



Significant Biodiversity Assessment Report

Flagstone City (Flagstone West A– Context Area 3)

Prepared for Peet Flagstone City Pty Ltd
19 December 2025

Job No. 9850 E



Document control

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Executive summary

The project site (Context Area 3 – West A) is located within 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 180 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- South, 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) assessments which has been certified by the Department of Natural Resources, Mines and Energy (DNRME) (PMAV 2008/005503). A large portion of the eastern section of the site is mapped as Category X (non-remnant) and is highly modified, largely consisting of paddock with scattered trees falling within Lot 989 on SP348566 and Lot 1 on RP35155. Some Category B (remnant) vegetation is present in these lots, and consists of retained vegetation corridors along drainage lines and regions which adjoin a larger patches of remnant vegetation.

Majority of the western portion of the site that intersects Lots 988 on CP857841, Lot 5 on S312569 and Lot 9 on S312569 is mapped as Category B (remnant). Higher ecological values are associated with the Flagstone Creek Biodiversity Corridor located in the north of the site. The site is mapped with four (4) *low risk* waterways for waterway barrier works (WWBW), one (1) *moderate risk* waterway and one (1) *high risk* waterways for WWBW. The Category B vegetation present under the PMAV consists of a mix of Regional Ecosystems, including Least Concern RE12.9-10.2, and RE12.9-10.17a, and composite Of Concern RE12.9-10.7, 12.9-10.2/12.9-10.7 and composite Of Concern RE12.3.11/12.3.7. 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 outside a PDA for an urban purpose in an urban area.

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. Five (5) fauna species and two (2) flora species, *Melaleuca irbyana* (Swamp Tea-tree) 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 West A area 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 A, also referenced as the site. Additional incidental surveys and detailed tree plotting was conducted between 1st of July and the 5th of December 2024 focused around the West A region.

Two (2) conservation significant species was detected on-site during surveys, being *Phascolarctos cinereus* (Koala) and *Pteropus poliocephalus* (Grey-headed Flying Fox). Koala was detected via camera trap within the Flagstone Creek corridor. Grey-headed Flying Fox was detected foraging during spotlighting. Flagstone Creek will be buffered and rehabilitated as a 200 m environmental corridor. No other species listed under the EPBC Act nor NCA were detected on-site. The site is considered to provide low suitability for *Dasyurus maculatus* (Spotted-tailed Quoll) and *Petauroides volans* (Greater Glider) due to the lack of optimal habitat.

Development proposal

The development proposal is for the Flagstone City Context Area 3- West A within the Greater Flagstone PDA. The Context Area 3 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. These have mostly occurred in the eastern portion of the site; however, aerial imagery indicates some modification has occurred through the remnant vegetation in the western portion of the site. The eastern portion of the site is mostly cleared and devoid of noteworthy vegetation, retaining relatively minimal ecological values. The proposed development will result in the removal of regulated vegetation, 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) 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 that 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 A reflects the original outcomes outlined in the higher approval and reflected in the Greater Flagstone PDA Development Scheme and endorsed NESS. 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	<i>Economic Development Act 2012</i>
EDQ	Economic Development Queensland (Qld)
EPBC	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>

LCC	Logan City Council
NCA	<i>Nature Conservation Act 1992 (Qld)</i>
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	<i>State Planning Policy 2017 (Qld)</i>
VMA	<i>Vegetation Management Act 1999 (Qld)</i>

Reference Documents

ADR	<i>Acceptable Development Requirements for operational work that is constructing of raising waterway barrier works, prepared by Queensland Government (dated 1 October 2018)</i>
Development Scheme	<i>Greater Flagstone Urban Development Area Development Scheme (October 2011), Urban Land Development Authority, The State of Queensland.</i>
FSRDM	<i>Fauna Sensitive Road Design Manual: Volume 2- Preferred Practices, prepared by the Department of Transport and Main Roads (dated June 2010).</i>
IG 14	<i>PDA Implementation Guideline No. 14 (Environmental values and sustainable resources) (May 2015), Department of Infrastructure Local Government and Planning, The State of Queensland.</i>
IG 17	<i>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.</i>
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 (NESS). This SBAR is required to support proposed development in Flagstone West. The relevant area addressed within this SBAR is described as 'West A'. The development context plan is provided in **Appendix A** and the key property details are provided in **Table 1**.

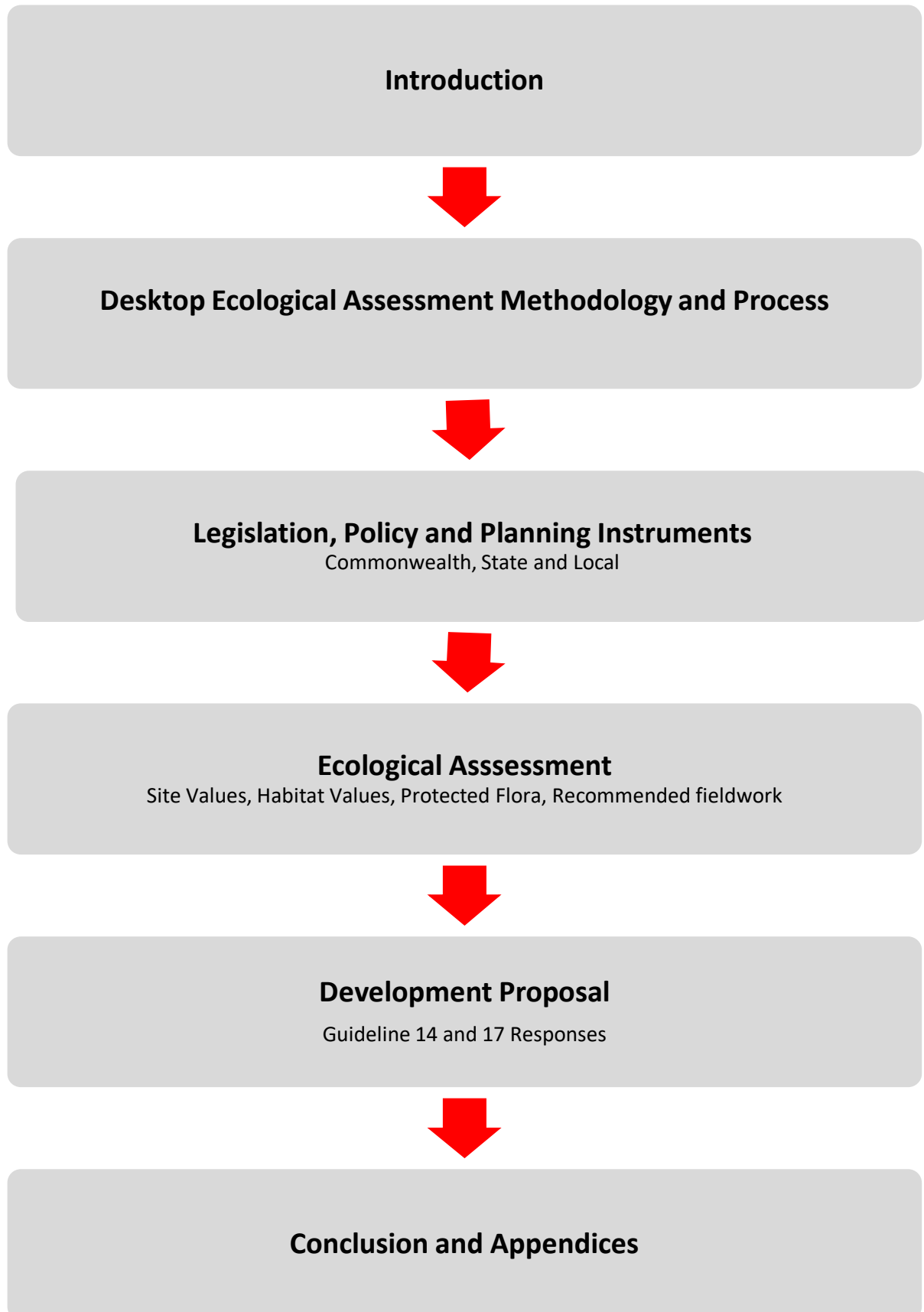
The site is located entirely within the Greater Flagstone Priority Development Area (PDA) and so it is subject to assessment by EDQ as the administrative authority for development in PDAs. This SBAR provides a detailed review of the site's ecological values in accordance with Commonwealth and State Government 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	Lot 988 on CP857841, Lot 5 on S312569, Lot 989 on SP348566. Lot 1 on RP35155 and Lot 9 on S312569
Protected Plants	Partially within High Risk trigger area
VMA 1999	Category X (non-remnant) Category B (remnant) Least Concern RE12.9-10.2, and RE12.9-10.17a, and Of Concern RE12.9-10.7, 12.9-10.2/12.9-10.7 and 12.3.11/12.3.7
Fisheries 1994	<i>Low risk</i> (Green), <i>medium risk</i> (Amber) and <i>high risk</i> (Red) waterways
MSES	MSES - Wildlife habitat (Koala habitat areas - core) MSES - Regulated vegetation: intersecting a watercourse; essential habitat; Category B MSES - High ecological value waters (watercourse)
Koala Habitat	Koala Habitat Area (core) partially within Koala Priority Area
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 mostly cleared land 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 northern region within the western extent of Context Area 3 referred to as West A. West A 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 south of CA3 adjoins the sub-area within the western region of CA3 referred to as West B. To the north of the site is Flagstone Creek. Within the wider area, the Flagstone City Master Plan is bounded by the Brisbane-Sydney Interstate Rail Line 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 A site encompasses approximately 180 ha of land comprising Category X (non-remnant) vegetation and five different remnant Regional Ecosystems (RE's) confirmed by PMAV including, Least Concern RE12.9-10.2, and RE12.9-10.17a, and Of Concern RE12.9-10.7, 12.9-10.2/12.9-10.7 and 12.3.11/12.3.7. Aerial imagery indicates eastern portions are entirely cleared except for retained drainage corridors thus are characteristic of a highly modified environment. The western portion of the site is mapped as Category B (remnant) vegetation that connects to the Flinders-Karawatha Bioregional Corridor to the west. The remnant vegetation on-site is predominantly Least Concern RE12.9-10.2/12.9-10.7 and Of Concern RE12.9-10.7. One *high risk* waterway intersects the site (Flagstone Creek) in addition to one (1) *moderate risk* and four (4) *low risk* waterways.

The eastern portion of Context Area 3 – West A has undergone significant 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 site has 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 offsetting 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 Context Plan refines outcomes of the site in alignment with the Development Scheme.



LEGEND

★ CA3 west A location

Figure 1

Site Context

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

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (A)

0 1 2 3 4 5 km

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:300,000



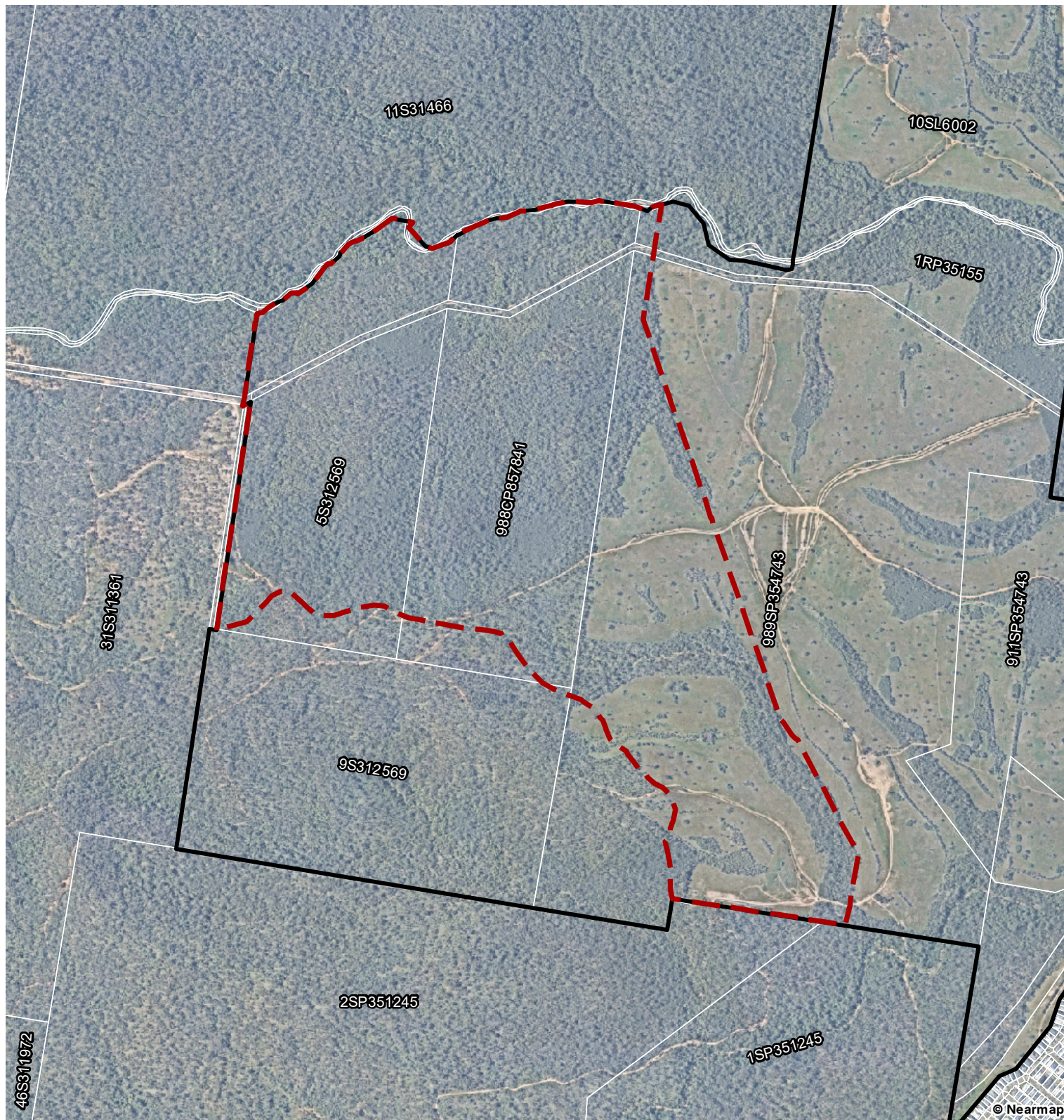
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LEGEND

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

Figure 2

Site Aerial

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

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (A)

0 100 200 300 400 500 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:15,000



