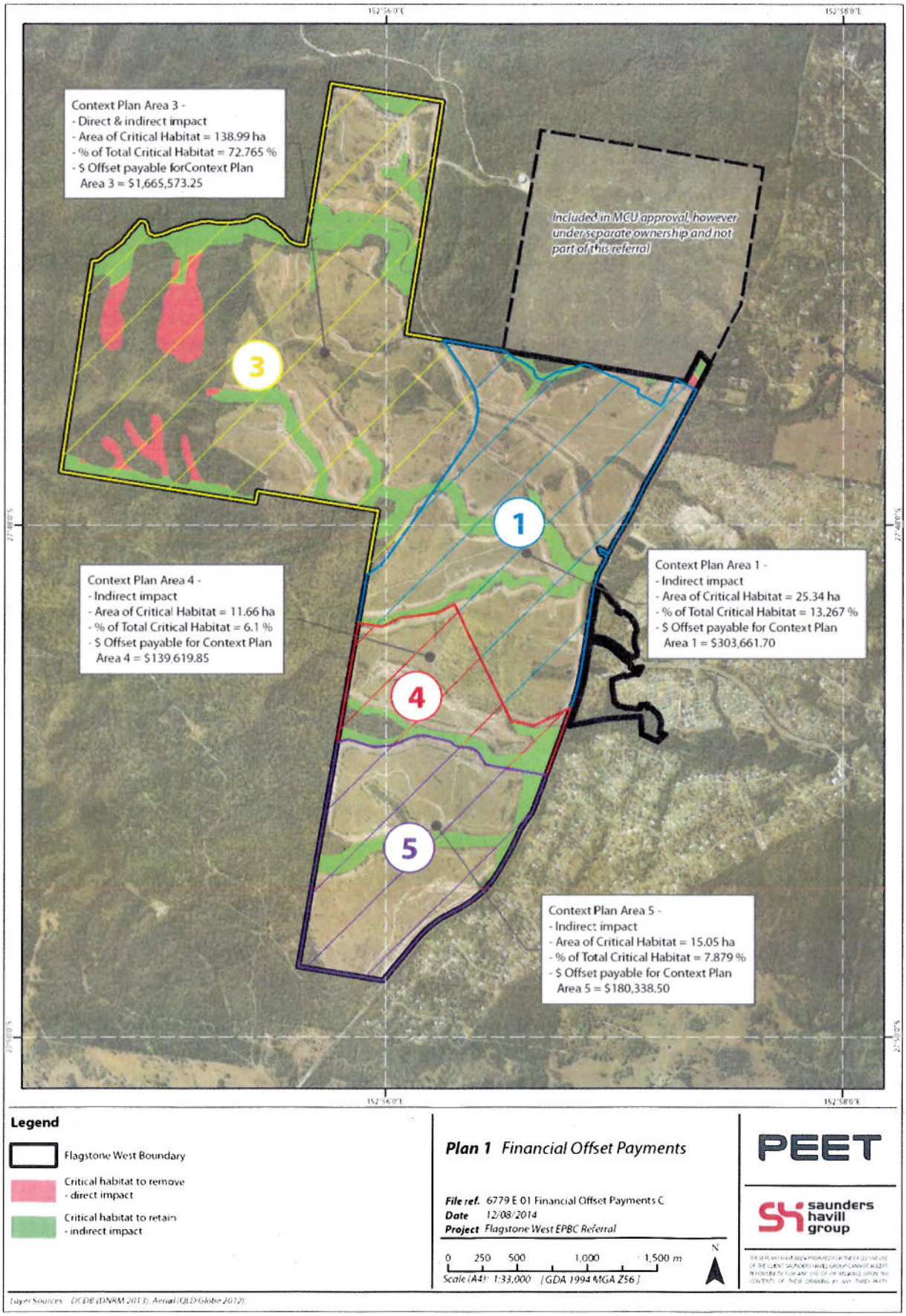
Listed Koala: Koala (*Phascolarctos cinereus* - combined populations of Queensland, New South Wales and the Australian Capital Territory) listed as vulnerable under the **EPBC Act.**

Minister: is the Minister administering the *Environment Protection and Biodiversity Conservation Act 1999* and includes a delegate of the **Minister**.

Project area: area defined as Flagstone West Boundary on map at Appendix 1.

Queensland State Government: means the relevant Queensland State Government Department responsible for administering the offset.

Appendix 1 Map of Context Plan areas 1, 3, 4 & 5 and related offset payments



Appendix E

Likelihood of Occurrence Assessment

Likelihood of occurrence	Assessment criteria[4]
Unlikely	The investigation area does not contain habitat types or resources known to be utilized by the species during any stage of its lifecycle. OR No contemporary[5] species records within 5 km of the investigation area and at least one of the following criteria is met: • The investigation area is beyond the known geographic range of the species; OR • The investigation area and/or surrounding land is highly disturbed[6].
Low	There are contemporary species records more than 1 km but less than 5 km of the investigation area, and it contains habitat types or resources known to be utilized by the species. OR There are contemporary species records 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[7] for the species exist between the location of the record and the investigation area; AND • The investigation area and/or surrounding land is relatively undisturbed and there is potential for individuals of the species to survive in the short-term.
Moderate	There are contemporary species records within 1 km of the investigation area, and it contains habitat types or resources known to be utilized by the species. OR There are contemporary species records within 5 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 for the species between the location of the record and the investigation area; AND

[4] Criteria should be used as a guide only. Site- and species-specific factors should be considered by the assessment.
[5] Within 20 years of the date of the assessment.
[6] Contains minimal vegetation cover with a dominant land use such as development, extractive industries, intensive agriculture
[7] 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.

	• The investigation area and/or surrounding land is relatively undisturbed and there is potential for individuals of the species to survive in the short-term.
High	There are contemporary species records within 1 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 for the species between the location of the record and the investigation area; AND • The investigation area and/or surrounding land is relatively undisturbed and there is potential for individuals of the species to survive in the short-term.
Known	Species positively identified during field surveys within the investigation area OR there are multiple contemporary species records within the investigation area.

Matters of National Environmental Significance						
Name	**Status**	**Type of presence**	**Description of the community/preferred habitat**	**Likelihood of Occurrence Analysis**	**Likelihood of occurrence**	**Field Survey Confirmed Likelihood of Occurrence (on-site)**
Wetlands of International Importance (Ramsar)						
Moreton Bay			The site is located approximately 30-40 kilometres directly west of Moreton Bay.	There will be no measurable affect to Moreton Bay.	Unlikely	Unlikely - No Wetlands or Wetland values observed on site
Threatened Ecological Communities						
Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community	E	Community may occur within area	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).	Regional Ecosystems associated with this TEC are not present on-site.	Unlikely	Unlikely - No RE's or values characteristics of this TEC located on site
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	E	Community likely to occur within area	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).	Regional Ecosystems associated with this TEC are not present on-site.	Unlikely	Unlikely - No RE's or values characteristics of this TEC located on site
Grey box-grey gum wet forest of	E	Community likely to occur within area	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	Regional Ecosystems associated with this TEC are not present on-site.	Unlikely	Unlikely - No RE's or values characteristics of this TEC located on site

subtropical eastern Australia			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.		
Lowland rainforest of subtropical Australia	CE	Community may occur within area	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.	Regional Ecosystems associated with this TEC are not present on-site.	Unlikely Unlikely - No RE's or values characteristics of this TEC located on site
Poplar Box Grassy Woodland on Alluvial Plains	E	Community may occur within area	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, 11.3.7, 11.4.12 and 12.3.10.	Regional Ecosystems associated with this TEC are not present on-site.	Unlikely Unlikely - No RE's or values characteristics of this TEC located on site
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	E	Community likely occur within area	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	Regional Ecosystems associated with this TEC are present on-site.	Moderate Moderate – This RE was not listed at time of quaternary surveys. RE12.3.11 is known within the site and this TEC has been identified in the Flagstone PDA area. Quaternary site 2 (see **Appendix G**) demonstrates some values reflective of TEC, 'Subtropical eucalypt floodplain forest and woodland', however the understory

			recognised as endangered under this framework, including; RE 12.3.2, RE12.3.2a, 12.3.3, RE 12.3.11, RE 12.3.3a, RE 12.3.3d, RE12.3.7, RE12.3.12 and RE 12.3.20.		shows a high level of disturbance which makes it exempt from being classified as this TEC. Quaternary 7 is indicative of this TEC and has an intact understory. However, the TEC has not been confirmed to occur on site due to it being listed subsequent to surveys. The location that quaternaries 2 and 7 were conducted in is to be retained.
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	Community likely occur within area	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 ecosystems range in conservation status from 'not of concern at present' to 'endangered'.	Regional Ecosystems associated with this TEC are not present on-site.	Unlikely - No RE's or values characteristics of this TEC located on site