CLIENT

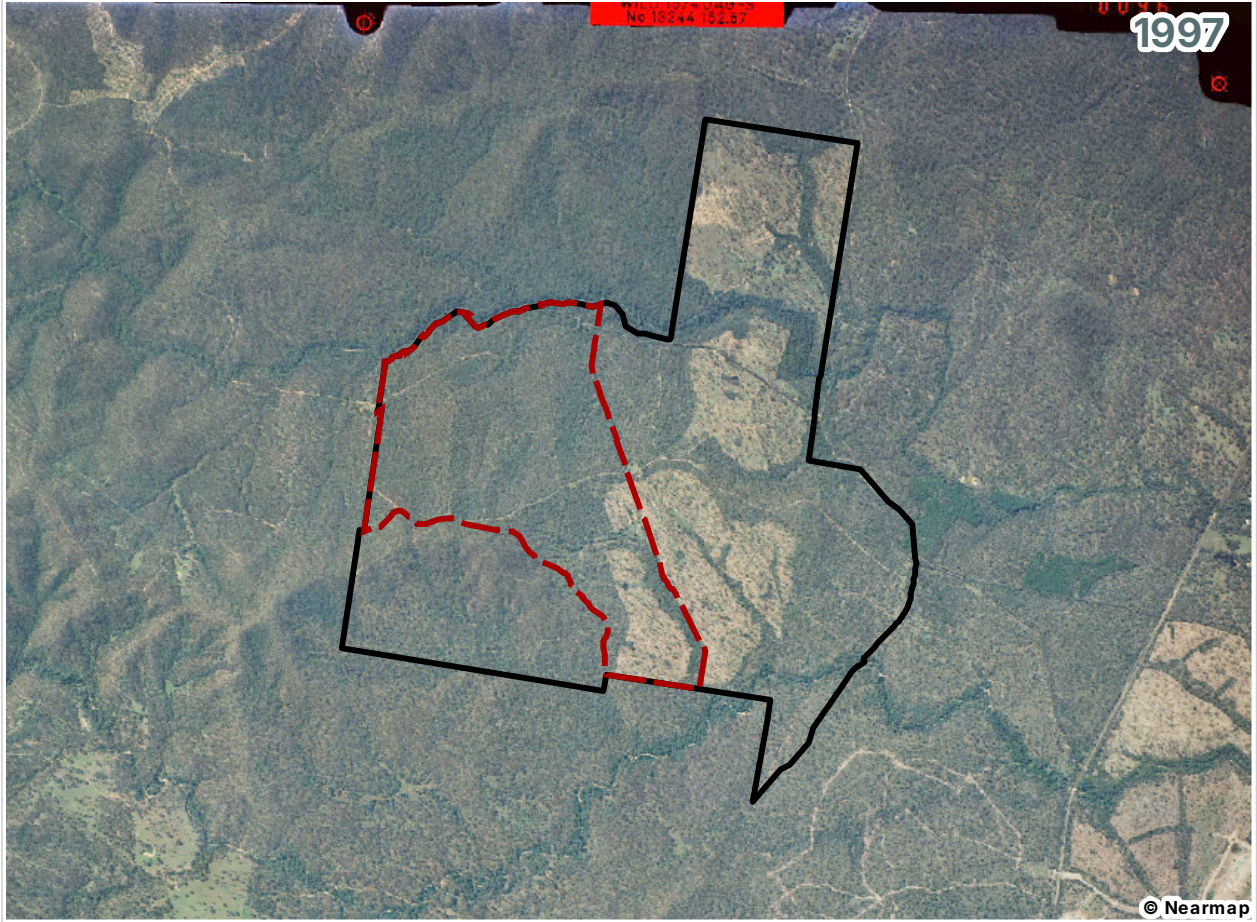
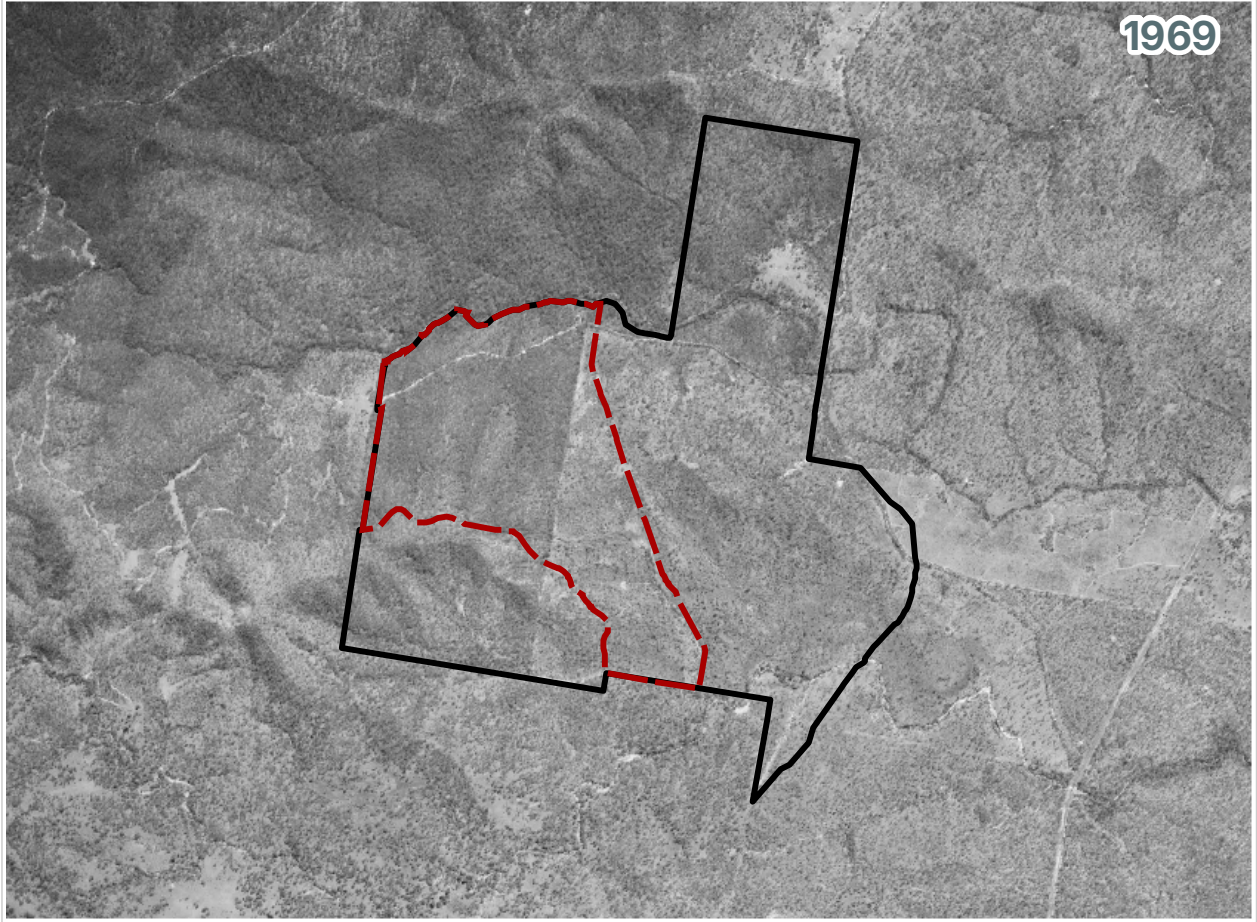
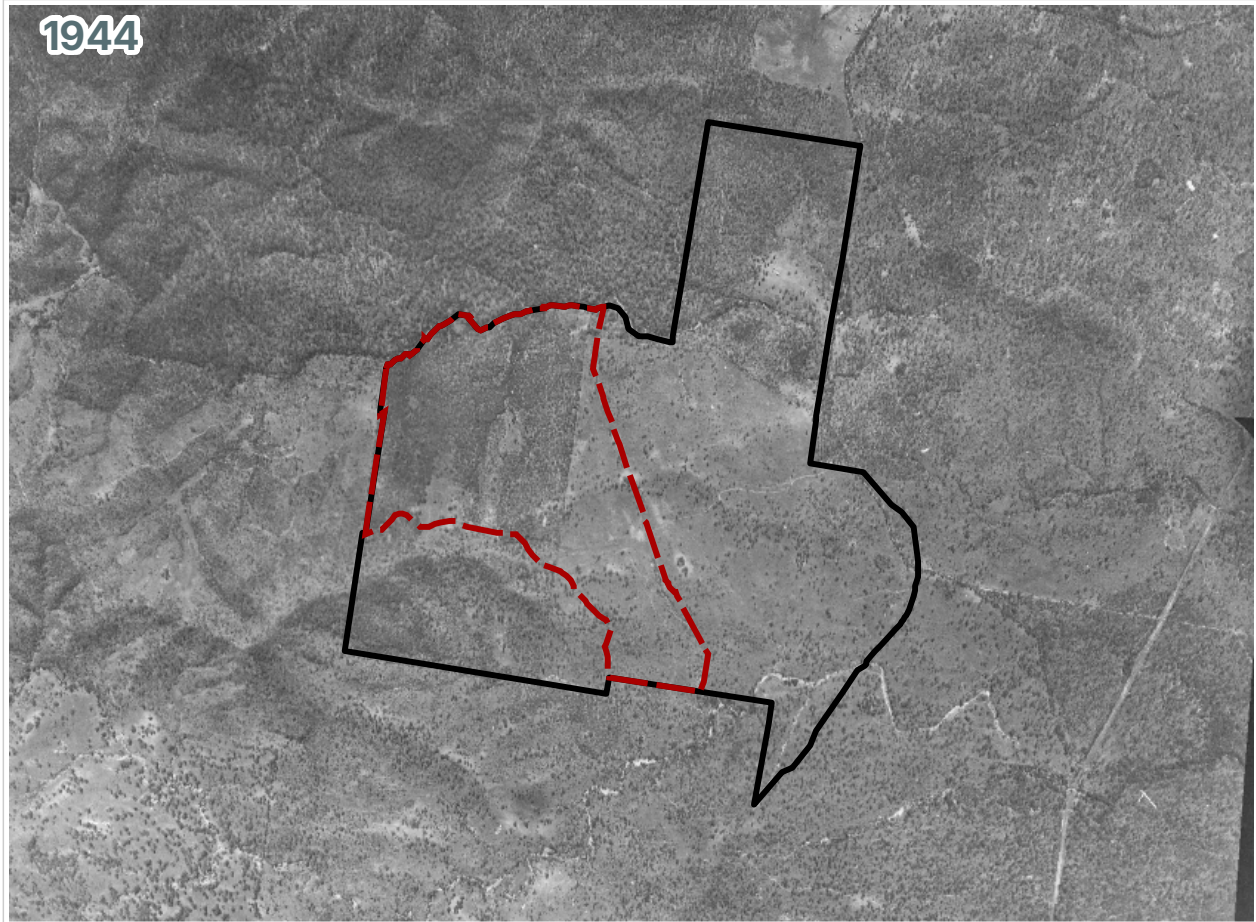


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1. HISTORICAL AERIAL IMAGERY



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LEGEND

Context Area 3 Boundary

Context Area 3 - West (A) boundary

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 on the subject site between the 10th and 31st August 2021 and the 1st of July and the 5th of December 2024 in the attempt to confirm presence of potential matters of ecological significance (MNES, MSES and MLES). 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 site.

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

Refer to **Plan 2** for location of assessment areas.

Table 2: Survey Requirements

Species	Survey Requirements		Survey Achieved	
	Person Hours	Days/ survey events	Person hours achieved	Survey days/events
<i>Calyptorhynchus lathami lathami</i> (Glossy Black Cockatoo)	5 hours per 50 ha	4 days	Diurnal: 89 hours across 11 days.	Including targeted bird surveys and incidental searches
<i>Ninox sternua</i> (Powerful Owl)	No specific Qld or Federal guidelines		Nocturnal: 6 hours Diurnal: 89 hours	Spotlighting Bird surveys and incidental surveys
<i>Dasyurus maculatus maculatus</i> (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
<i>Phascolarctos cinereus</i> (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
<i>Petauroides volans</i> (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
<i>Erythrotriorchis radiatus</i> (Red Goshawk)	80 hours	10 days	Diurnal: 89 hours across 11 days.	11 days
<i>Petrogale penicillata</i> (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
<i>Pteropus poliocephalus</i> (Grey-headed Flying-fox)		Desktop survey for location of camps Vegetation community surveys Spotlighting surveys	Diurnal: 89 hours Nocturnal: 6 hours	1 night of spotlighting 11 days on-site for potential roost sites and assessing vegetation communities.
<i>Anthochaera phrygia</i> (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,
<i>Lathamus discolor</i> (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,
<i>Falco hypoleucos</i> (Grey Falcon)	N/A	N/A	Diurnal: 89 hours across 11 days.	Species considered during diurnal site searches, fauna surveys and nest/habitat
<i>Hirundapus caudacutus</i> (White-throated Needletail)	N/A	N/A	Diurnal: 89 hours across 11 days.	

■ Significant Biodiversity Assessment Report

<i>Myiagra cyanoleuca</i> (Satin Flycatcher)	N/A	N/A	Diurnal: 89 hours across 11 days.	searches, and morning and evening bird surveys
<i>Rhipidura rufifrons</i> (Rufous Fantail)	N/A	N/A	Diurnal: 89 hours across 11 days.	
<i>Melaleuca irbyana</i> (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 in accordance with the Guidelines within West A (refer **Plan 3**). One site was installed within Area 1 and one within Area 2 within the NESS identified investigation area. 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.

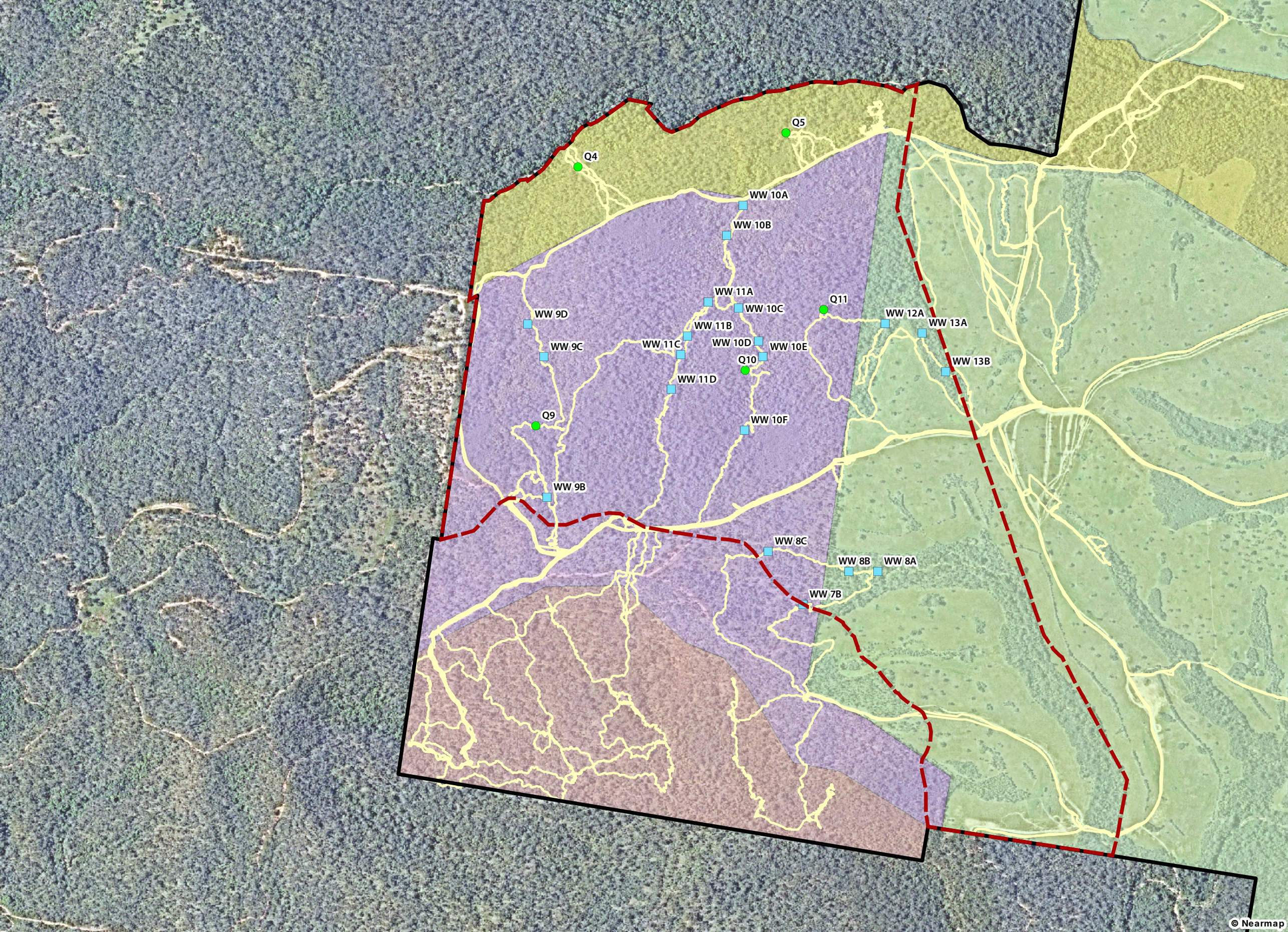
Each fauna site remained active for a minimum of four nights (approximately 96 hours). During this time, ecologists monitored and reset all traps each morning between 0630 and 0900 hrs and again between 1530 and 1715 hrs. All fauna were identified and released in situ as quickly as possible. Pitfall 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. FIELD SURVEY FLORA AND WATERWAYS



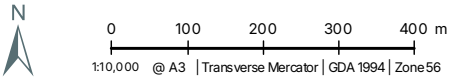
Notes:
The information on this plan is not suitable for any purpose other than the expressed use of the Client. Property dimensions, areas, numbers of lots and contours and other physical features may need verification if the development application is approved and development proceeds, and may change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

Layer Sources:
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Updated data available at:
<http://qldspatialinformation.qld.gov.au/catalogue/>
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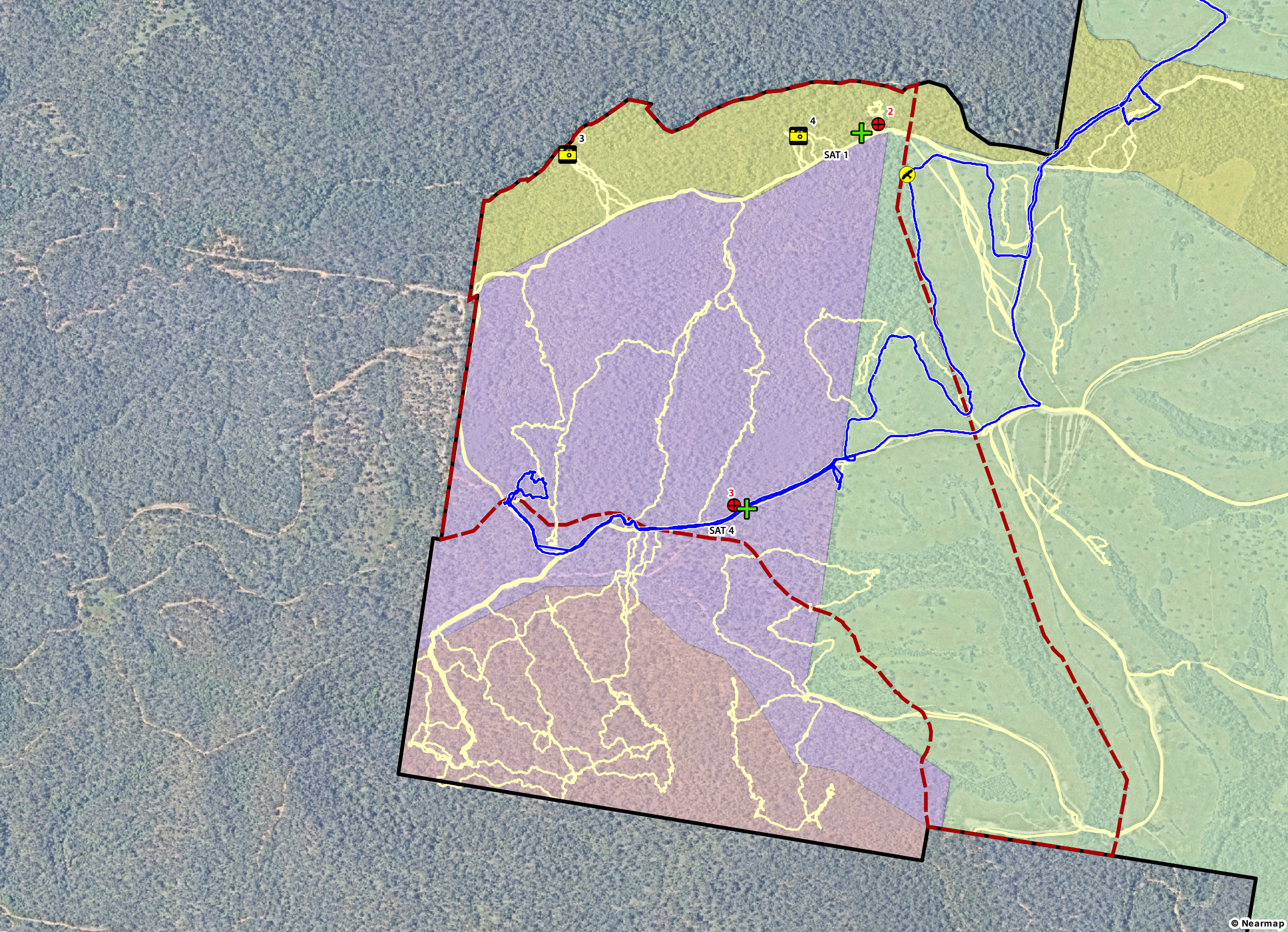
LEGEND

- Context Area 3 boundary
- Context Area 3 - West (A)
- 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
- Quaternary Survey Locations
- Waterway Assessment Locations
- Track Log

AMENDMENTS				
Issue	Date	Description	Drawn	Checked
B	18/11/2025	REBRAND	TC	AD



3. FIELD SURVEY FAUNA



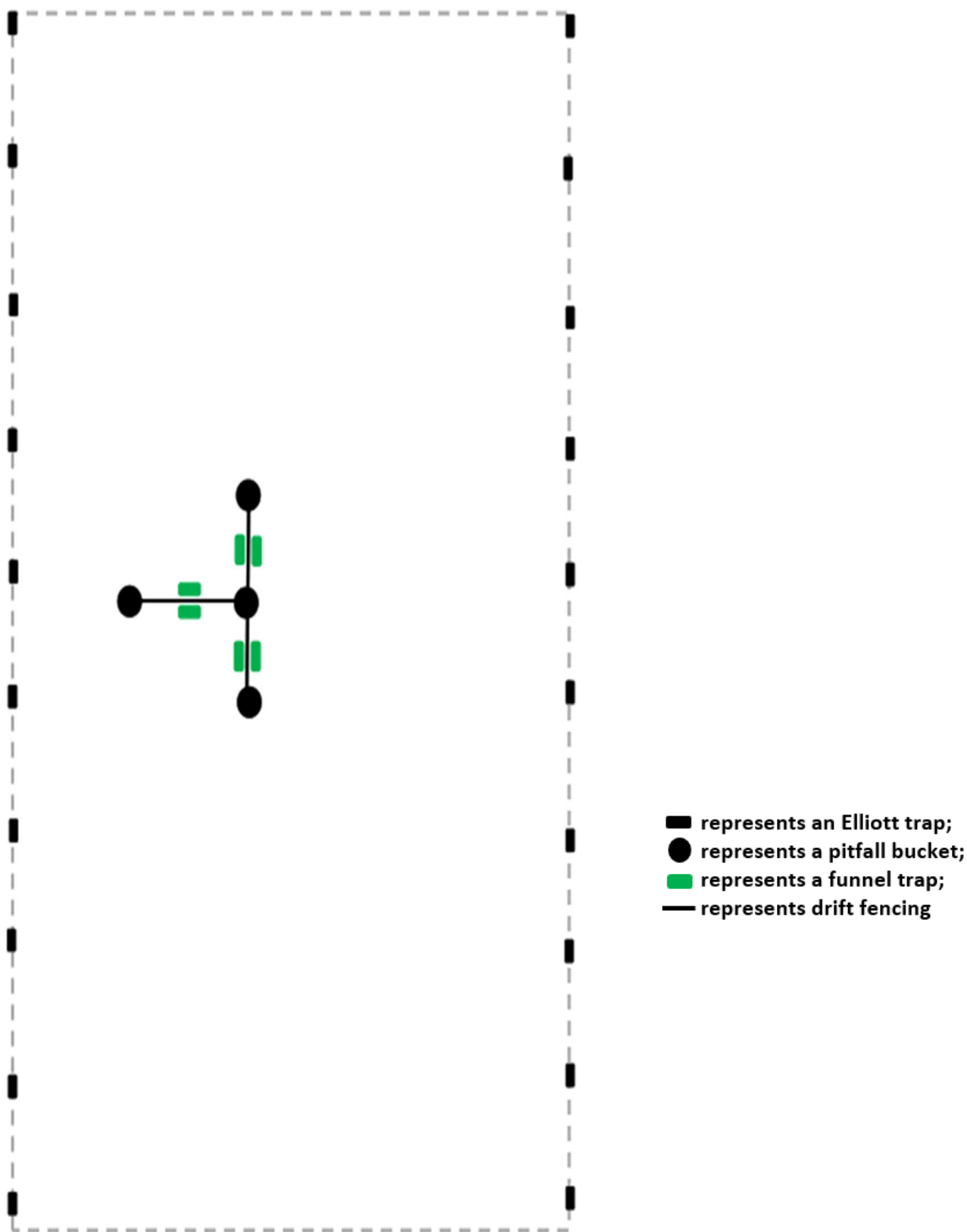


Figure 3: Standardised fauna survey site.

2.2.8 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 sites three 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.

2.2.9 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.

2.2.10 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 Foundation¹ 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 site within remnant vegetation that is suitable habitat.

2.2.11 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

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.

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.

2.2.12 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.

2.2.13 Camera sites

Remote-triggered camera traps were installed in two (2) locations within the proposed 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.

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 (<i>Casuarina glauca</i>) 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 may 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 to occur within area)		
Poplar Box Grassy Woodland on Alluvial Plains – Endangered (community may occur within area)		
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions –Endangered (community likely to occur within area).		
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – Critically Endangered (community likely to occur within area)		
Threatened Species		
Scientific Name	Common Name	Status
Birds		
<i>Anthochaera phrygia</i>	Regent Honeyeater	Critically Endangered
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Endangered
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	Vulnerable
<i>Calidris ferruginea</i>	Curlew Sandpiper	Critically Endangered
<i>Calyptorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo	Vulnerable
<i>Charadrius leschenaultii</i>	Greater Sand Plover, Large Sand Plover	Vulnerable
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (south-eastern)	Vulnerable

Threatened Species		
Scientific Name	Common Name	Status
<i>Cyclopsitta diophthalma coxeni</i>	Coxen's Fig-Parrot	Critically Endangered
<i>Erythrotriorchis radiatus</i>	Red Goshawk	Endangered
<i>Falco hypoleucos</i>	Grey Falcon	Vulnerable
<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe	Vulnerable
<i>Geophaps scripta scripta</i>	Squatter Pigeon (southern)	Vulnerable
<i>Grantiella picta</i>	Painted Honeyeater	Vulnerable
<i>Hirundapus caudacutus</i>	White-throated Needletail	Vulnerable
<i>Lathamus discolor</i>	Swift Parrot	Critically Endangered
<i>Rostratula australis</i>	Australian Painted Snipe	Endangered
<i>Stagonopleura guttata</i>	Diamond Firetail	Vulnerable
<i>Tringa nebularia</i>	Common Greenshank, Greenshank	Endangered
<i>Turnix melanogaster</i>	Black-breasted Button-quail	Vulnerable
Insects		
<i>Argynnis hyperbius inconstans</i>	Australian Fritillary	Critically Endangered
Mammals		
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat, Large Pied Bat	Endangered
<i>Dasyurus maculatus maculatus</i> (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)	Endangered
<i>Macroderma gigas</i>	Ghost Bat	Vulnerable
<i>Petauroides volans</i>	Greater Glider (southern and central)	Endangered
<i>Petaurus australis australis</i>	Yellow-bellied Glider (south-eastern)	Vulnerable
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Vulnerable
<i>Phascolarctos cinereus</i> (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Endangered
<i>Potorous tridactylus tridactylus</i>	Long-nosed Potoroo (northern)	Vulnerable
<i>Pseudomys novaehollandiae</i>	New Holland Mouse, Pookila	Vulnerable
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable
Fish		
<i>Maccullochella mariensis</i>	Mary River Cod	Endangered
Plants		
<i>Arthraxon hispidus</i>	Hairy-joint Grass	Vulnerable

Threatened Species				
Scientific Name	Common Name			Status
<i>Bosistoa transversa</i>	Three-leaved Satinheart	Bosistoa,	Yellow	Vulnerable
<i>Coleus habrophyllus</i>	-			Endangered (listed as <i>Plectranthus habrophyllus</i>)
<i>Cryptostylis hunteriana</i>	Leafless Tongue-orchid			Vulnerable
<i>Cupaniopsis shirleyana</i>	Wedge-leaf Tuckerroo			Vulnerable
<i>Cupaniopsis tomentella</i>	Boonah Tuckerroo			Vulnerable
<i>Dichanthium setosum</i>	Bluegrass			Vulnerable
<i>Fontainea venosa</i>	-			Vulnerable
<i>Leuzea australis</i>	Austral Cornflower, Native Thistle			Vulnerable (listed as <i>Rhaponticum australe</i>)
<i>Macadamia integrifolia</i>	Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak			Vulnerable
<i>Macadamia tetraphylla</i>	Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut			Vulnerable
<i>Notelaea lloydii</i>	Lloyd's Olive			Vulnerable
<i>Notelaea x ipsviciensis</i>	Cooneana Olive			Critically Endangered (listed as <i>Notelaea ipsviciensis</i>)
<i>Picris evae</i>	Hawkweed			Vulnerable
<i>Planchonella eerwah</i>	Shiny-leaved Wild Apple	Condoo, Black Plum,		Endangered
<i>Rhodamnia rubescens</i>	Scrub Turpentine, Brown Malletwood			Critically Endangered
<i>Rhodomyrtus psidioides</i>	Native Guava			Critically Endangered
<i>Samadera bidwillii</i>	Quassia			Vulnerable
<i>Thesium australe</i>	Austral Toadflax, Toadflax			Vulnerable
Reptiles				
<i>Delma torquata</i>	Adorned Delma, Collared Delma			Vulnerable
<i>Furina dunmalli</i>	Dunmall's Snake			Vulnerable
<i>Hemiaspis damelii</i>	Grey Snake			Endangered

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
Birds		
	White-throated Needletail	Vulnerable
<i>Calyptrorhynchus lathamii lathamii</i>	Glossy Black-cockatoo	Vulnerable
<i>Hirundapus caudacutus</i>	White-throated Needletail	Vulnerable
<i>Ninox strenua</i>	Powerful Owl	Vulnerable
Mammals		
<i>Petaurus australis australis</i>	Yellow-bellied glider (southern sub-species)	Vulnerable
<i>Phascolarctos cinereus</i>	Koala	Endangered
Plants		
<i>Coleus habrophyllus</i>	-	Endangered
<i>Melaleuca irbyana</i>	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:

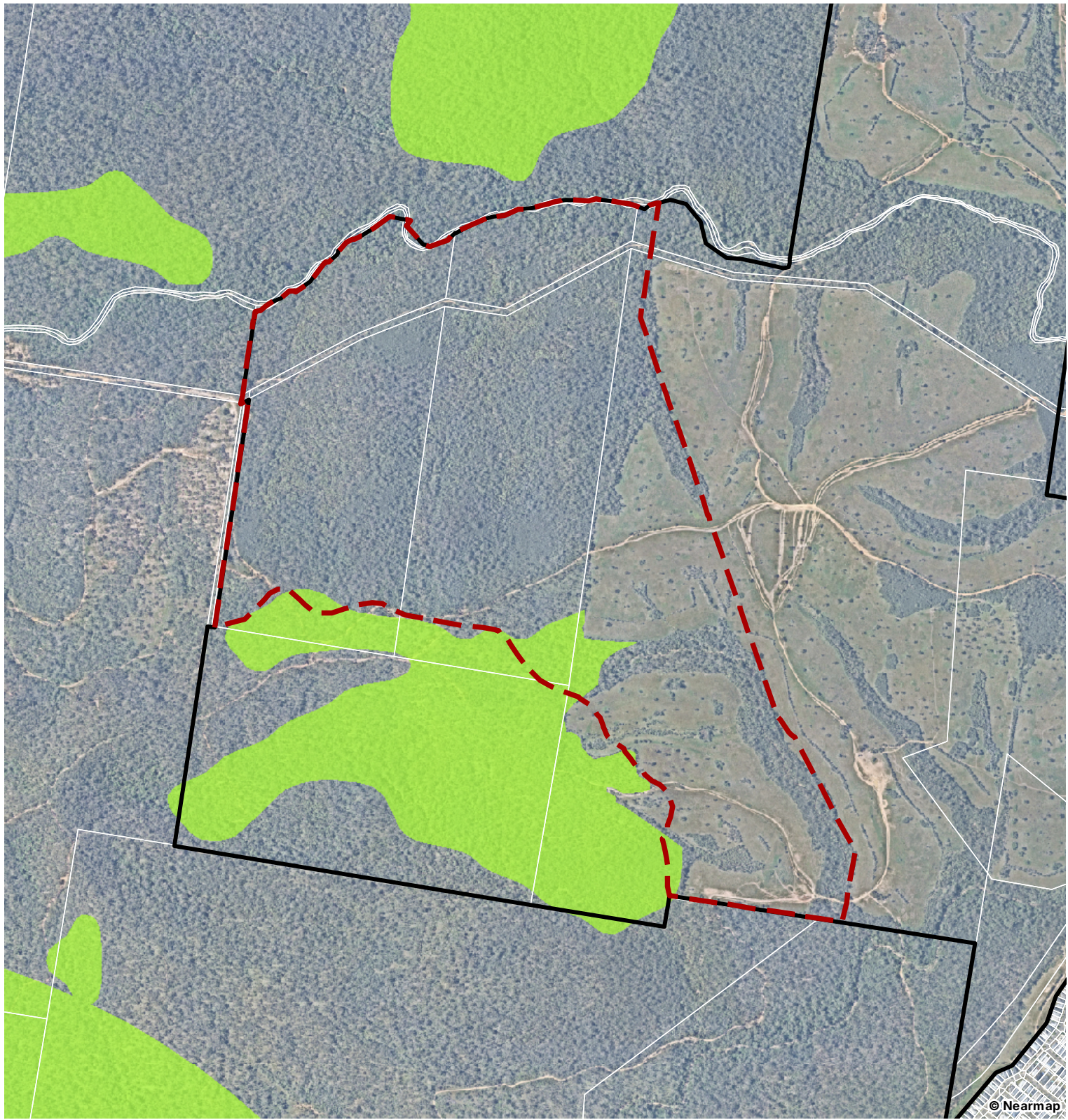
- a conservation plan applicable to the plant;
- a license, permit or other authority under a regulation; or
- an exemption under a regulation.

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 (A)
-  High risk area - flora survey trigger

Figure 4

NCA: Protected Plants
Flora Survey Trigger

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

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (A)

0 100 200 300 400 500 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:15,000



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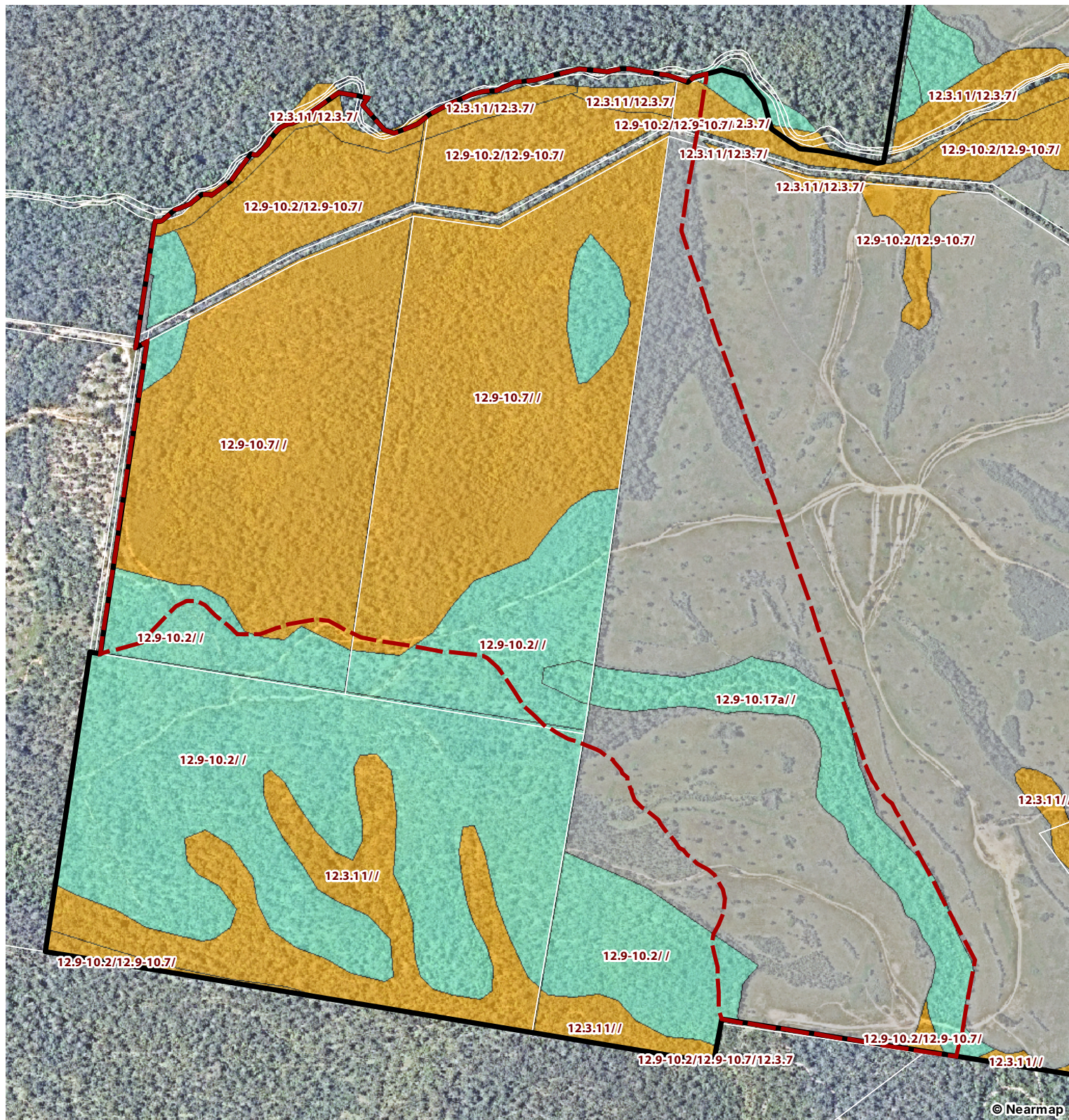
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3.3. *Vegetation Management Act 1999*

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) assessment has 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). Category B (remnant) vegetation is present across site within Lot's 988 on CP85784, 5 on S312569, 989 on SP348566, 9 on S312569 and 1 on RP35155, but is most concentrated in the West. As rectified by PMAV, RE's present include Least Concern Least Concern RE12.9-10.2, and RE12.9-10.17a, and Of Concern RE12.9-10.7, 12.9-10.2/12.9-10.7 and 12.3.11/12.3.7 (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 (A)
- PMAV RES**
- Cat. B - Of Concern REs
- Cat. B - Least Concern REs
- Cat. X - non-remnant

Figure 5

VMA Property Map of Assessable Vegetation

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

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (A)

0 100 200 300 400 500 m

COORDINATE SYSTEM **SCALE (A4)**
GDA 2020 MGA Z56 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).

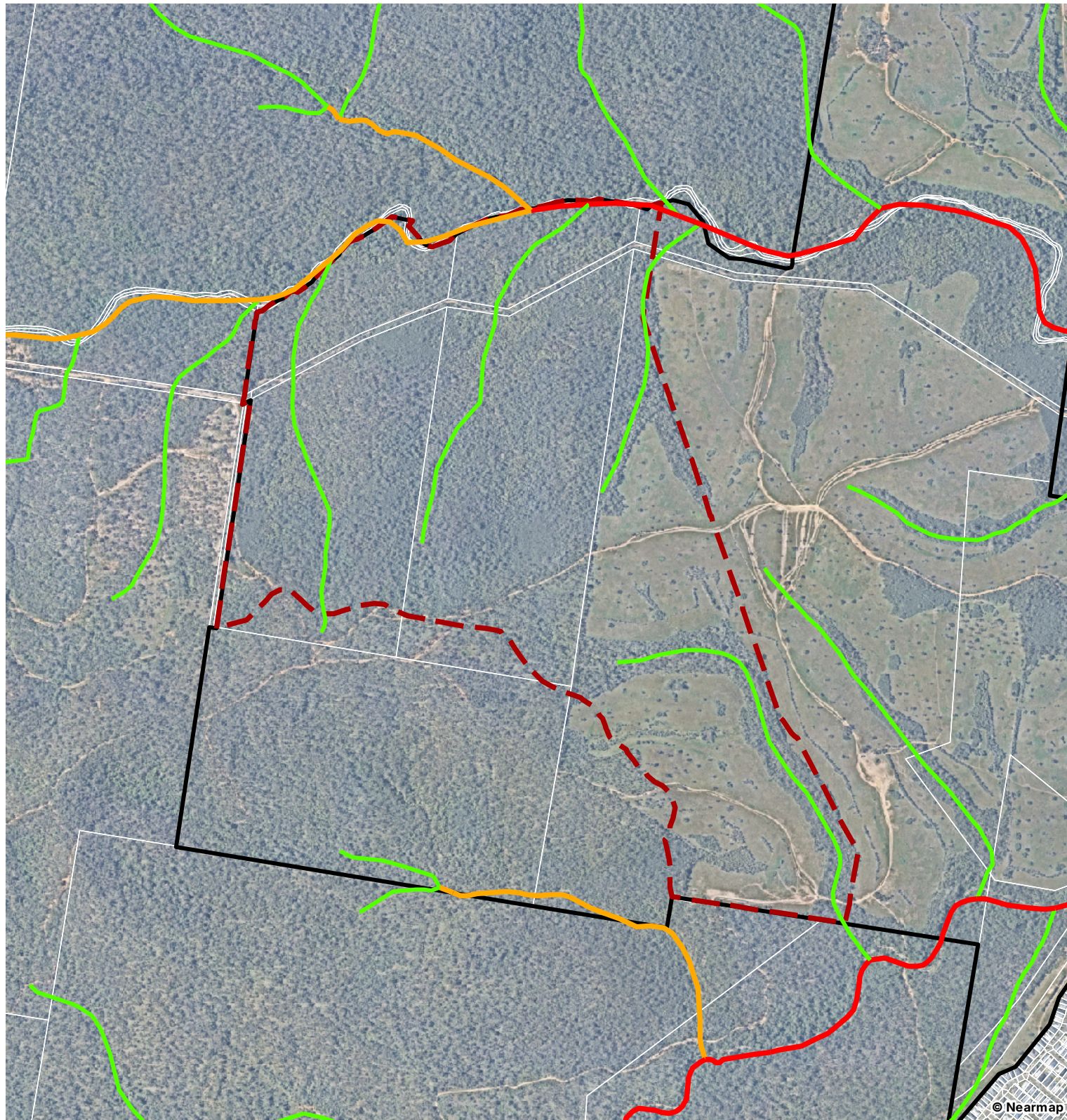
The *Biosecurity Act 2014* categorises restricted matter (restricted plants and animals) into the following:

- 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 four (4) *low risk* waterways for waterway barrier works (WWBW), one (1) *moderate risk* and one (1) *high risk* waterways 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 (A)

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-A Fisheries B

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (A)

0 100 200 300 400 500 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:15,000



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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
<i>Coastal Protection and Management Act 1995</i>	The <i>Coastal Protection and Management Act 1995</i> seeks to protect the coastal resources of the coastal zone.	The site does not contain any coastal areas.
<i>State Planning Policy 2017</i>	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 (special least concern animal and 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.
<i>Planning Regulation 2017 – Schedule 11</i>	Schedule 11 of the <i>Planning Regulation 2017</i> (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 is partially within a Koala priority area (KPA) and 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 is provided in **Table 7**.

Table 7: Soil Description

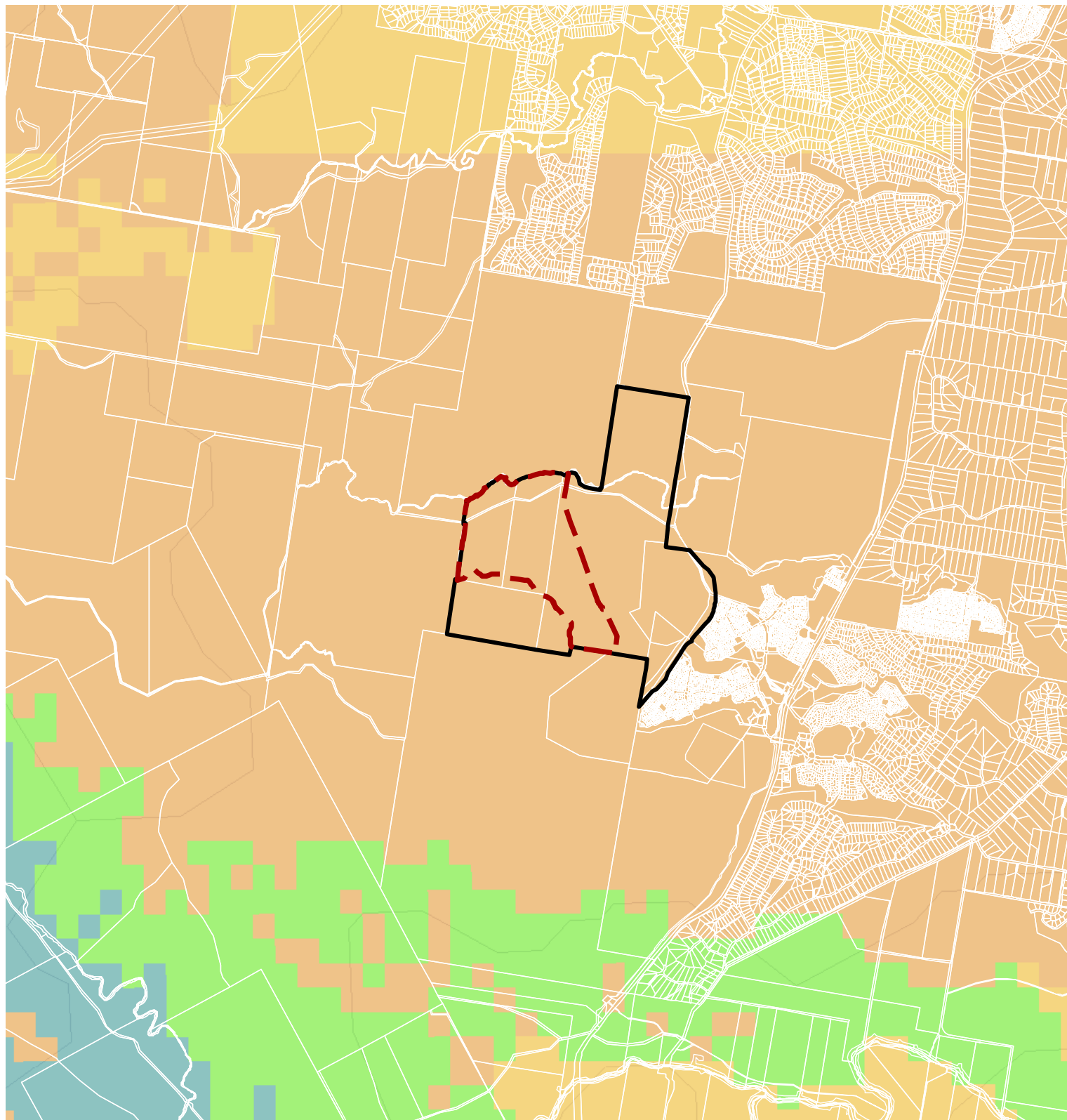
Soil Classification	Soil Description
Chromosol	Chromosols have a strong contrasting texture. They are not strongly acidic or sodic in the upper B horizon. The parent material of Chromosols ranges from highly siliceous, siliceous to intermediate in composition. These soils are found in imperfectly drained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