Scientific name	**Common name**	**Listing Status***		**EPBC code**	**Habitat and Distribution**	**Likelihood of Occurrence Analysis**	**Desktop Likelihood of occurrence**	**Field Survey Confirmed Likelihood of Occurrence (on-site)**
		EPBC Act	**NC Act**					
Birds								
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.	There are 6 records of this species occurring within 10km of the site in the last 20 years four (4) of which occur within 5km. There are no records of this species within 1km of the site. The site contains remnant vegetation which contains eucalypt dominated Regional Ecosystems. The remnant vegetation is suitable foraging habitat for the Regent Honeyeater due to the dominance of winter flowering eucalypts including *Corymbia citriodora, Eucalyptus crebra* and *Eucalyptus tereticornis*. In addition to the presence of foraging habitat on-site, the Regent Honeyeater was observed in 2019 approximately 1.4 km south-west of the site in the Lyons area. However, due to historical logging, the vegetation is lacking large, old-growth	High	Moderate

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
						trees that this species prefers. 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.		
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.	There have been no records of the species within 10km of the site in the previous 20 years. This site does not contain any terrestrial wetlands or swamps with tall dense vegetation.	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
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.	There are no records of this species occurring within 10km of the site within the last 20 years. There is one undated record within 10km of the site. This site does not contain any terrestrial wetlands or swamps, or any regions which could support temporary pooling water.	Low	Unlikely
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	There are no records of this species occurring within 10km of the site within the last 20 years. The site is not coastal and does not have characteristics that could support ephemeral pooled water.	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
					widespread records along the coast south of Cairns.			
Calyptorhynchus lathami lathami	Glossy Black-cockatoo	V	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 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	There have been 5 records of this species occurring within 10km of the site within the previous 20 years. The western half of the site is mapped as remnant vegetation with eucalypt dominated Regional Ecosystems. Allocasuarina species were lacking across the site, reducing suitability of the vegetation for the Glossy Black-cockatoo. Glossy Black-cockatoos are identified as occurring within the Flinders-Karawatha corridor which adjoins the site to the west.	Moderate	Low
Charadrius leschenaultii	Greater Sand Plover, Large 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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. There are no coastal or estuarian habitats present on site. Therefor there is no suitable habitat for this species present.	Unlikely	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Site is not inland of the Great Dividing Range within the known distribution of the species. Therefore, it is unlikely that this species occurs on site.	Unlikely	Unlikely
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	CE	E	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, Syzygium corynanthum, Litsea reticulata and Grevillea robusta.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. No RE's associated with rainforest are mapped as occurring on site. No ecosystems reflective of rainforest were observed during surveys. Furthermore, no food species that this species has been observed to feed on were noticed in any significant abundance on site. Some fig species	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
						and Grevillea robusta were noted as occurring within the greater CA3 area. The species has not been recorded within a 10km radius of the site within the last 20 years.		
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 maneuvering in flight, but provide cover for ambushing of prey.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. There is potential for the Red Goshawk to use the remnant vegetation on-site as it comprises eucalypt woodland and riverine vegetation communities. However, it is likely that occurrence would be limited to opportunistic foraging due to the lack of tall trees across the site. It is unlikely that it would be used for breeding.	Moderate	Low
Falco hypoleucos	Grey Falcon	V	V	929	The Grey Falcon is 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	There have been zero (0) records of the species within 10 km of the site within the previous 20 years. The remnant vegetation on-site contains eucalypt woodland and riverine vegetation communities. The	Moderate	Moderate

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
					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 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*).	watercourses contain large eucalypt trees which may provide suitable nesting habitat. The presence of eucalypt woodland but lack of records within a km of the site indicates a low likelihood of this species occurring on-site.		
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	V	V	863	Latham's Snipe occurs in permanent and ephemeral wetlands. They usually inhabit open, freshwater wetlands with low, dense vegetation.	There have been thirty-three (33) records of this species occurring within 10km of the site within the past 20 years. 8 of these occur within 5km of the site, none of which are within 1km of the site. This site does not contain any terrestrial wetlands or swamps, or any regions which could support temporary pooling water. Therefor suitable habitats for this species is not present.	Low	Unlikely
Geophaps scripta scripta	Squatter Pigeon (southern)	V	V	64440	This species inhabits open grasslands and woodlands typically with a native understory although may occur in artificial pasture.	There have been zero (0) records of this species occurring within 10km of the site within the previous 20 years.	Unlikely	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
						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.		
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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Based on the presence of a large area of connected remnant habitat, there is potential that the vegetation may contain large eucalypts that are preferable foraging habitat for this species. However, large trees were observed to be minimal on site and the understory with high levels of disturbance.	Low	Unlikely
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	There are 65 records of this species occurring within 10km of the site in the last 20 years, 7 of which are within 5km. There are no records of this species within 1 km of the site. There are an	Moderate	Moderate

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
					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.	additional 2 undated records within 10km of the site. Based on the presence of a large area of connected remnant habitat, there is potential that the vegetation may contain large eucalypts that are preferable foraging habitat for this species. However, surveys on site found large trees in this area are limited, with significant evidence of disturbance across 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. They are known to prefer *Corymbia citriodora* (Spotted Gum) as a primary feed species.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. The site contains remnant vegetation which is eucalypt dominated Regional Ecosystems. The remnant vegetation is suitable foraging habitat for the Swift Parrot due to the dominance of winter flowering eucalypts including *Corymbia citriodora, Eucalyptus crebra* and *Eucalyptus tereticornis*.	Moderate	Moderate

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
						However, due to historical logging, the vegetation is lacking large, old-growth trees that this species prefers. As such, the likelihood of occurrence is considered moderate. Given the large area and connectedness of the remnant vegetation on-site, there is potential for the Swift Parrot to utilise the vegetation during foraging periods.		
Ninox sternua	Powerful Owl	-	V		Powerful Owls are generally found in open forests and woodlands, as well as along sheltered gullies in wet forests with dense understoreys, especially along watercourses. The species is sometimes found 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.	There is potential for the remnant vegetation to provide habitat for the Powerful Owl. However, extensive surveys have been completed across Context Area 3, where the species or evidence of the species was not observed. Surveys included bird surveys and spotlighting.	Moderate	Low
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 scattered distribution throughout many parts of Australia, with a single record from Tasmania.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. This site does not contain any terrestrial wetlands or swamps. No regions were identified within the site that would	Low	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
						support regions of pooling water due to the slope of the land being too severe. The likelihood has been downgraded to low on the basis that no suitable habitat was observed on site.		
Stagonopleura guttata	Diamond Firetail	V	V	59398	Diamond Firetails are found in open grassy woodland, heath and farmland or grassland with scattered trees	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. There is some open grassed area present within the site, however it is limited. Furthermore with consideration of the limited records of the species within 10km of the site it is considered that the assessment of the likelihood of occurrence being low is accurate.	Low	Low
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.	There are no records of this species occurring within 10km of this site within the previous 20 years. There are no wetlands present within the site therefore there is not suitable habitat for this species.	Unlikely	Unlikely