LEGEND

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

Australian Soil Classification

-  Chromosols
-  Dermosols
-  Kurosols
-  Sodosols

Figure 7

Australian Soil Classification

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

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (A)

0 500 1,000 1,500 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:60,000

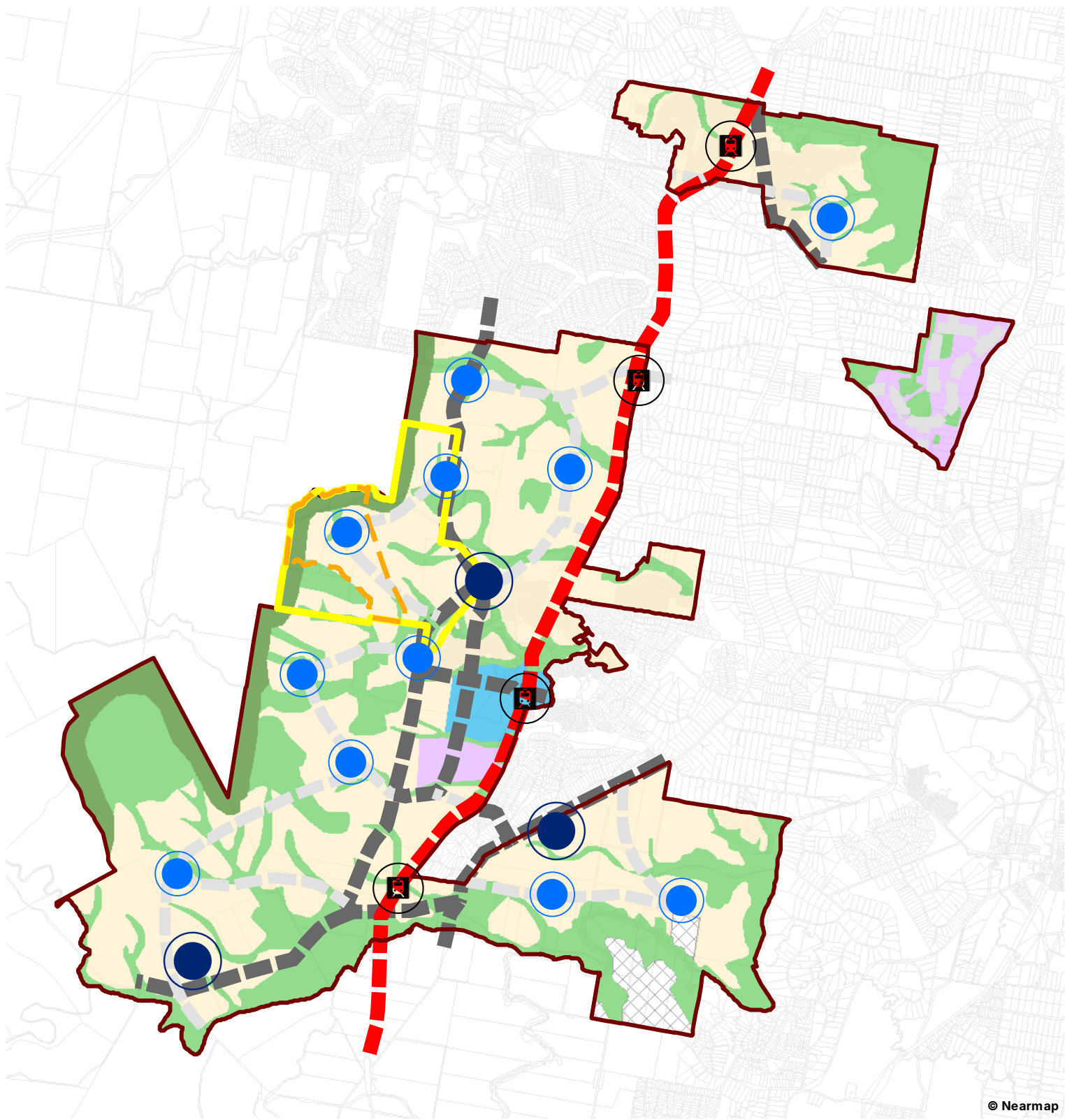


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© Nearmap

LEGEND

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

Figure 8

Greater Flagstone PDA - Zoning

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

DATE
8/12/2025

FLAGSTONE - CONTEXT AREA 3 WEST (A)

0 1,000 2,000 m

COORDINATE SYSTEM
GDA 2020 MGA Z56

SCALE (A4)
1:80,000



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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 portion of the site is mapped as Category X (non-remnant). Category B (remnant) vegetation is present across site within Lot's 988 on CP85784, 5 on S312569, 989 on SP348566, 9 on S312569 and 1 on RP35155, but is most concentrated in the West. As rectified by PMAV, RE's present include Least Concern RE12.9-10.2, and RE12.9-10.17a, and Of Concern RE12.9-10.7, 12.9-10.2/12.9-10.7 and 12.3.11/12.3.7. 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	<i>Corymbia citriodora</i> subsp. <i>variegata</i> open forest or woodland usually with <i>Eucalyptus crebra</i> . Other species such as <i>Eucalyptus tereticornis</i> , <i>E. moluccana</i> , <i>E. acmenoides</i> and <i>E. siderophloia</i> may be present in scattered patches or in low densities. Understorey can be grassy or shrubby. Shrubby understorey of <i>Lophostemon confertus</i> (whipstick form) often present in northern parts of bioregion. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 10b)

Regional Ecosystem	Structure Category	Description
Least Concern RE12.9-10.17a	Mid-dense	Open forest to woodland complex generally with a variety of stringybarks, grey gums, ironbarks and in some areas spotted gum. Canopy trees include <i>Eucalyptus siderophloia</i>, <i>E. propinqua</i> or <i>E. major</i>, <i>E. acmenoides</i> or <i>E. portuensis</i>, <i>E. carnea</i> and/or <i>E. microcorys</i> and/or <i>Corymbia citriodora</i> subsp. <i>variegata</i>. Other species that may be present locally include <i>Corymbia intermedia</i>, <i>C. trachyphloia</i>, <i>Eucalyptus tereticornis</i>, <i>E. biturbinata</i>, <i>E. moluccana</i>, <i>E. longirostrata</i>, <i>E. fibrosa</i> subsp. <i>fibrosa</i> and <i>Angophora leiocarpa</i>. <i>Lophostemon confertus</i> or Whipstick <i>Lophostemon confertus</i> often present in gullies and as a sub-canopy or understorey tree. Mixed understorey of grasses, shrubs and ferns. Hills and ranges of Cainozoic and Mesozoic sediments. (BVG1M: 9a) 12.9-10.17a: <i>Lophostemon confertus</i> or <i>L. suaveolens</i> dominated open forest usually with emergent <i>Eucalyptus</i> and/or <i>Corymbia</i> species. Occurs in gullies and southern slopes on Cainozoic and Mesozoic sediments. (BVG1M: 28e)
Of Concern RE12.9-10.7	Sparse	<i>Eucalyptus crebra</i> +/- <i>E. tereticornis</i>, <i>Corymbia tessellaris</i>, <i>Angophora leiocarpa</i>, <i>E. melanophloia</i> woodland. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 13c)
Of Concern RE12.3.11	Mid-dense	<i>Eucalyptus tereticornis</i> +/- <i>E. siderophloia</i> and <i>Corymbia intermedia</i> open forest to woodland. <i>Corymbia tessellaris</i>, <i>Lophostemon suaveolens</i> and <i>Melaleuca quinquenervia</i> frequently occur and often form a low tree layer. Other species present in scattered patches or low densities include <i>Angophora leiocarpa</i>, <i>E. exserta</i>, <i>E. grandis</i>, <i>C. trachyphloia</i>, <i>C. citriodora</i> subsp. <i>variegata</i>, <i>E. latisinensis</i>, <i>E. tindaliae</i>, <i>E. racemosa</i> and <i>Melaleuca sieberi</i>. <i>E. seeana</i> may be present south of Landsborough and <i>Livistona decora</i> 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)
Least concern 12.3.7	Sparse	Narrow fringing woodland of <i>Eucalyptus tereticornis</i>, <i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i> +/- <i>Melaleuca viminalis</i>. Other species associated with this RE include <i>Melaleuca bracteata</i>, <i>M. trichostachya</i>, <i>M. linariifolia</i>. North of Brisbane <i>Waterhousea floribunda</i> commonly occurs and may at times dominate this RE. <i>Melaleuca fluviatilis</i> occurs in this RE in the north of the bioregion. <i>Lomandra hystrix</i> often present in stream beds. Occurs on fringing levees and banks of rivers and drainage lines of alluvial plains throughout the region. Riverine. (BVG1M: 16a). Vegetation communities in this regional ecosystem include:

Regional Ecosystem	Structure Category	Description
		12.3.7a: <i>Melaleuca bracteata</i> open forest +/- emergent <i>Eucalypts tereticornis</i> . Occurs in drainage depressions on Quaternary alluvial plains. Riverine. (BVG1M: 22c).
		12.3.7b: Naturally occurring instream waterholes and lagoons, both permanent and intermittent. Includes exposed stream bed and bars. Occurs in the bed of active (may be intermittent) river channels. Riverine. (BVG1M: 16d).

5.2. Fisheries Waterways

Four (4) *low risk* (green) waterways for WWBW, one (1) *moderate risk* and one (1) *high risk* (red) waterway, intersect the site. The *high risk* waterway for WWBW which intersects the site to the north, Flagstone Creek, flows downstream to the east of the site to form a *Major risk* (purple) waterway (Flagstone Creek). This waterway is 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 West A 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 thirty-four (34) fauna species and nineteen (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**). Five (5) 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>i.e.</i>, 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			
<i>Anthochaera Phrygia</i> (Regent Honeyeater)	CE/CE	There are one-hundred and seventy-two (172) records of this species occurring within 10km of the site in the previous 20 years. Four (4) of which were within 5km 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 <i>Corymbia citriodora</i>, <i>Eucalyptus crebra</i> and <i>Eucalyptus tereticornis</i>. 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
<i>Calyptrorhynchus lathamii lathamii</i> (Glossy Black- cockatoo)	V/V	There are eight (8) records of this species occurring within 10km of the site in the previous 20 years. No records are within 5km of the site. The western half of the site is mapped as remnant vegetation with eucalypt dominated Regional Ecosystems. It is possible that the understorey contains <i>Allocasuarina</i> 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
<i>Erythrotriorchis radiatus</i> (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.	Moderate
<i>Falco hypoleucos</i> (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 suitable nesting habitat. The presence of eucalypt woodland on site is potentially suitable habitat for this species. It is expected based on desktop assessment that there is a moderate likelihood of this species occurring on-site.	Moderate

<i>Hirundapus caudacutus</i> (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
<i>Lathamus discolor</i> (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 <i>Corymbia citriodora</i>, <i>Eucalyptus crebra</i> and <i>Eucalyptus tereticornis</i>. 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 <i>Corymbia citriodora</i>, there is a high likelihood that the species may occur on-site.	Moderate
<i>Ninox sternua</i> (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

<i>Dasyurus maculatus maculatus</i> (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 significant survey effort demonstrated in a published study by ²Wildlife Preservation Society of Queensland (2015).	Moderate
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² Barrenger, H., Whyte, I., (2015). Looking out for Quolls in Logan. Wildlife Preservation Society of Queensland.

		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.	
<i>Petauroides volans</i> (Greater Glider)	E/V	There are 4 records of this species occurring within 10 km of the High 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.	
<i>Petaurus australis</i> <i>australis</i> (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. There is also an additional one undated record. Eucalypt forest does occur on site presenting potential suitable habitat for this species on site. 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
<i>Petrogale penicillata</i> (Brush-tailed Rock Wallaby)	V/V	There are 0 records of this species occurring within 10 km of the Moderate 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.	
<i>Phascolarctos cinereus</i> (Koala)	E/E	There are 246 records of this species occurring within 10 km of the High 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

<i>Pteropus poliocephalus</i> (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
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Plants

<i>Coleus habrophyllus</i>		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. It is expected that there is a high likelihood that this species could occur on site.	High
<i>Melaleuca irbyana</i> (Swamp Tea-tree)		<i>Melaleuca irbyana</i> is known to occur within the locality. There is potential that this species could occur on-site.	High
<i>Picris evae</i>	V/V	This species preferred habitat is open Eucalypt forest including a canopy of <i>Eucalyptus melliodora</i> , <i>E. crebra</i> , <i>E. populnea</i> , <i>E. albens</i> , <i>Angophora subvelutina</i> , <i>Allocasuarina tortulosa</i> , and/or <i>Casuarina cunninghamiana</i> with a <i>Dichanthium</i> grassy understory. The RE's present on site are associated with some of these species.	Moderate

*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 22nd of May 2024 and the 2nd 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
22 May 2024	Fine and sunny	23.4	8.1	0
24 June 2024	Fine and sunny	22.2	3.6	0
25 June 2024	Sunny and partially cloudy	23.5	8.6	1.6
1 July 2024	Overcast some showers	18.6	15.2	6
19 September 2024	Fine and sunny	28.5	11.4	0
23 September 2024	Fine and sunny	28.9	8.3	0
24 September 2024	Fine and sunny	28.4	11	0
26 September 2024	Fine and sunny	25.9	11.2	0
27 September 2024	Overcast and raining	21.1	15.1	28.8
30 September 2024	Fine and sunny	30.6	11.3	0.2
1 October 2024	Sunny and partially cloudy	26.4	12.3	1
2 October 2024	Fine and sunny	24.2	10.2	0
4 October 2024	Fine and sunny	26	6.5	0

Date	Weather Conditions	High (°C)	Low(°C)	Rain (mm)
8 October 2024	Fine and sunny	34.1	17	0
9 October 2024	Overcast some showers	23.6	16.4	14.8
13 November 2024	Fine and sunny	31.4	18.6	0
16 November 2024	Fine and sunny	26.1	20.5	0
25 November 2024	Fine and sunny	27.8	15.3	0
2 December 2024	Fine and sunny	31.8	21.6	0
5 December 2024	Overcast some showers	30.8	22.7	19.4

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 180 ha of land with a focus on remnant vegetation values and drainage corridors within the western portion of the site.
- The remnant vegetation on-site as rectified by PMAV consists of a mix of Regional Ecosystems including Least Concern RE12.9-10.2, and RE12.9-10.17a, and Of Concern RE12.9-10.7, 12.9-10.2/12.9-10.7 and 12.3.11/12.3.7.

6.2. Flora survey results

Flora was assessed during site visits between 10th and 31st August 2021 (refer **Plan 3**).

- Across the entirety of CA3 area A total of 130 species of flora were detected on-site during surveys. 94 of these are native species (refer **Appendix F** for full list).
- A total of 36 flora species detected on-site 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.
- 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.
- The EPBC Act PMST listed seven (7) Threatened Ecological Communities (TECs) that may occur in, or relate to, the subject site (see **section 3.1**). No TECs, nor any conditions to support them, were observed in the proposed development area. Additionally, 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. Two (2) of the aforementioned TEC's (2), 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 in the development area at the time of surveys. RE12.3.11, associated with TEC Subtropical eucalypt floodplain forest and woodland, is the dominant RE present north of the development and will be buffered by corridor.

- 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) at the impact area interface area inclusive of a six-meter buffer, with habitat trees over 300 mm DSH record in balance areas. Data from the GPS Tree Plot Survey has been extracted and summarised below (refer to VMP accompanying this submission).

- The GPS Tree Plot Survey recorded twenty-six (26) tree species, where all are native species. A total of Four-thousand three-hundred and thirty-three trees were recorded, of these one-hundred and forty-three 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 *Lophostemon suaveolens* (Swamp Box) with 26.96% (1 168 specimens) followed by *Corymbia intermedia* (Pink Bloodwood) with 22.46% (973 specimens), and *Eucalyptus tereticornis* (Forest Red Gum) with 16.29 % (706 specimens) (**Table 12**).
- Five (5) tree hollows were recorded fifty-one (51) small and forty (40) medium and eleven (11) large.
- **Table 13** provides a summary of the total DBHs of trees recorded during the field survey. The vegetation is predominantly comprised of trees with a DSH between 200 and 400 mm with a total of 3770 specimens (87%) recorded within this range. This indicates that the vegetation within the site is mostly reflective of remnant trees, as suggested by the VMA RE mapping.

Table 12: Tree plot summary

Scientific name	Common name	Native/introduced	Number recorded	Percentage recorded (%)
<i>Lophostemon suaveolens</i>	Swamp Box	Native	1 168	26.96%
<i>Corymbia intermedia</i>	Pink Bloodwood	Native	973	22.46%
<i>Eucalyptus tereticornis</i>	Forest Red Gum	Native	706	16.29%
<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	Native	434	10.02%
<i>Corymbia citriodora</i>	Spotted Gum	Native	384	8.86%
DEAD/STAG	-		143	3.30%
<i>Corymbia tessellaris</i>	Moreton Bay Ash	Native	112	2.58%
<i>Acacia disparrima</i>	Hickory Wattle	Native	97	2.24%
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark	Native	91	2.10%

<i>Angophora leiocarpa</i>	Smooth-barked Apple	Native	61	1.41%
<i>Alphitonia excelsa</i>	Soap Tree	Native	40	0.92%
<i>Petalostigma pubescens</i>	Quinine Bush	Native	34	0.78%
<i>Angophora subvelutina</i>	Broad-leaved Apple	Native	24	0.55%
<i>Acacia leiocalyx</i>	Early-flowering Black Wattle	Native	17	0.39%
<i>Eucalyptus siderophloia</i>	Northern Grey Ironbark	Native	13	0.30%
<i>Acacia melanoxylon</i>	Australian Blackwood	Native	12	0.28%
<i>Corymbia trachyphloia</i>	Brown Bloodwood	Native	5	0.12%
<i>Casuarina cunninghamiana</i>	River She-oak	Native	4	0.09%
<i>Acacia concurrens</i>	Black Wattle	Native	3	0.07%
<i>Allocasuarina littoralis</i>	Black She-oak	Native	2	0.05%
<i>Eucalyptus acmenoides</i>	White Mahogany	Native	2	0.05%
<i>Eucalyptus propinqua</i>	Small-fruited Grey Gum	Native	2	0.05%
<i>Eucalyptus seeana</i>	Narrow-leaved Red Gum	Native	2	0.05%
<i>Corymbia henryi</i>	Large-leaved Spotted Gum	Native	1	0.02%
<i>Eucalyptus racemosa</i>	Scribbly Gum	Native	1	0.02%
<i>Ficus rubiginosa</i>	Port Jackson Fig	Native	1	0.02%
<i>Melaleuca saligna</i>	Willow Bottlebrush	Native	1	0.02%
Total			4333	100

Table 13: Tree Plot DSH Summary

DBH (mm)	Number recorded	Percentage Recorded (%)
100-199	75	1.73%
200-299	2808	64.80%
300-399	962	22.20%
400-499	255	5.89%
500-599	134	3.09%
600-699	62	1.43%
700-799	19	0.44%

DBH (mm)	Number recorded	Percentage Recorded (%)
800-899	13	0.30%
900-999	3	0.07%
1000-1099	1	0.02%
1100-1200	1	0.02%
Total	4333	100

6.4. Ecological assessment areas

The site was divided into five (5) ecological assessment areas (**Plan 2**). A description of on-ground vegetation values is presented in the following subsections.

6.4.1 Area 1 – Flagstone Creek Biodiversity Corridor

The vegetation within Area 1 within West A is mapped under the PMAV as RE12.3.11, 12.9-102/12.9-10.7, 12.9-10.7, 12.3.11/12.3.7 and 12.9-10.2/12.9-10.7a. Flagstone Creek Biodiversity Corridor extends in the northern portion of the Lot 5 on S312469, Lot 988 on CP857841 and Lot 1 on RP35155 from east to west across the site. Area 1 is approximately 59.9 ha, of which approximately 24 ha falls with West A.

Flagstone Creek biodiversity corridor is dominated by *Eucalyptus tereticornis* (Forest Red Gum) with *E. moluccana* (Gum-topped Box) and *Angophora subvelutina* (Broad-leaved Apple). The understorey contains *Lophostemon suaveolens* (Swamp Box) with *Casuarina cunninghamiana* (River She-oak), consistent with the PMAV Regional Ecosystems.

Moderate weed cover is present within the waterway corridor containing species such as *Ageratum houstonianum* (Blue Billygoat weed), *Sida cordifolia* (Flannel Weed) and *Melinis minutiflora* (Molasses Grass). The vegetation adjoining the riparian corridor contains vegetation characteristics reflective of present RE's with *Corymbia citriodora* (Spotted Gum) with *Eucalyptus crebra* (Narrow-leaved Ironbark) dominating. No significant habitat values were observed with high levels of disturbance observed across the area. The Flagstone Corridor is a significant watercourse and will be mapped as a constraint with buffer areas.

Refer **Appendix G** – Quaternary 4 & 5 for full vegetation descriptions.

6.4.2 Area 2 – Eucalypt woodlands and ridges

The vegetation within Area 2 within West A is mapped under the PMAV as 12.9-10.7, 12.9-10.2, 12.9-10.17a. Area 2 is approximately 125.1 ha, of which approximately 91 ha occurs within West A. 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** – Quaternary 9, 10 and 11 for full vegetation descriptions. 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.

6.4.3 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 67 ha is within West A. Two (2) of the drainage corridors are mapped as Category B (remnant) RE12.9-10.17 and RE12.3.11. The majority of Area 4 is comprised of cleared paddock which was historically used as a cattle agistment.

The drainage lines which run through the paddock are dominated by *Eucalyptus tereticornis* (Forest Red Gum) with *Corymbia intermedia* (Pink Bloodwood) and an understorey dominated by *Lophostemon suaveolens* (Swamp Box). The northern drainage feature where Quaternary 12 was conducted is minimally disturbed while the southern drainage line with Quaternary 13 is highly disturbed by *Lantana camara* (Lantana) and *Ageratum houstonianum* (Blue Billygoat Weed).

Within Area 4, only the rectified watercourses are included as noteworthy ecological constraints. No quaternary's were conducted within this ecological assessment area within West A as it is predominantly Category X and vegetation patches area analogous with Area 2.

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 68 vertebrate fauna species were detected within the ecological assessment areas present in CA3 – West A which includes fourteen (14) species of mammal, forty-one (41) species of bird, five (5) species of amphibian and eight (8) species of reptile. Observed fauna across the three (3) ecological assessment areas is presented in **Table 14**. Notably, two significant fauna species was recorded on-site. The Grey-headed Flying Fox, listed Vulnerable under the EPBC Act and NCA was observed during spotlighting within Area 2 and the Koala, listed as Endangered under the EPBC Act and NCA.

Consideration was also given to the ecological significance of the site in the context of the local area and the broader region. 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 1	Area 2	Area 4
Amphibian				
<i>Crinia parinsignifera</i>	Beeping Froglet	Y		

Scientific name	Common name	Area 1	Area 2	Area 4
<i>Lymnodynastes peronii</i>	Striped Marsh Frog		Y – trapline	
<i>Litoria fallax</i>	Eastern Sedgefrog	Y		
<i>Pseudophryne raveni</i>	Copper-backed broodfrog		Y – trapline	
<i>Rhinella marina</i>	Cane Toad		Y	
Bird				
<i>Alectura lathamii</i>	Australian Brush Turkey	Y – camera		
<i>Alisterus scapularis</i>	Australian King-Parrot		Y	
<i>Aquila audax</i>	Wedge-tailed Eagle			Y
<i>Cacatua sanguinea</i>	Little Corella			Y
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo	Y		
<i>Chalcites basalis</i>	Horsfield's bronze-Cuckoo		Y	
<i>Colluricincla harmonica</i>	Grey shrike thrush	Y		
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike		Y	Y
<i>Cormobates leucophaea</i>	White-throated Treecreeper	Y	Y	
<i>Corvus orru</i>	Torresian Crow		Y	
<i>Cracticus torquatus</i>	Grey Butcherbird		Y	Y
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Y		
<i>Dicaeum hirundinaceum</i>	Mistletoe Bird	Y		
<i>Eopsaltria australis</i>	Eastern Yellow Robin	Y	Y	
<i>Geopelia humeralis</i>	Bar shouldered dove		Y	
<i>Grallina cyanoleuca</i>	Magpie-lark			Y
<i>Gymnorhina tibicen</i>	Australian Magpie			Y
<i>Hirundo neoxena</i>	Welcome Swallow			Y
<i>Lichenostomus chrysops</i>	Yellow-faced Honeyeater	Y	Y	
<i>Malurus melanocephalus</i>	Red-backed Fairy Wren	Y	Y	
<i>Manorina melanocephala</i>	Noisy Miner		Y	
<i>Meliphaga lewinii</i>	Lewin's Honeyeater	Y	Y	
<i>Melithreptus albogularis</i>	White-throated honeyeater	Y	Y	
<i>Merops ornatus</i>	Rainbow Bee-eater		Y	
<i>Neochmia temporalis</i>	Red browed Finch	Y		
<i>Oriolus sagittatus</i>	Olive-backed Oriole	Y		
<i>Pachycephala pectoralis</i>	Golden Whistler		Y	
<i>Pachycephala rufiventris</i>	Rufous Whistler	Y	Y	
<i>Pardalotus striatus</i>	Striated Pardalote		Y	
<i>Phaps chalcoptera</i>	Common Bronzewing	Y	Y	
<i>Philemon corniculatus</i>	Noisy Friarbird		Y	
<i>Platyercus adscitus</i>	Pale-headed Rosella		Y	
<i>Psophodes olivaceus</i>	Eastern Whipbird	Y	Y	
<i>Rhipidura fuliginosa</i>	Grey Fantail	Y	Y	
<i>Rhipidura leucophrys</i>	Willie Wagtail			Y
<i>Rhipidura rufifrons</i>	Rufous Fantail	Y – camera		
<i>Strepera graculina</i>	Pied Currawong		Y	
<i>Trichoglossus chlorolepidotus</i>	Scaly-breasted Lorikeet		Y	
<i>Trichoglossus haematodus moluccanus</i>	Rainbow Lorikeet		Y	

Scientific name	Common name	Area 1	Area 2	Area 4
<i>Tyto alba</i>	Barn Owl		Y - spotlight	
<i>Vanellus miles</i>	Masked Lapwing			Y
Mammal				
<i>Antechinus flavipes</i>	Yellow-footed Antechinus		Y – trapline	
<i>Canis familiaris</i>	Feral Dog	Y – camera	Y – print	
<i>Isodon macrourus</i>	Northern brown bandicoot	Y – foraging holes / camera		
<i>Macropus giganteus</i>	Eastern Grey Kangaroo			Y
<i>Macropus rufogriseus</i>	Red-necked Wallaby	Y – camera		
<i>Macropod sp.</i>			Y – scats	
<i>Mus musculus</i>	House Mouse	Y – camera		
<i>Phascolarctos cinereus</i>	Koala	Y – camera		
<i>Pteropus poliocephalus</i>	Grey-headed Flying Fox		Y – spotlight	
<i>Rattus fuscipes</i>	Bush Rat		Y – trapline	
<i>Rattus rattus</i>	Black Rat	Y – camera		
<i>Sus scrofa</i>	Feral Pig	Y	Y	
<i>Sminthopsis murina</i>	Common Dunnart		Y – trapline	
<i>Trichosurus vulpecula</i>	Common Brush-tail Possum	Y – camera		
Reptile				
<i>Calia vivax</i>	Lively rainbow skink		Y	
<i>Cryptolepharus pulcher</i>	Elegant Snake-eyed Skink	Y		
<i>Diporiphora australis</i>	Tommy Roundhead		Y – trapline	
<i>Lampropholis delicata</i>	Grass Skink		Y	
<i>Lampropholis guichenoti</i>	Common Garden skink		Y – trapline	
<i>Morethia teniopleura</i>	Eastern Fire-tailed skink		Y – trapline	
<i>Pogona barbata</i>	Eastern bearded dragon		Y – trapline	
<i>Varanus varius</i>	Lace Monitor	Y – camera		

6.6. Fauna assessment sites

Five (5) types of fauna survey sites were used to assess the presence and potential presence of fauna species within the investigation 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. One was located within Assessment Area 1 and one in Assessment Area 2 (**Plan 3**).

Fauna site 2 – Area 1

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

The vegetation is described as relatively dense riparian woodland containing a canopy dominated by *Eucalyptus crebra* (Narrow-leaved Ironbark), *Corymbia citriodora* (Spotted Gum) and *E. tereticornis* (Forest Red Gum) (refer **Photo set 2** and **Plan 4** for location). The ground layer was dominated by leaf litter with some

patches of bare ground. *Acacia* and eucalypt regrowth dominated the shrub layer with some disturbance observed. Recorded fauna was limited to relatively common species such as the Yellow-footed Antechinus (refer **Photo 3**). No significant fauna species were detected within the site. A fauna list for the site is presented below in **Table 15**.



Photo set 2: Fauna site 2.



Photo 3: Yellow-footed Antechinus detected at Fauna site 2.

Table 15: Fauna detected within Fauna site 2.