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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.	Ther are 2 (two) records of this species occurring within 10km of the site in the previous 20 years. No records are within 5km of the site. 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. Therefor it is considered unlikely that this species will occur on site.	Low	Unlikely
Fish								
Maccullochella mariensis	Mary River Cod	E	E	83806	The Mary River Cod is a freshwater fish endemic to the Mary River catchment in south-eastern Queensland. Habitat includes deep, shaded, slow-flowing freshwater pools in streams with undercut banks, boulders, sunken logs and woody debris. Translocated populations of the species are present within Logan/Albert, Brisbane and Pine River systems.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. No records are within 5km of the site. *Low risk, moderate risk* waterways for WWBW are located on site. Ordinarily, these waterways would be considered as potential habitat for the Mary River Cod. The recognized current natural species range is restricted to suitable areas of habitat in the Mary River system	Unlikely	Unlikely

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						significantly removed from the subject area, however, it is acknowledged that the adjoining Albert-Logan River catchment, including Teviot Brook / Woolaman Creek, is considered potential former habitat for freshwater cod, assumed to include Mary River Cod or closely related species, prior to local extinction. Documented release impoundments include Maroon Dam in a separate upper catchment of the Logan River, located 50 km south-west of the subject site. No records of the species have been recorded downstream of this catchment. Given the restricted range of this species, it is unlikely that this species would occur on-site.		
Insects								
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	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. No records occur within 5km of the site.	Unlikely	Unlikely

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					Lomandra longifolia (Long Leaved Matrush) and grasses, especially the grass *Imperata cylindrica* (Blady Grass). This habitat is called *Melaleuca* wetlands, although the larval food plant does not occur in all sub-types of this plant community.	Coastal riverine habitat is not mapped on-site.		
Mammals								
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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. No suitable high-altitude habitat to support this species occurs on-site.	Unlikely	Unlikely
Dasyurus maculatus maculatus	Spotted-tailed Quoll	E	E	75184	The Spotted-tailed Quoll has a preference for mature wet forest habitat. Un-logged forests or forests 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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. The presence of connected remnant habitat on-site may present potential for the Spotted-tailed Quoll to occur on-site and in the adjacent bushland. The vegetation on-site may contain suitable denning habitat.	Moderate	Low

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						Significant survey efforts to detect this species have been conducted within the locality in the past 10 years with the most significant survey effort demonstrated in a published study by [8]Wildlife Preservation Society of Queensland (2015). Notably, the Wildlife Preservation Society of Queensland (Quoll Seeker's Network) in association with Logan City Council placed a number of wildlife cameras across the LGA over a 3-year program. Motion sensor cameras were located on private properties, Council Reserves, National Parks, Energex owned land and the Greenbank military airbase between 2011 and 2014 at 107 sites at 47 locations. They were placed in areas of reported sightings, or where detector dogs had indicated but direct searches were unable to substantiate evidence (e.g. scats).		

[8] Barrenger, H., Whyte, I., (2015). Looking out for Quolls in Logan. Wildlife Preservation Society of Queensland.

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						The 3-year program took over 205,000 pictures but did not photograph a single image of a Quoll. It is noted that a Quoll scat was recently recorded and confirmed near Flinders Peak, approximately 7 kilometres southwest of the subject site. Up until this recent record, the species was considered by many to be locally extinct. Evidence, although minimal, of this species has been detected in the past few years in the form of scents and potential scats, however, no evidence was found during 2020 surveys. From a desktop perspective, the remnant habitat on-site is considered to provide potential for the Spotted-tailed Quoll to occur on-site, particularly as it is connected to the Flinders-Karawatha Bioregional Corridor to the west. However, detailed field surveys throughout the remnant bushland did not detect suitable denning habitat.		

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						In addition, threats are present on-site as Feral Dogs and Red Foxes were recorded, reducing the likelihood that the species would occur on-site. Based on the lack of evidence of this species on-site and the presence of threats, there is considered to be a low likelihood this species would occur on-site. In addition, the site has been referred under the EPBC Act and has an EPBC Approval (EPBC 2014/7206) for the action. The approval has effect until 31 December 2035.		
Macroderma gigas	Ghost Bat	V	E	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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. No caves, mine tunnels or deep cracks in rocks were observed on site, therefore there is no suitable habitat for this species on site.	Low	Unlikely

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Petauroides volans	Greater Glider	E	V	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 dispersibility make this species sensitive to clearing and fragmentation, with low persistence in small forest fragments.	There are 4 records of this species occurring within 10 km of the site within the previous 20 years and one (1) additional record without a date. The presence of large area (230 ha) of remnant eucalypt woodland on-site is considered to provide potential for the Greater Glider to occur from a desktop perspective. However, the site has been historically logged and few large, old-growth trees remain. The Greater Glider requires between 2-4 live hollows per ha. As such, breeding and shelter habitat to support the species are not provided on-site. As such, there is a low likelihood that this species would occur on-site.	High	Low
Petaurus australis australis	Yellow-bellied Glider	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	There are 20 occurrence records of this species within 10km, 3 of which are within 5km, of this site within the last 20	High	Low

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	(south-eastern)				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.	years. Theres also an additional one undated record. Eucalypt forest does occur on site presenting potential suitable habitat for this species on site. However, due to historical logging, the vegetation is lacking large, old-growth trees that this species prefers. As such, the likelihood of occurrence is considered moderate. Given the large area and connectedness of the remnant vegetation on-site, there is potential for the Yellow-bellied Glider to utilise the vegetation during foraging periods. Specific surveys for this species were not conducted at the time of surveys due to them occurring prior to listing of this species. However, surveys for greater glider were conducted. The species have similar habitat and fulfill similar niches, requiring large trees with hollows. Large trees with hollows are lacking across the site. As such the species is not expected to occur on site.		

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Petrogale penicillata	Brush-tailed Rock Wallaby	V	V	225	This species lives on rocky escarpments, granite outcrops and cliffs which contain which have caves and ledges for shelter and face north for warmth. 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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Field surveys found the remnant woodland on-site lacks rocky escarpments that this species inhabits. As the site is connected to the Flinders-Karawatha Bioregional Corridor to the west where this species is known to occur, the species was considered to have potential to occur based on desktop analysis. However, due to the lack of suitable habitat, there is a low likelihood this species would occur.	Moderate	Low
Phascolarctos cinereus	Koala	E	E	85104	The Koala is found in a range of habitats, from coastal islands and tall eucalypt forests to low woodlands inland.	There are 246 records of this species occurring within 10 km of the site within the previous 20 years, 11 of which occur within 5km. There is also an additional 84 records within 10km without dates. The site contains suitable habitat in the form of approximately 230 ha of remnant eucalypt woodland. Koalas are also known to occur within the locality.	High	High

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						A Koala was detected nearby to site within the Flagstone Creek corridor via remote-triggered camera trap. SAT surveys conducted across the site did not detect evidence of Koala in the form of scats, indicating low usage. It is likely that the Koala primarily utilises the riverine corridor network within Flagstone Creek where preferred foraging species (*Eucalyptus tereticornis*) are dominant.		
Potorous tridactylus tridactylus	Long-nosed Potoroo (northern)	V	V		The Long-nosed Potoroo inhabits coastal heaths and dry and wet sclerophyll forests. Dense understory 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.	No records of this species are present within 30 km of site. Furthermore, while the understory is dense in areas it is dominated by weedy species and areas where a native understory is present in consists of grass species not grass-trees, sedges, ferns or heaths. Given the lack of sightings and unsuitable habitat on-site, it's considered unlikely that this species would occur on-site.	Low	Unlikely