Date	Scientific Name	Common Name	No. individuals	Trapping method
23/08/2021	<i>Lampropholis guichenoti</i>	Common garden skink	1	Funnel
24/08/2021	<i>Sminthopsis murina</i>	Common Dunnart	1	Pit fall
24/08/2021	<i>Mus musculus</i>	House Mouse	7	Sherman traps
25/08/2021	<i>Mus musculus</i>	House Mouse	6	Sherman traps
25/08/2021	<i>Rattus fuscipes</i>	Bush Rat	1	Sherman traps
25/08/2021	<i>Carlia vivax</i>	Lively Rainbow skink	1	Funnel

Date	Scientific Name	Common Name	No. individuals	Trapping method
26/08/2021	<i>Mus musculus</i>	House Mouse	1	Sherman traps
26/08/2021	<i>Lymnodynastes peronii</i>	Striped Marsh frog	1	Pit fall
26/08/2021	<i>Carlia vivax</i>	Lively Rainbow skink	1	Funnel
27/08/2021	<i>Antechinus flavipes</i>	Yellow-footed Antechinus	2	Sherman traps
27/08/2021	<i>Carlia vivax</i>	Lively Rainbow skink	1	Funnel
28/08/2021	<i>Mus musculus</i>	House Mouse	8	Sherman traps

Fauna site 3 – Area 2

Fauna site 3 was installed in the morning of 24th August 2021 within Assessment Area 2. This site remained open for a period of four (4) days from 24th to 28th August.

The site was installed within open eucalypt woodland dominated by *Corymbia citriodora* (Spotted Gum) with *Eucalyptus crebra* (Narrow-leaved Ironbark) and an *Acacia* regrowth understorey (refer **Photo set 4** and **Plan 4** for location). The ground layer is dominated by native grass and leaf litter. Recorded fauna was limited to relatively common species such as the Common Dunnart and Tommy Roundhead (refer **Photo set 5**). Sherman traps were opened by crows on one occasion. No significant fauna species were detected within the site. A fauna list for the site is presented below in **Table 16**.



Photo set 5: *Sminthopsis murina* (Common Dunnart) (left) and *Diporiphora australis* (Tommy Roundhead) (right) detected at Fauna site 3.

Table 16: Fauna detected within Fauna site 3.

Date	Scientific Name	Common Name	No. individuals	Trapping method
24/08/2021	<i>Diporiphora australis</i>	Tommy roundhead	1	Funnel
24/08/2021	<i>Morethia teniopleura</i>	Eastern Fire-tailed skink	1	Funnel
25/08/2021	<i>Mus musculus</i>	House mouse	1	Sherman trap
25/08/2021	<i>Sminthopsis murina</i>	Common Dunnart	1	Sherman trap
25/08/2021	<i>Lampropholis guichenoti</i>	Common garden skink	1	Funnel
25/08/2021	<i>Carlia vivax</i>	Lively Rainbow skink	1	Pit fall
25/08/2021	<i>Pogona barbata</i>	Eastern bearded dragon	1	Funnel
25/08/2021	<i>Diporiphora australis</i>	Tommy roundhead	1	Funnel
26/08/2021	<i>Carlia vivax</i>	Lively Rainbow skink	3	Funnel
26/08/2021	<i>Sminthopsis murina</i>	Common Dunnart	1	Sherman trap
27/08/2021	<i>Mus musculus</i>	House mouse	3	Sherman trap
27/08/2021	<i>Sminthopsis murina</i>	Common Dunnart	1	Sherman trap
28/08/2021	<i>Sminthopsis murina</i>	Common Dunnart	1	Sherman trap
28/08/2021	<i>Mus musculus</i>	House mouse	3	Sherman trap

6.6.2 Spotlight Searches

One (1) spotlight meander was conducted on 31st August 2021 from 1730 hrs to 2000 hrs. The transect walked during the spotlight search is presented in **Plan 2**. Species recorded during spotlighting within West A included Northern Brown Bandicoot, Barn Owl and Red-necked Wallaby and the listed Vulnerable Grey-headed Flying Fox,

6.6.3 SAT Surveys

Two (2) SAT surveys were conducted during the survey period. No koala scats were recorded during the SAT surveys, yielding 'low' 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. 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 3	Camera 4
<i>Isodon macrourus</i>	Northern Brown Bandicoot	Y	
<i>Mus musculus</i>	House mouse	Y	
<i>Trichosurus vulpecula</i>	Common Brush-tail possum	Y	Y
<i>Canis familiaris</i>	Feral dog	Y - multiple	
<i>Macropus rufogriseus</i>	Red-necked Wallaby	Y	Y
<i>Pseudocheirus peregrinus</i>	Common ring-tail possum	Y	
<i>Varanus varius</i>	Lace monitor	Y	
<i>Alectura lathami</i>	Australian Brush Turkey		Y
<i>Phascolarctos cinereus</i>	Koala		Y
<i>Rattus rattus</i>	Black rat		Y
<i>Vulpes vulpes</i>	Red Fox	Y	

Camera Site 3

Camera site three was installed within the western extent of the Flagstone Creek Biodiversity Corridor (Area 1) (refer **Photo 10** and **Plan 2**). Native species recorded included the Red-necked Wallaby, Common Brushtail Possum, Common Ringtail Possum, Northern Brown Bandicoot and Lace Monitor. A feral dog was also detected (refer **Appendix I**).

Camera Site 4

Camera site four was installed within the central portion of the Flagstone Creek Biodiversity Corridor (Area 1) (refer **Photo 11** and **Plan 4**). Native species recorded included the listed Vulnerable Koala, Red-necked Wallaby, Common Brushtail Possum and Australian Brush Turkey. Introduced species included the Red Fox and House Mouse (refer **Appendix I**).



Photo 10: Camera site 3 with bait station.



Photo 11: Camera site 4 with bait station.

6.7. Fauna Survey Summary

The following summarises the findings from the fauna field assessment:

- Overall, ecological assessment areas 1 and 2, are considered to contain general connectivity value with the presence of riparian corridors and drainage lines. The vegetation, particularly 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.
- Higher ecological values are located within the Flagstone Creek corridor. Fauna movement opportunities are provided through the riparian corridors and drainage lines, particularly Flagstone Creek and Sandy Creek Biodiversity Corridors which are primary movement corridors across the site.
- Two (2) full fauna sites were installed across the site within the different ecological assessment areas (**Plan 3**).
- The EPBC Act lists thirty-four (34) species as potentially occurring within 5 km of the site.
- The NCA lists five (5) species of conservation significance as being present within 5 km of the site. *Hirundapus caudacutus* (White-throated Needle-tail), *Phascolarctos cinereus* (Koala), *Calyptorhynchus lathami* (Glossy Black Cockatoo), *Petaurus australis australis* (Yellow-bellied Glider) and *Ninox strenua* (Powerful Owl) are confirmed or likely within five (5) kilometres of the investigation area.
- A total of 68 fauna species were detected within ecological assessment areas 1, 2 and 4, including fourteen (14) species of mammal, 41 species of bird, five (5) species of amphibian and eight (8) species of reptile. Twenty-two (22) of these species were definitively detected within West A. Additional species may have been observed within West A but exact locations of incidental sightings were not recorded.
- Two (2) conservation significant species were detected on-site. Grey-headed Flying Fox, which are listed as Vulnerable under the EPBC Act and NCA, and the presence of the Koala was confirmed within the Flagstone Creek 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 development site. Rufous Fantail, which was listed as migratory / marine under the EPBC Act at the time of surveys, was also observed, however this species has been delisted.
- Noteworthy habitat value for Spotted-tailed Quoll and Greater Glider was generally absent from the site due to the lack of denning habitat and old-growth hollows.
- Pest species including Feral Dogs and Red Foxes were detected on-site, 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 22nd of May and the 5th of December 2024. Incidental observations of flora were recorded during this process and *Coleus habrophyllus* was not detected.

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. 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 in the development 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 additional TECs, Subtropical eucalypt floodplain forest and woodland. However, the TEC has not been identified as being in the development site. No flora species listed as threatened under the EPBC Act were recorded throughout the investigation area.

6.8.2 Threatened fauna species

Two (2) conservation significant species were detected on-site during surveys. 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 surveys was also detected on-site 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 presence of species not listed above within the site. No other 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				
<i>Anthochaera phrygia</i> (Regent Honeyeater)	CE / CE	The site contains approximately 230 ha of 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 <i>Corymbia citriodora</i>, <i>Eucalyptus crebra</i> and <i>Eucalyptus tereticornis</i>. In addition to the presence of foraging habitat on-site, the Regent Honeyeater was observed in 2019 approximately 12 km north of the site in the Springfield Lakes area. However, due to historical logging, the vegetation is lacking large, old-growth trees that this species prefers. As such, the likelihood of occurrence has been reduced to moderate. 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.	High	Moderate
<i>Calyptrorhynchus lathami lathami</i> (Glossy Black-cockatoo)	V / V	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
<i>Erythrotriorchis radiatus</i> (Red Goshawk)	E/E	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
<i>Falco hypoleucos</i> (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 on site indicates a moderate likelihood of occurring on-site.	Moderate	Moderate

<i>Hirundapus caudacutus</i> (White-throated Needletail)	V / V	The eucalypt woodland located within the remnant vegetation on-site may provide potential foraging habitat for this species. Given the large expanse of connected habitat to the west, the White-throated Needletail may opportunistically forage on-site. There are no records of the White-throated Needletail within the locality.	Moderate	Moderate
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<i>Lathamus discolor</i> (Swift Parrot)	CE / E	The site contains approximately 230 ha of remnant vegetation contains eucalypt dominated Regional Ecosystems. The remnant vegetation is suitable foraging habitat for the Swift Parrot due to the dominance of winter flowering eucalypts including <i>Corymbia citriodora</i>, <i>Eucalyptus crebra</i> and <i>Eucalyptus tereticornis</i>. The Swift Parrot has been sighted in the broader locality within the Springfield Lakes area in 2019 and in Kingston in 2014. 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 Swift Parrot to utilise the vegetation during foraging periods. As such, the likelihood of occurrence has been reduced to moderate.	Moderate	Moderate
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<i>Ninox sternua</i> (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	Moderate	Low
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the species was not observed. Surveys included bird surveys and spotlighting.

Mammals

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 years with the most significant survey effort demonstrated in a published study by ³Wildlife 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.

Dasyurus maculatus maculatus
(Spotted-tailed Quoll)

E / E

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.

Moderate

Low

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

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

		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.		
<i>Petauroides volans</i> (Greater Glider)	E/ V	The presence of large area (136 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
<i>Petaurus australis</i> (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. There's 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	Low
<i>Petrogale penicillata</i> (Brush-tailed Rock Wallaby)	V / V	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
<i>Phascolarctos cinereus</i> (Koala)	E/E	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	Known

A Koala was detected on-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..

<i>Pteropus poliocephalus</i> (Grey-headed Flying Fox)	V / -	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 on-site during spotlighting surveys.	High	Known
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*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** for 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. The Flagstone corridor area is protected as Koala Habitat under the EPBC approval, so was not assessed as it will be retained and buffered within open space.

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.

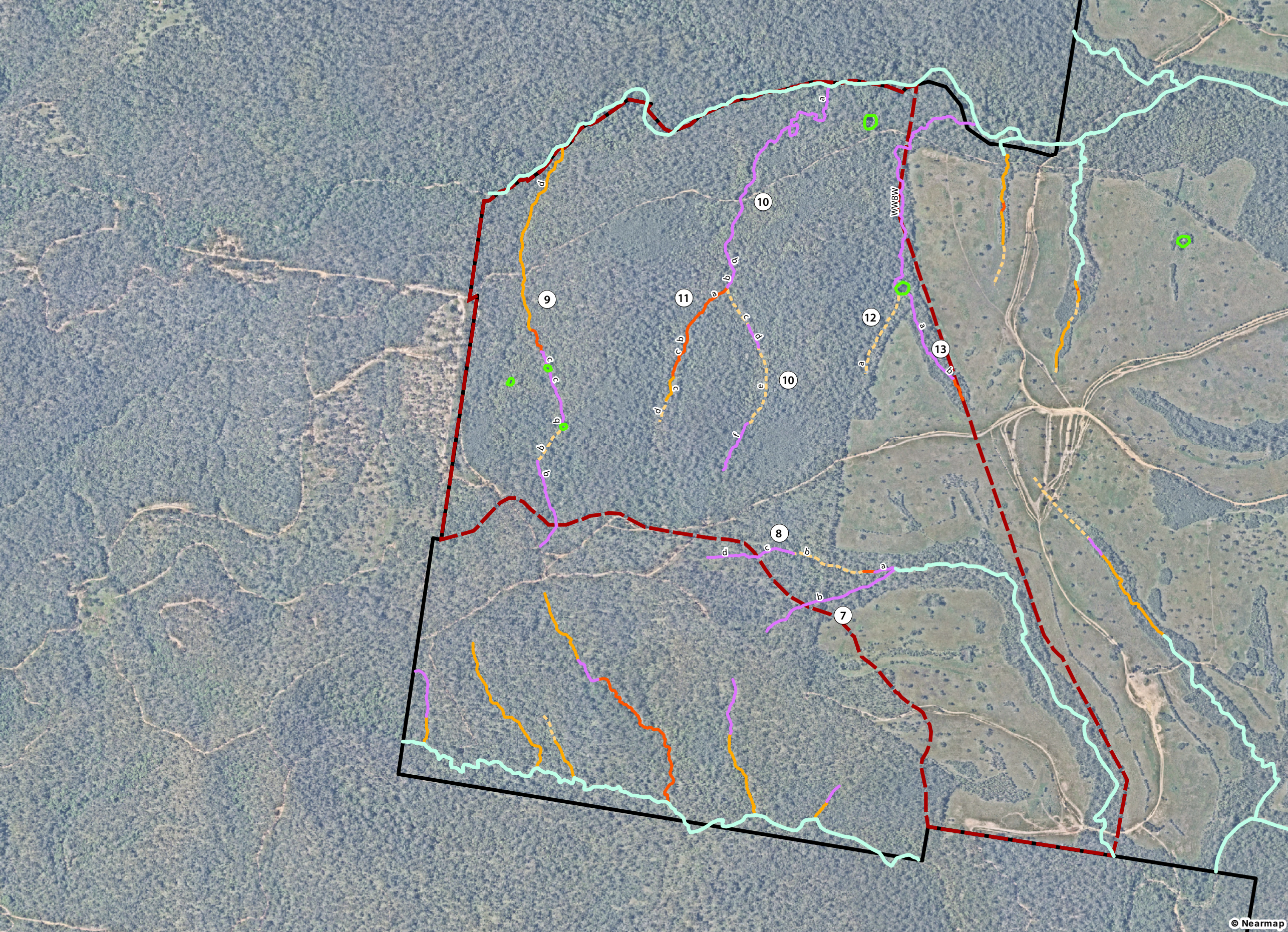


Photo set 13: Overland flow path (left) and drainage line with scour pools (right) within Area 2.

6.9.1 Area 2

Multiple drainage lines are present within Area 2 which drain north into Flagstone Creek. Refer to Assessments 9 to 11. The upstream portion of the drainage lines were observed to be overland flow paths with no defined channel observed or 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.