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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 understory 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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. No vegetation that could be characterized as heathland or having a heathland understory, or sandy dunes is present on site.	Unlikely	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.	There are 21 records of this species occurring within 10 km of the site within the previous 20 years, 1 of which is within 5km of the site. There are an additional 5 records within 10km which are not dated. Suitable foraging habitat is mapped on-site in the form of remnant eucalypt woodland. A Grey-headed Flying Fox roost is located on Homestead Drive, approximately 1.5 km south-east of the site. Grey-headed Flying Foxes were observed nearby to site during	High	High

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						spotlighting surveys in other areas within CA3.		
Plants								
Arthraxon hispidus	Hairy-joint Grass	V	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. Prefers areas with high shade and moisture.	There are 0 records of the species within 10 km of site within past 20 years, 0 of which are within 5 km. 0 records without dates within 10 km. Rainforest and wet eucalypt forest RE's were not mapped on site, and surveys confirmed is not present, therefore it is unlikely that the Hairy-joint Grass would occur on-site.	Low	Unlikely
Bosistoa transversa	Three-leaved Bosistoa	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*	There are no records of this species within 20km of the site within the previous 20 years. No Rainforest RE's occur within the site. Rainforest and high-altitude habitat was not present on-site, therefore it is unlikely that this species would occur.	Low	Unlikely

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					photinophylla, Acmena ingens, Diploglottis australis and Diospyros mabacea.			
Coleus habrophyllus	-	E	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).	There are no records of this species within 10km of this site however the site is less than 15km from White Rock conservation park where one of the three populations of this species is known to occur. Suitable habitat for the species was also observed on site. The entire site was walked by qualified ecologists; however, this species was not detected, therefore there is a low likelihood this species is present on-site.	High	Low
Cryptostylis hunteriana	Leafless Tongue-orchid	V	-	19533	The leafless tongue-orchid grows singly or in small colonies in a range of habitats including wet heath and sedgeland, on grasstree plains and in woodland with scribbly gum, silvertop ash, red bloodwood and black sheoak. In Queensland it has been recorded from the coast at Tin Can Bay to the Glass House Mountains.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. The specific habitat this species prefers is not present on-site. In addition, the site is well outside the known distribution of this species in Queensland. It is unlikely that this species would occur on-site.	Unlikely	Unlikely

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Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	V	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 of 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 slopes. Generally, these soils have formed from volcanic parent materials (mainly granites and granodiorites, basalt and andesitic flows, and pyroclastics).	There are no records of this species occurring within 10km of the site within the last 20 years. No rainforest RE's are mapped on site. Rainforest vegetation was not observed to be present on-site therefore it is unlikely to occur on-site.	Low	Unlikely
Cupaniopsis tomentella	Boonah Tuckeroo	V	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.	5 records of the species are located within 10km of the site it the previous 20 years, 1 of which is occurs less than a kilometer from the site. No suitable habitat was observed on site as there was an absence of vine thicket. The entire site was walked by qualified ecologists; however, this species was not detected, therefore there is a low likelihood this species is present on-site.	Moderate	Low

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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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. There are no local records of this species within the Queensland Wildlife Online sightings data, with the closest sighting in the Toowoomba and surrounds. This species is unlikely to occur on-site due to lack of suitable habitat.	Unlikely	Unlikely
Fontainea venosa	-	V	V	24040	Occurs in notophyll vine forest and vine thicket with a mean annual rainfall of 1000-1100 mm on soils derived from and containing abundant andesitic rocks, often on rocky outcrops or along creeks.	No records of this species have been recorded within 10 km of the site within the last 20 years. Rainforest and vine thicket RE's are not mapped on site and it was confirmed in surveys vegetation reflective of these values is not present on-site. It is unlikely that this species occurs on site.	Low	Unlikely
Leuzea australis	Austral Cornflower, Native Thistle	V	V	9363	The Austral Cornflower usually grows on heavy black or red-brown clay, or clay loams derived from basalt. Populations are often confined to roadsides and cultivation headlands. The Austral Cornflower is often found in woodland and grassland and in association with Eucalyptus crebra (Narrow-leaved Ironbark), E. orgadophila (Mountain Coolibah), E. populnea (Poplar Box), E. tereticornis (Forest Red	There are no records of this species within 10km of the site within the previous 20 years, with all occurrences being recorded further west in the Toowoomba, Darling Downs area. The site provides marginal habitat for this species due to soils being	Low	Unlikely

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					Gum), E. melanophloia (Silver-leaved Ironbark), Angophora subvelutina (Broad-leaved Apple), A. floribunda (Rough-barked Apple), Cirsium vulgare (Spear Thistle - introdued species), Dichanthium sericeum (Queensland Bluegrass) and Themeda triandra (Kangaroo Grass). The Austral Cornflower is considered to be a poor competitor and prefers habitat where grass competition has been reduced by fire or other forms of disturbance. However, the species is unlikely to benefit from disturbance that allows the development of a dense cover of exotic grasses such as Chloris gayana (Rhodes Grass) (QDNR 2000).	unsuitable. Furthermore significant disturbance is evident within the site with major weed infestation, in particular exotic grass species.		
Macadamia integrifolia	Macadamia Bush	V	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.	There are no records of this species within 10km of the site within the previous 20 years. Rainforest RE's are not mapped on site and it was confirmed in surveys vegetation reflective of these values is not present on-site. It is unlikely that this species would occur.	Low	Unlikely
Macadamia tetraphylla	Rough-shelled Bush Nut	V	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	There is one (1) record of this species within 10km of the site.	Low	Unlikely

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					moderate to steep hillslopes on alluvial soils at well drained sites.	Rainforest and vine thicket RE's are not mapped on site and it was confirmed in surveys vegetation reflective of these values is not present on-site. Alluvial soils on steep slope is present, It is unlikely that this species would occur on site due to the lack of rainforest vegetation.		
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.	*Melaleuca irbyana* is known to occur within the locality. The entire site was walked; however, this species was not detected. It is unlikely that this species is present on-site.	High	Unlikely
Notelaea ipsviciensis	Cooneana Olive	CE	CR	81858	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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Preferred habitat for this species is located on-site. However, the closest records of this species are in Redbank Plains (Ipswich). The entire site was walked; however, this species was not	Low	Unlikely

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						detected, therefore there is a low likelihood this species is present on-site.		
Notelaea lloydii	Lloyd's Olive	V	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).	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Rainforest habitat is not mapped on or adjacent to the site. Preferred ecotonal habitat is absent; therefore, the species is unlikely to occur on-site.	Unlikely	Unlikely
Picris evae	Hawkweed	V	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 tortulosa*, 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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. The site could present suitable habitat for this species however it lacks an understory with the presence of dichanthium. The entire site was walked by qualified ecologists; however, this species was not detected, therefore there is a low likelihood this species is present on-site.	Moderate	Low
Planchonella eerwah	Shiny-leaved Condoo,	E	E	17340	Rare tree with dense glossy foliage and scaly bark. It is restricted to three locations in southeastern	There are 3 records of this species occurring within 10 km of the site within	Low	Unlikely

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		EPBC Act	NC Act					
	Black Plum, Wild Apple				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 pendul*a, and members of the genus *Flindersia*, and in the northern *Argyrodendron* species, *Atalaya multiflora*, *Choricarpia subargentea*, *Excoecaria dallachyana*, and *Flindersia australis*.	the previous 20 years, one (1) of which occurs within 5km of the site. There is an additional 1 record within 10km of sites which is undated. The site occurs within the known distribution of this species. No rainforest RE's present on site. No vegetation characteristic of rainforest is observed on site during surveys nor any of the specifics species *Planchonella eerwah* is usually associated with.		
Rhodamnia rubescens	Scrub Turpentine, Brown Malletwood	CE	CE	15763	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Soils present are sedimentary but rainforest or wet sclerophyll RE's are not present. No vegetation that could be classified as rainforest was observed on site. Furthermore, while vegetation present is classed as sclerophyll it could not be classed as wet sclerophyll, as it lacks the	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
						presence of rainforest species in the understory.		
Rhodomyrtus psidioides	Native Guava	CE	CE		Pioneer species found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks and drainage lines.	There are 4 records of this species occurring within 10 km of the site within the previous 20 years. One of which is within 5km. There is additional one (1) undated record within 10km. No rainforest or wet sclerophyll RE's are present. No vegetation that could be classified as rainforest was observed on site. Furthermore, while vegetation present is classed as sclerophyll it could not be classed as wet sclerophyll, as it lacks the presence of rainforest species in the understory. Creeks and drainage lines were present on site but limited specie characteristic of rainforest were observed within these regions.	Moderate	Unlikely
Samadera bidwillii	Quassia	V	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	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. The are no records of this species within 10km of the site in the previous 20 years. This	Low	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
					watercourses in locations up to 510 m altitude. The species occurs on lithosols, skeletal soils, loam soils, sands, silts and sands with clay subsoils.	species favours lowland rainforest or rainforest margins which is not present on-site. In addition, no local records exist, therefore Quassia is unlikely to be present on site.		
Thesium australe	Austral Toadflax	V	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. Collections since the 1990s have been made from Kumbia, Glen Rock Regional Park, Carnarvon National Park, Crows Nest, Clifton, Warwick, Greenmount, Cambooya, Dalby, the Bunya Mountains, Blackbutt and Imbil.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. While *Themeda triandra* (Kangaroo Grass) Is present the site is located well outside of the known Queensland distribution of this species. It is unlikely that this species would occur on-site.	Unlikely	Unlikely
Reptiles								
Delma torquata	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. The Collared Delma depends on leaf litter, rocks and logs in which to shelter. It has been recorded from undisturbed open forests around western Brisbane (Upper Brookfield, Kenmore, Pullenvale, Anstead, Pinjarra Hills and Mount	There are no records of this species occurring within 10km of this site within the previous 20 years. The closest records of the Collared Delma are in the Ripley locality. Rocky outcrops and cracking soils are not present on-site therefore there is a low likelihood this species would occur.	Low	Low

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
					Crosby), in the Lockyer Valley and at the Bunya Mountains.			
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 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.	There are no records of this species occurring within 10km of this site within the previous 20 years. Preferred habitat of black alluvial cracking clay and Brigalow woodland is not present on or adjacent to the site. It is unlikely that Dunmall's Snake would occur on-site.	Low	Unlikely
Hemiaspis damelii	Grey Snake	E	E		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,	There are no records of this species occurring within 10km of this site within the previous 20 years. Habitat attributes, being the presence of Brigalow and Belah woodlands are not	Unlikely	Unlikely

Scientific name	Common name	Listing Status*		EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
		EPBC Act	NC Act					
					areas with small gullies and ditches, and floodplain environments where the species shelters beneath logs, rocks and soil cracks.	present on site to support this species. Therefor in is unlikely that this species occurs on site.		

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

Listed migratory species (not listed above)

Scientific name	**Common name**	**EPBC code**	**Habitat and Distribution**	**Likelihood of Occurrence Analysis**	**Desktop Likelihood of Occurrence**	**Field Likelihood of Occurrence**
Actitis hypoleucos	Common Sandpiper	59309	The Common Sandpiper utilises a wide range of coastal wetlands and some inland wetlands, including estuaries and deltas of streams, banks farther upstream; around lakes, pools, billabongs, reservoirs, dams and clay pans, and occasionally piers and jetties. They are mostly found in shallow water, around muddy margins or rocky shores and sometimes in muddy areas littered with rocks or snags. The species commonly utilises mangroves for foraging and roosting but is rarely seen on mudflats.	There are no records of this species occurring within 10km of this site within the previous 20 years. The site is not located nearby to the coast, nor are any coastal influenced characteristics present. No suitable habitat to support this species occurs on-site.	Unlikely	Unlikely
Apus pacificus	Fork-tailed Swift	678	This species is almost exclusively aerial and mostly occur over inland plains but sometimes above foothills or in coastal areas.	There are no records of this species occurring within 10km of this site within the previous 20 years. No suitable habitat to support this species occurs on-site.	Unlikely	Unlikely
Calidris melanotos	Pectoral Sandpiper	858	The Pectoral Sandpiper prefers shallow fresh to saline wetlands. The species is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands. Occasionally found further inland.	There are no records of this species occurring within 10km of this site within the previous 20 years. A freshwater creek with permanent water is present in the very south of the site. However, this species is only occasionally found this far inland from the coast. Therefore, it is considered that there is a low likelihood that this species occurs on site.	Low	Low
Cuculus optatus	Oriental Cuckoo	86651	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.	There are no records of this species occurring within 10km of this site within the previous 20 years. Preferred habitat of rainforest is not mapped or present on-site. However, there is potential that the Oriental Cuckoo may forage in the eucalypt vegetation on-site. This	Low	Low

Scientific name	Common name	EPBC code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of Occurrence	Field Likelihood of Occurrence
				species is commonly recorded in the Brisbane region with some records within Logan.		
Motacilla flava	Yellow Wagtail	644	This species occupies a range of damp or wet habitats with low vegetation, from damp meadows, marshes, waterside pastures, sewage farms and bogs to damp steppe and grassy tundra.	Suitable habitat to support the Yellow Wagtail is not present on-site.	Unlikely	Unlikely

Appendix F

Flora Species List

Native flora species observed for entirety of CA3

Scientific name	Common name
Acacia concurrens	Black Wattle
Acacia disparrima	Hickory Wattle
Acacia fimbriata	Brisbane Wattle
Acacia leiocalyx	Early Flowering Black Wattle
Acacia salicina	Sally Wattle
Adiantum atroviride	Maidenhair Fern
Adiantum hispidulum	Rough Maidenhair Fern
Allocasuarina littoralis	Black She-oak
Allocasuarina torulosa	Forest She-oak
Alphitonia excelsa	Soap Tree
Angophora leiocarpa	Smooth-barked Apple
Angophora subvelutina	Broad-leaved Apple
Aristida calycina	Dark Wiregrass
Aristida leptopoda	White Speargrass
Breynia oblongifolia	Coffee Bush
Bursaria spinosa	Black Thorn
Calotis cuneifolia	Purple Burr Daisy
Cassytha pubescens	Devil's Twine
Casuarina cunninghamiana	River She-oak
Cheilanthes distans	Bristle Cloak Fern
Chrysocephalum apiculatum	Yellow Buttons
Commelina diffusa	Wandering Jew
Corymbia citriodora	Spotted Gum
Corymbia intermedia	Pink Bloodwood
Corymbia tessellaris	Moreton Bay Ash
Corymbia trachyphloia	Brown Bloodwood
Cymbopogon refractus	Barbed Wire Grass
Cynodon dactylon	Green Couch
Dendrophthoe glabrescens	Orange Mistletoe
Desmodium varians	Slender Tick Trefoil
Dianella caerulea	Blue Flax Lily
Dianella longifolia	Pale Flax-lily
Dodonaea viscosa	Hopbush
Drynaria rigidula	Basket Fern
Einadia hastata	Fishweed
Entolasia stricta	Wiry Panic
Eragrostis brownii	Brown's Lovegrass
Eremophila debilis	Winter Apple
Erythrina vespertilio	Bat's Wing Coral Tree
Eucalyptus acmenoides	White Mahogany
Eucalyptus carne	Broad-leaved White Mahogany
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus moluccana	Gum-topped Box
Eucalyptus siderophloia	Grey Ironbark
Eucalyptus tereticornis	Forest Red Gum

Scientific name	Common name
Eustrephus latifolius	Wombat Berry
Ficus coronata	Sandpaper Fig
Ficus rubignosa	Port Jackson Fig
*Gahnia aspera**	Saw Sedge
Geitonoplesium cymosum	Scrambling Lily
Glochidion sumatranum	Umbrella Cheese Tree
Glossocardia bidens	Native Cobbler's Pegs
Glycine clandestina	Twining Glycine
Goodenia rotundifolia	Star Goodenia
Grevillea robusta	Silky Oak
Grewia latifolia	Dog's Balls
Hardenbergia violacea	Native Sarsaparilla
Heteropogon contortus	Black Spear Grass
Hibiscus heterophyllus	Native Rosella
Imperata cylindrica	Blady Grass
Jacksonia scoparia	Dogwood
Leptospermum polygalifolium	Wild May
Lygodium microphyllum	Climbing Maidenhair
Lobelia purpurascens	White Root
Lomandra hystrix	Creek Matrush
Lomandra longifolia	Long-leaved Matrush
Lomandra multiflora	Many Flowered Matrush
Lophostemon confertus	Brush Box
Lophostemon suaveolens	Swamp Box
Maclura cochinchinensis	Cockspur Vine
Melaleuca quinquenervia	Broad-leaved Paperbark
Melaleuca viminalis	Weeping Bottlebrush
Nephrolepis cordifolia	Fishbone Fern
Oplismenus aemulus	Creeping Beard Grass
Ottelia ovalifolia	Swamp Lily
Ottochloa gracillima	Graceful Grass
Parsonsia straminea	Monkey Rope
Panicum decompositum	Native Millet
Pellaea nana	Sickle Fern
Persicaria lapathifolium	Pale Knotweed
Petalostigma pubescens	Quinine Bush
Phyllanthus multiflorus	Waterfall Shrub
Pimelea linifolia	Rice Flower
Pomax umbellata	Pomax
Pteridium esculentum	Bracken Fern
Pterocaulon redolens	Apple Bush
Smilax australis	Barbed-wire Vine
Stephania japonica	Tape Vine
Syzygium luehmannii	Small-leaf Lillipilli
Themeda triandra	Kangaroo Grass
Trema tomentosa	Poison Peach
Wahlenbergia stricta	Australian Blue Bell
Wahlenbergia queenslandica	Blue Star

Scientific name	Common name
Westringia eremicola	Slender Westringia
Xanthorrhoea latifolia	Grass Tree

Introduced flora species observed for entirety of CA3

Scientific name	Common name	Biosecurity Act 2014
Asparagus aethiopicus	Asparagus Fern	Category 3 – restricted
Harrisia martinii	Harrisia Cactus	Category 3 – restricted
Opuntia stricta	Common Pest Pear	Category 3 – restricted
Opuntia tomentosa	Velvet Tree Pear	Category 3 – restricted
Tecoma stans	Yellow Bells	Category 3 – restricted
*Senecio madagascariensis**	Fireweed	Category 3 – restricted
*Lantana camara**	Lantana	Category 3 – restricted
*Lantana montevidensis**	Creeping Lantana	Category 3 – restricted
Ageratina riparia	Mistflower	
Ageratum houstonianum	Blue Billy Goat Weed	
Anagallis arvensis	Scarlet pimpernel	
Asclepias curassavica	Red-headed Cotton Bush	
Bidens pilosa	Cobbler's Pegs	
Chloris gayana	Rhodes Grass	
Chloris virgata	Feathertop Rhodes Grass	
Conyza bonariensis	Flaxleaf Fleabane	
Crassocephalum crepidioides	Thickhead	
Cyperus polystachyos	Bunchy Sedge	
Desmodium incanum	Creeping Beggar Weed	
*Desmodium intortum**	Greenleaf Desmodium	
Desmodium uncinatum	Silver-leaf Desmodium	
Gomphocarpus physocarpus	Balloon Cotton Bush	
Hypochaeris radicata	Flatweed	
*Melinis repens**	Red Natal Grass	
*Melinis minutiflora**	Molasses Grass	
Nymphaea caerulea	Blue Water Lily	
*Passiflora suberosa**	Corky Passion Vine	
Passiflora subpeltata	White Passionflower	
*Praxelis clematidea**	Praxelis	
*Sida rhombifolia**	Common Sida	
Senna pendula	Easter Cassia	
*Sida cordifolia**	Flannel Weed	
Sida rhombifolia	Common Sida	
Solanum mauritianum	Wild Tobacco	
Solanum nigrum	Blackberry Nightshade	
Verbena bonariensis	Purple-top Verbena	

Appendix G

Quaternary Assessments

Quaternary Site 1 – Area 3

Site Description	Flagstone City
Mapped Regional Ecosystem	12.3.11
T1	*Corymbia intermedia* (Pink Bloodwood) dominated with *Eucalyptus tereticornis* (Forest Red Gum) and *Eucalyptus siderophloia* (Grey Ironbark). Median height 18 m.
T2	*Lophostemon suaveolens* (Swamp Box) with *Alphitonia excelsa* (Soap Tree), *Angophora subvelutina* (Broad-leaved Apple), *Corymbia tessellaris* (Moreton Bay Ash), *Corymbia intermedia* (Pink Bloodwood). Median height 13 m.
Shrub	Acacia and Eucalypt regrowth with groundcover weeds.
Ground	*Imperata cylindrica* (Blady grass) and *Lomandra multiflora* (Many Flowered Mat Rush).
Introduced species	Dense infestation of weeds dominated by *Lantana camara* (Lantana), *Praxelis clematidea* (Praxelis), *Passiflora suberosa* (Corky Passion Vine), *Melinis minutiflora* (Molasses Grass) and *Desmodium intortum* (Greenleaf Desmodium). Approximately 80% coverage.









Quaternary Site 2 – Area 3

Site Description	Flagstone City
Mapped Regional Ecosystem	12.3.11
T1	*Eucalyptus tereticornis* dominated with *Corymbia intermedia* and *Eucalyptus siderophloia*. Median height 18 m.
T2	*Lophostemon suaveolens* dominated. *Alphitonia excelsa*, *Allocasuarina littoralis*, *Corymbia tessellaris*. Median height 12 m.
Shrub	*Alphitonia excelsa* (Soap Tree), Acacia regrowth, *Lantana camara* (Lantana).
Ground	*Cymbopogon refractus* (Barbed wire grass), Imperata cylindrica (Blady grass) and *Trema tomentosa* (Poison peach).
Introduced species	*Lantana camara* (Lantana), *Praxelis clematidea* (Praxelis), *Passiflora suberosa* (Corky Passion Vine), *Sida cordifolia* (Flannel Weed) and *Lantana montevidensis* (Creeping lantana) observed. Moderate infestation. Approximately 40% coverage.







Quaternary Site 3 – Area 3

Site Description	Flagstone City
Mapped Regional Ecosystem	12.9-10.2
T1	Nil.
T2	Dominated by regenerating eucalypts. *Eucalyptus crebra* (Narrow-leaved Ironbark) dominant with *Corymbia citriodora* (Spotted Gum) and *Eucalyptus carnea* (Broad-leaved White Mahogany). Median height 15 m.
Shrub	Acacia regrowth and *Alphitonia excelsa* (Soap Tree).
Ground	Dominated by native grass species *Cymbopogon refractus* (Barbed wire grass) and *Entolasia stricta* (Wiry Panic).
Introduced species	Minimal weed cover. *Lantana montevidensis* (Creeping lantana) and *Senecio madagascariensis* (Fireweed) present in ground layer. Approximately 5% coverage.









Quaternary Site 7 – Area 3

Site Description	Flagstone City
Mapped Regional Ecosystem	12.3.11
T1	*Eucalyptus tereticornis* (Forest Red Gum), *Corymbia intermedia* (Pink Bloodwood) dominated with *Angophora subvelutina* (Broad-leaved Apple), *Lophostemon suaveolens* (Swamp Box), *Corymbia tessellaris* (Moreton Bay Ash) and *Eucalyptus crebra* (Narrow-leaved Ironbark). Median height 24 m.
T2	*Lophostemon suaveolens* (Swamp Box) dominated with *Alphitonia excelsa* (Soap Tree) and *Acacia disparrima* (Hickory Wattle). Median height 8 m.
Shrub	Dominated by *Acacia concurrens* (Black Wattle) with *Alphitonia excelsa* (Soap Tree) and *Trema tomentosa* (Poison peach).
Ground	Dominated by *Themeda triandra* (Kangaroo Grass), *Imperata cylindrica* (Blady Grass), *Lomandra longifolia* (Long-leaved Matrush) and *Lobelia purpurascens* (White Root).
Introduced species	Moderate infestation of Lantana camara (Lantana) and fire damage present on trunks.

Quaternary Site 8 – Area 3

Site Description	Flagstone City
Mapped Regional Ecosystem	12.9-10.2
T1	Corymbia citriodora (Spotted Gum) dominated with Eucalyptus tereticornis (Forest Red Gum) and Eucalyptus crebra (Narrow-leaved Ironbark). Median height 20 m.
T2	*Acacia concurrens* (Black Wattle) with *Corymbia citriodora* (Spotted Gum) and *Eucalyptus crebra* (Narrow-leaved Ironbark). Median height 8 m.
Shrub	Dominated by *Alphitonia excelsa* (Soap Tree) and Acacia concurrens (Black Wattle).
Ground	Dominated by *Themeda triandra* (Kangaroo Grass) with *Gahnia aspera* (Saw Sedge).
Introduced species	Moderate infestation of *Lantana camara* (Lantana) and *Passiflora suberosa* (Corky Passion Vine).

Quaternary Site 9b – Area 2

Site Description	Flagstone City
Mapped Regional Ecosystem	12.9-10.2
T1	*Corymbia citriodora* (Spotted Gum) & *Eucalyptus crebra* (Narrow-leaved ironbark). Median height 18 m.
T2	*Corymbia citriodora* (Spotted Gum). Median height 12m.
Shrub	*Alphitonia excelsa* (Soap Tree) and *Acacia* species.
Ground	Dominated by *Themeda triandra* (Kangaroo Grass), *Heteropogon contortus* (Black Spear Grass)
Introduced species	Minimal









Appendix H

SAT Survey Results

Spot Assessment Technique Survey 2				
Tree number	**Species**	**Common Name**	**DBH (mm)**	**Scats Recorded**
1	*Corymbia intermedia*	*Pink Bloodwood*	350	Nil
2	*Corymbia intermedia*	*Pink Bloodwood*	410	Nil
3	*Alphitonia excelsa*	*Soap Tree*	140	Nil
4	*Corymbia intermedia*	*Pink Bloodwood*	290	Nil
5	*Corymbia intermedia*	*Pink Bloodwood*	350	Nil
6	*Lophostemon suaveolens*	*Swamp Box*	330	Nil
7	*Lophostemon suaveolens*	*Swamp Box*	320, 180	Nil
8	*Lophostemon suaveolens*	*Swamp Box*	220	Nil
9	*Lophostemon suaveolens*	*Swamp Box*	190	Nil
10	*Lophostemon suaveolens*	*Swamp Box*	270	Nil
11	*Corymbia intermedia*	*Pink Bloodwood*	710	Nil
12	*Corymbia intermedia*	*Pink Bloodwood*	270	Nil
13	*Corymbia intermedia*	*Pink Bloodwood*	360	Nil
14	*Corymbia intermedia*	*Pink Bloodwood*	310	Nil
15	*Corymbia intermedia*	*Pink Bloodwood*	270	Nil
16	*Corymbia intermedia*	*Pink Bloodwood*	200	Nil
17	*Corymbia intermedia*	*Pink Bloodwood*	300	Nil
18	*Corymbia intermedia*	*Pink Bloodwood*	190	Nil
19	*Lophostemon suaveolens*	*Swamp Box*	200	Nil
20	*Lophostemon suaveolens*	*Swamp Box*	170	Nil
21	*Lophostemon suaveolens*	*Swamp Box*	170	Nil
22	*Lophostemon suaveolens*	*Swamp Box*	200	Nil
23	*Lophostemon suaveolens*	*Swamp Box*	400	Nil
24	*Eucalyptus tereticornis*	*Forest Red Gum*	800	Nil
25	*Eucalyptus tereticornis*	*Forest Red Gum*	500	Nil
26	*Corymbia intermedia*	*Pink Bloodwood*	130	Nil
27	*Corymbia intermedia*	*Pink Bloodwood*	140	Nil
28	*Corymbia intermedia*	*Pink Bloodwood*	400	Nil
29	*Corymbia intermedia*	*Pink Bloodwood*	200	Nil
30	*Eucalyptus tereticornis*	*Forest Red Gum*	700	Nil
		Total Recorded		0
		Percent Recorded		0%
		Koala Use		Low

Spot Assessment Technique Survey 3				
Tree number	**Species**	**Common Name**	**DBH (mm)**	**Scats Recorded**
1	*Corymbia citriodora*	Spotted Gum	290	Nil
2	*Corymbia citriodora*	Spotted Gum	310	Nil
3	*Corymbia citriodora*	Spotted Gum	270	Nil
4	*Corymbia citriodora*	Spotted Gum	250	Nil
5	*Corymbia citriodora*	Spotted Gum	250	Nil
6	*Corymbia citriodora*	Spotted Gum	160	Nil
7	*Corymbia citriodora*	Spotted Gum	320	Nil
8	*Eucalyptus crebra*	Narrow-leaved Ironbark	400	Nil
9	*Corymbia citriodora*	Spotted Gum	270, 120, 130	Nil
10	*Eucalyptus crebra*	Narrow-leaved Ironbark	400	Nil
11	*Corymbia citriodora*	Spotted Gum	300	Nil
12	*Corymbia citriodora*	Spotted Gum	340	Nil
13	*Corymbia citriodora*	Spotted Gum	320	Nil
14	*Eucalyptus crebra*	Narrow-leaved Ironbark	270	Nil
15	*Corymbia citriodora*	Spotted Gum	410	Nil
16	*Corymbia citriodora*	Spotted Gum	200	Nil
17	*Corymbia citriodora*	Spotted Gum	200	Nil
18	*Corymbia citriodora*	Spotted Gum	230	Nil
19	*Corymbia citriodora*	Spotted Gum	140	Nil
20	*Corymbia citriodora*	Spotted Gum	180	Nil
21	*Eucalyptus tereticornis*	Forest Red Gum	160	Nil
22	*Corymbia citriodora*	Spotted Gum	190	Nil
23	*Eucalyptus crebra*	Narrow-leaved Ironbark	240	Nil
24	*Corymbia citriodora*	Spotted Gum	200	Nil
25	*Eucalyptus crebra*	Narrow-leaved Ironbark	300	Nil
26	*Corymbia citriodora*	Spotted Gum	180, 110	Nil
27	*Corymbia citriodora*	Spotted Gum	260	Nil
28	*Corymbia citriodora*	Spotted Gum	240	Nil
29	*Corymbia intermedia*	Pink Bloodwood	250	Nil
30	*Eucalyptus tereticornis*	Forest Red Gum	460	Nil
Total Recorded				0
Percent Recorded				0%
Koala Use				Low

Appendix I

Camera Trap Images

Camera 1



Common Brushtail Possum



Northern Brown Bandicoot



Eastern Yellow Robin



Feral Dog



House Mouse

Camera 2



Northern Brown Bandicoot



Red-necked Wallaby

Appendix J

Watercourse Assessments

Drainage line assessment point	Description	
2	Determination: Eroded drainage feature. • Upper area rocky with defined banks • Moderate weeds - *Passiflora suberosa* (Corky Passion Vine), *Lomandra sp.* • Water pooling lower near fork • Scouring severe in areas • Heavy weed infestation - *Lantana camara* (Lantana) and *Passiflora suberosa* (Corky Passion Vine) • Far left (west) tributary heavy Lantana, no defined flow line in areas	
2a	Determination: Eroded drainage feature. • Steep slope • Slightly eroded gully • No bed or bank. No water. No Macrophytes • Vegetation – *Corymbia citriodora*, *Eucalyptus crebra* • Dense *Lantana camara*, Corky passion. 50%	

2b	Determination: Eroded drainage feature. • Deep gully line fed by multiple drainage features • Defined channel (discontinuous) 1m wide • No water or macrophytes • Vegetation *Eucalyptus crebra, Eucalyptus tereticornis, Angophora subvelutina*, *Lophostemon suaveolens* • Heavily weed infested – Lantana camara and Corky passion	
2c	Determination: Drainage feature/overland flow path. • Wide shallow channel 7m wide • No water/macrophytes • Vegetation *Eucalyptus crebra, Eucalyptus tereticornis, Angophora subvelutina*, *Lophostemon suaveolens* • Heavily weed infested – Lantana camara and Corky passion	

2d

Determination: Eroded drainage feature.

- Deep heavily eroded channel (4m wide)
- No water/macrophytes
- Vegetation *Eucalyptus crebra, Eucalyptus tereticornis, Angophora subvelutina, Lophostemon suaveolens*
- Heavily weed infested – Lantana camara and Corky passion



2e

Determination: Eroded drainage feature.

- Deep heavily eroded channel 5 m deep
- 1m wide
- No water/macrophytes
- Vegetation *Eucalyptus crebra, Eucalyptus tereticornis, Angophora subvelutina, Lophostemon suaveolens*
- Intersection – Heavily eroded, multiple gully lines, heavily weed infested



2f

Determination: Eroded drainage feature.

- Eroded channel (reduced in size) 3m deep, 5m wide.
- No pools/macrophytes.
- Vegetation *Eucalyptus crebra, Eucalyptus tereticornis, Angophora subvelutina, Lophostemon suaveolens*
- Heavily weed infested – Lantana camara and Corky passion



3

Determination: Eroded drainage feature.

- Eroded banks
- Obvious flow path
- *Gahnia aspera* (Saw Sedge) on banks
- Moderate weed infestation
- Heavy weed infestation on tributary to west



3a

Determination: Eroded drainage feature.

- Eroded channel, 3m wide
- No water/macrophytes
- No fish habitat
- Vegetation consists of *Eucalyptus tereticornis, Lophostemon suaveolens* and *Corymbia tessellaris*.
- Corky passion dominates ground cover. 50%
- Blady grass, Lomandra longifolia



3b

Determination: Eroded drainage feature.

- No channel present, no bank or bed
- No water/macrophytes
- No change in vegetation
- Separated eroded channel to the west. Unmapped (approx. 50m West)



3c

Determination: Eroded drainage feature.

- Evidence of channel (erosion) 1m wide
- Bed rock present, no pools, no macrophytes
- Veg dominated by *Corymbia intermedia*
- Ground 20% weeds (corky passion and *Lantana camara*)
- Kangaroo grass, *Lomandra longifolia* present.



3d

Determination: Drainage feature.

- Steep slope with channel 0.5m wide
- No pools or macrophytes
- No fish habitat
- Vegetation consists of predominantly *Eucalyptus tereticornis* with *Lophostemon suaveolens*
- Moderate Lantana (30%)
- Native grasses present in ground layer



3e	Determination: Overland flow path. • No channel, no flow path present • Low lying area • Vegetation – *Eucalyptus crebra, Corymbia intermedia, Corymbia citriodora* • Moderate Lantana (40%)	
4	Determination: Eroded drainage feature. • Lower area • Less defined – banks not obvious • Moderate scouring and erosion • Moderate weeds • Upper area eroded drainage have more so defined banks • Minimal weed cover but *Lantana montevidensis* (Creeping Lantana) present	
4a	Determination: Drainage feature. • Steep slope • No defined channel, no bed or bank. • No permanent water or macrophytes. • Vegetation consists of *Eucalyptus tereticornis, Corymbia intermedia, Eucalyptus crebra* throughout. No riparian vegetation.	NA

- Native grasses and exposed rock at ground level.
- Weed cover 10%.

4b

Determination: Drainage feature.

- Channel present (1m x 1m)
- Bedrock in channel
- No water/macrophytes.
- Vegetation consists of *Eucalyptus tereticornis, Corymbia intermedia, Eucalyptus crebra* throughout. No riparian vegetation.
- Native grasses and exposed rock at ground level.
- Weed cover 10%.



4c

Determination: Eroded drainage feature.

- Deep channel 1m x 1m.
- *Lophostemon confertus* and *Angophora subvelutina* dominant
- Moderate weed cover – Lantana and Corky Passion. (60%)



5a

Determination: Drainage feature.

- Steep drainage feature head waters
- Channel shape _/
- Rock substrate
- No riparian edges
- Open eucalypt forest 12.9-10.2 (Spotted gums, *E. crebra, E. tereticornis*.



5b

Determination: Drainage feature.

- Channel shape _/
- Substrate rock and soil
- No riparian vegetation. Open eucalypt forest containing *E. crebra, E. tereticornis* dominated. *Angophora subvelutina* and *C. intermedia*.
- Channel shading 10%



5c

Determination: Eroded drainage feature.

- Erosion flow path – low flow 1.5m
- Channel box shape |_| Width 5m
- Substrate – soil
- No riparian vegetation
- Adjoining vegetation – Open eucalypt forest
- *E. crebra* dominated with *C. intermedia, E. tereticornis* and *L. suaveolens*.



5d

Determination: Eroded drainage feature.

- Channel shape \/
- Bed and bank apparent as bank is eroded down to bed rock channel bed
- Low flow 1.5m
- Full bank width 7m
- No riparian vegetation. *L. suaveolens* present
- No pools or other aquatic habitat.
- Channel shading 10%
- Lantana and Corky passion moderate on bank



6a

Determination: Eroded drainage feature.

- Rock and soil substrate
- Channel shape _/
- Low flow channel width 0.5m
- Full bank width 8m
- No riparian vegetation/no pools
- No permanent water.
- Adjoining vegetation – Open eucalypt forest – Sickle fern.
- 12.3.11 to 12.9-10.2 *E. tereticornis* and *C. citriodora* dominated



6b

Determination: Drainage feature.

- Shallow channel with shape '_/'
- Substrate rocks and soil
- Channel – Low flow 1m
- No bank
- Erosion scours present
- No riparian vegetation/dry scour pools
- Drainage line contains moderate Lantana and woody debris.
- Adjoining vegetation open eucalypt forest 12.9 – 10.2 *Corymbia citriodora* dominated with *Eucalyptus crebra, Eucalyptus tereticornis*, *Lophostemon suaveolens*.



7a

Determination: Drainage feature.

- Unmapped drainage feature connecting through intersection
- Channel shape _/
- No bed or bank evident
- No defined flow path
- No riparian vegetation/no pools
- No permanent water.
- Adjoining vegetation – 12.9-10.2 open Eucalyptus forest - *Corymbia citriodora* and *Eucalyptus crebra*
- Grass throughout channel
- 25m high/ full bank width



8d

Determination: Drainage feature.

- Steep drainage feature
- No bed or bank evident
- Rock substrate
- No riparian vegetation
- No pools or scour holes
- Full bank width 6m
- Adjoining vegetation – 12.9-10.2 *Corymbia citriodora, Corymbia tessellaris*, and *Eucalyptus crebra*
- *Imperata cylindrica* (Blady Grass), *Melinis repens* (Red Natal Grass) throughout channel



9a

Determination: Drainage feature.

- No distinct bank or bed
- No pools
- No riparian zone
- PMAV – 12.9.10.2
- Dominant species
  -*Corymbia citriodora, Corymbia intermedia, Eucalyptus tereticornis, Corymbia tessellaris*
- Blady grass and Corky passion throughout