4. WATERWAY ASSESSMENT

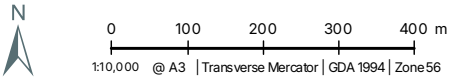


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- LEGEND
- Context Area 3 boundary
 - Context Area 3 - West (A)
 - Waterway determinations**
 - Flowpath within EPBC approval critical Koala habitat
 - Waterway
 - Drainage feature
 - Eroded drainage feature
 - Severely eroded drainage feature
 - Overland flow path
 - Dam

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



6.9.2 Area 4

The cleared paddock portion of the site (Area 4) contains multiple mapped drainage corridors. The drainage lines are dominated by lineal vegetation corridors that adjoin the cleared paddock. Refer to Assessments 7, 8, 12 and 13. Drainage line 7 and 8 are drainage features and eroded channels which transition into a corridor flow path. Adjoining vegetation is reflective of RE12.9-10.17a consisting of *Lophostemon suaveolens* (Swamp Box), *Eucalyptus tereticornis* (Forest Red Gum), *Corymbia tessellaris* (Moreton Bay Ash) and *Corymbia intermedia* (Pink Bloodwood). Fallen wood within the channel was abundant within the region of 8a. Drainage lines 12 and 13 are eroded drainage features with no watercourse features observed. It should be noted that drainage corridors within the paddock will be retained as linear open space corridors.



Photo set 15: Eroded drainage feature (drainage line 8) (left) and overland flow path (drainage line 8) (right).

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 extents, Flagstone Creek and Sandy Creek setbacks 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, previously discussed in **Section 6.8**. The waterway assessments aided in the ground truthing and rectification of waterways located across the subject site, as well as identifying the Flagstone Creek and Sandy Creek Biodiversity Corridors.

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 Flagstone Creek Setbacks

As discussed in **Section 6.8**, Flagstone Creek core corridor and corridor buffer areas are identified within **Plan 6**. This creek is identified as a Primary Site Fauna Corridor under the approved NESS.

This Biodiversity Corridor will be an average of 200 m in width and has been included within **Plans 5 and 6**, with only essential development to occur in the core corridor and limited land uses within the buffer areas that must provide for an average 200 m corridor width.

6.10.4 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** and are south of West A.

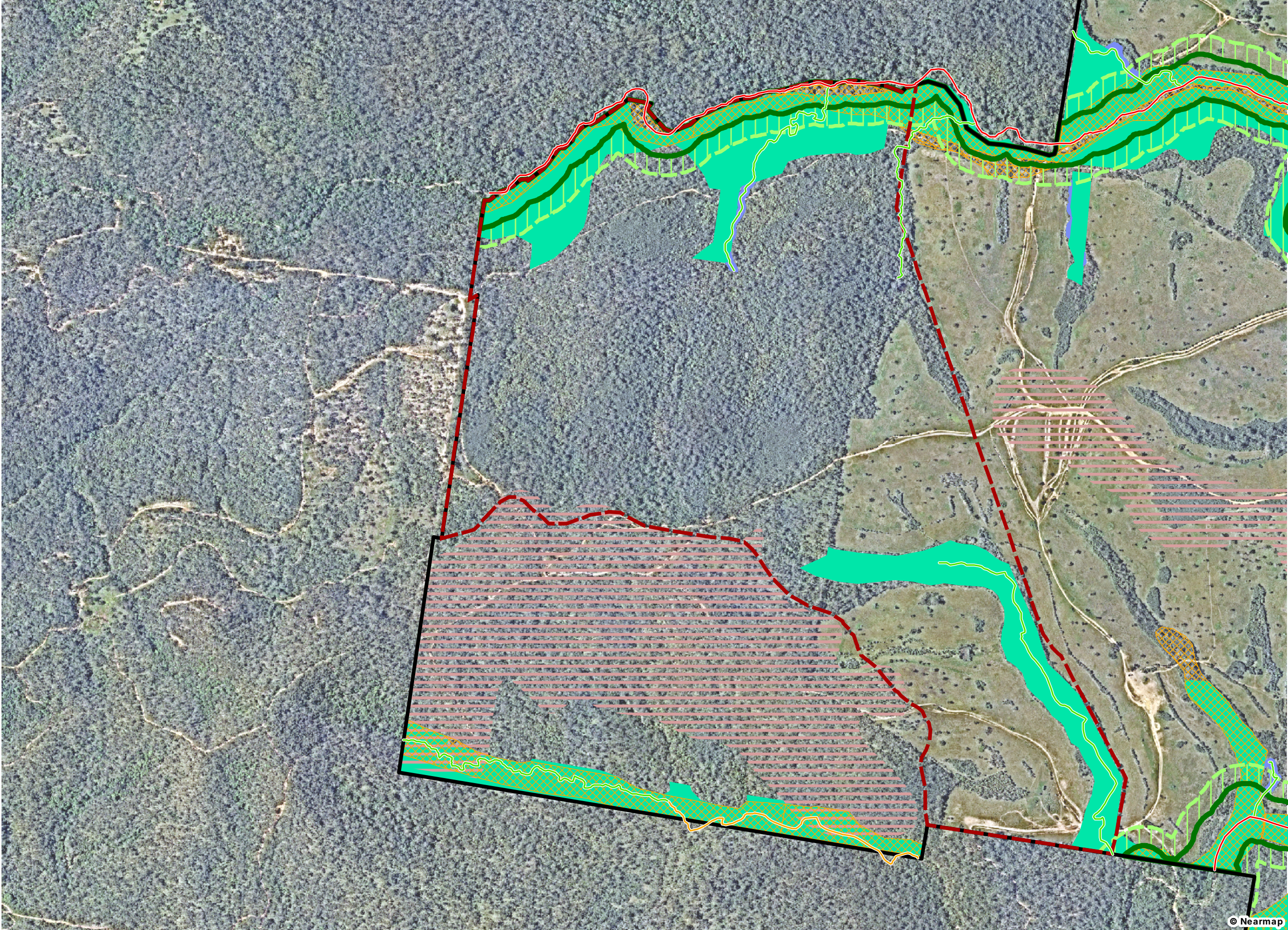
6.10.5 Ground-rectified Fisheries Waterways Barrier Works mapping alignment

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 these ground-rectified waterways as well as their Waterway Barrier Works risk as constraints.

6.10.6 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 bound
 - Context Area 3 - We
 - EPBC approval critic
 - Koala habitat associ
 - Slope affected land
 - NESS environmental
 - Land Zone 3 Of Con
 - remnant where not map
 - on rectified drainag
 - Flagstone & Sandy Creek**
 - Core Corridor (measure
 - from top of banks)
 - Indicative outer co
 - 200 m total width st
 - Ground-rectified Fisheries waterway**
 - barrier works mapping alignment**
 - 1 - Green
 - 2 - Amber
 - 3 - Red

AMENDMENTS				
Issue	Date	Description	Drawn	Checked
B	18/11/2025	REBRAND	TC	AD

N

0100200300400 m

1:10,000 @ A3 | Transverse Mercator | GDA 1994 | Zone 56

Address / RPD: Flagstone City

Date: 18/11/2025

9850 E06 CP3 W-A Confirmed NESS Constraints B



6. FLAGSTONE CREEK ASSESSMENT

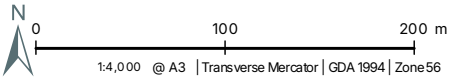


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- LEGEND
- Context Area 3 boundary
 - Context Area 3 - West (A)
 - Flagstone Creek
 - Core Corridor (measured 50m from top of banks)
 - Indicative Outer Corridor – Average 200 m total width stretch target
 - Top of bank (desktop)

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



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 7**) 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 RE12.9-10.2, and RE12.9-10.17a, and Of Concern RE12.9-10.7, 12.9-10.2/12.9-10.7 and 12.3.11/12.3.7. The site has been subject to extensive modification in the form of thinning and clearing activities. These have mostly occurred in the eastern portion of the site; however, selective logging and modification has occurred through the remnant vegetation in the western portion of the site. Approximately 42 ha 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 western portion of the site. Higher ecological values are present within the Flagstone Creek Biodiversity Corridor which will be retained and buffered as part of an ecological open space network, preserving connectivity values for fauna species such as Koala, which are known to occur within the area. Other *low risk* and *moderate risk* waterways for WWBW are also present across the site which will be retained as part of the open space network as minor habitat linkages.

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

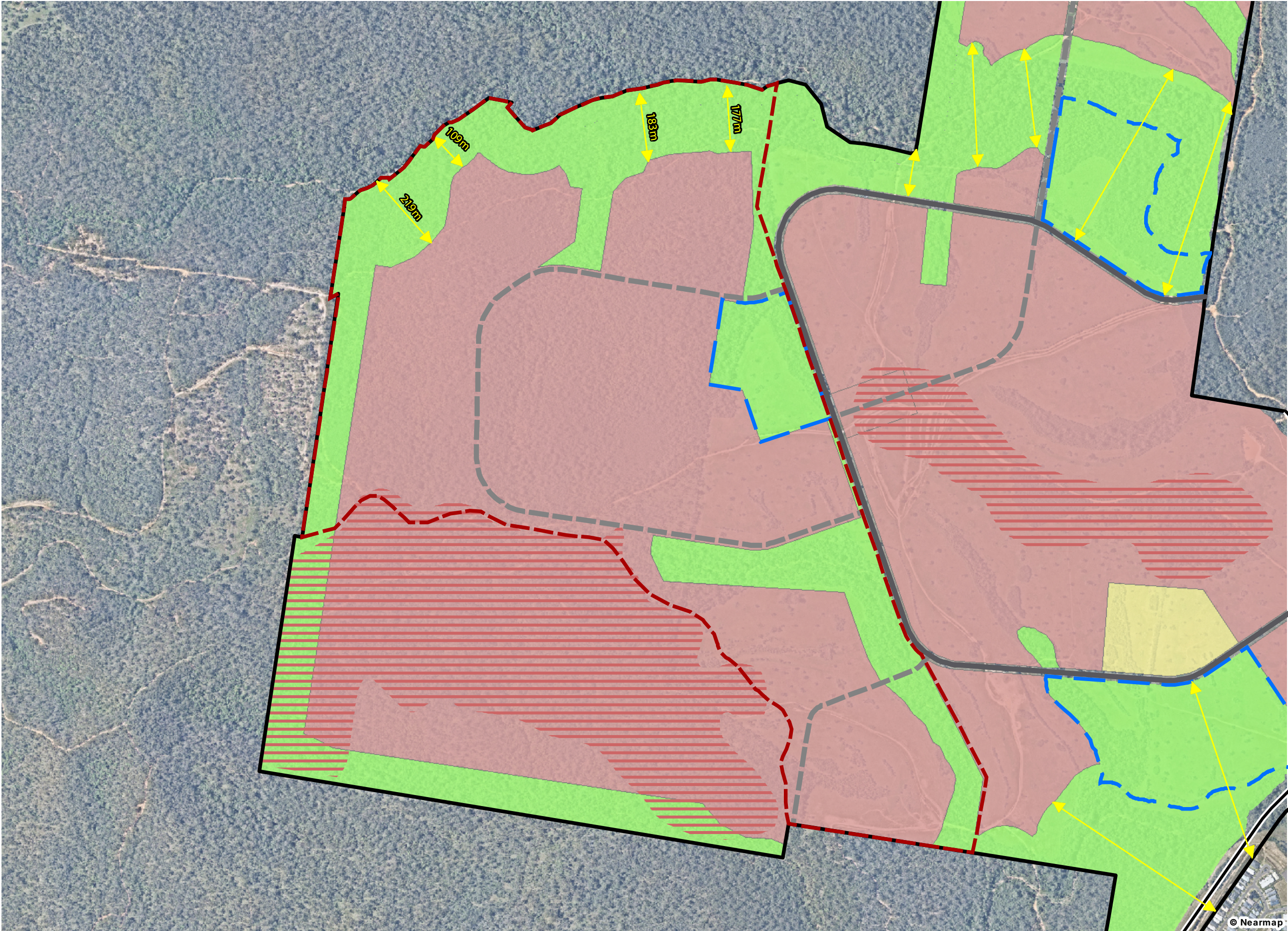
It is important to note that the required buffers and corridor dimensions for Flagstone Creek Biodiversity Corridor are identified within the EDQ endorsed Natural Environmental Site Strategy, *i.e.*, a 100 m core corridor with open space corridor buffers maintaining on average a 200 m corridor width along Flagstone Creek. These corridor dimensions have been ascribed to the Flagstone Creek corridor under the proposed Context Plan, that also retain critical Koala habitat areas as specified in the EPBC Act approval, 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 as apparent in **Plan 5** 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.

Two conservation significant fauna species were detected on-site, including the Koala which are listed as endangered 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 listed species present on site 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.

7.1 DEVELOPMENT ASSESSMENT

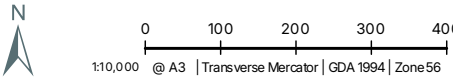


Notes:
The information on this plan is not suitable for any purpose other than the expressed use of the Client. Property dimensions, areas, numbers of lots and contours and other physical features may need verification if the development application is approved and development proceeds, and may change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

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- LEGEND
- Context Area 3 boundary
 - Context Area 3 - West (A)
 - 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				
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7.2 DEVELOPMENT ASSESSMENT

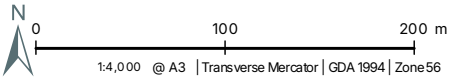


Notes:
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- LEGEND**
- Context Area 3 boundary
 - Context Area 3 - West (A)
 - Flagstone Creek
 - Core Corridor (measured 50m from top of bank)
 - Indicative outer corridor – Average 200 m total width stretch target
- Context Plan Masterplan**
- Residential/Commercial 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

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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 portion of the site is cleared and retains minimal environmental value. The western portion 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 RE12.9-10.2, and RE12.9-10.17a, and Of Concern RE12.9-10.7, 12.9-10.2/12.9-10.7 and 12.3.11/12.3.7. 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 <i>Phascolarctos cinereus</i> (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. 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.	Higher ecological values are present within Flagstone Creek Biodiversity Corridor, which will be retained and buffered as open space. Multiple linear open space corridors are proposed across the site, buffering <i>in situ</i> 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 <i>in situ</i> and to create a soft buffer between the development and adjoining environmental values (<i>i.e.</i>, Flinders-Karawatha Bioregional Corridor). A Vegetation Management Plan (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	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.

Values	Strategies	Comments
	in and beyond the application site through 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.	Targeted fauna surveys were performed in accordance with the <i>Terrestrial Vertebrate Fauna Survey Guidelines for Queensland</i> 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 Gliders. 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. Higher ecological values are present within Flagstone Creek Biodiversity Corridor which contains larger eucalypt trees and dense vegetation cover (Area 1). Field surveys confirmed that the site does not contain areas of viable endangered remnant vegetation. Two (2) conservation significant fauna species were detected on-site 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 Area 2 indicating low usage across the site. A linear open space network and conservation buffer are proposed as part of the development, retaining connectivity values for fauna species such as the Koala within major ecological corridors and habitat linkages. The open space network integrates <i>high risk</i> waterway for WWBW Flagstone Creek Biodiversity Corridor. A

Values	Strategies	Comments
		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. Environmental corridors will be rehabilitated in order to ensure the functioning of the corridors. Replanting using tree species consistent with existing rectified Regional 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 four (4) mapped <i>low risk</i> waterways for WWBW under DAF intersect the site. These are also identified as having a stream order hierarchy of 1 under the VMA. One (1) <i>moderate risk</i>, (stream order 2) and one (1) <i>high risk</i> waterways for WWBW (stream order 3) are mapped as intersecting the site. Detailed on ground waterway values assessment were conducted to guide constraints mapping and ultimately the Context plan outcomes. Notably, all rectified waterways including the DPI waterways will be retained within open space corridors. 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 - West A 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 field surveys.
- A Wildlife Online search for threatened species under the NCA identified the potential for five (5) threatened fauna species and two (2) threatened flora species, *Melaleuca irbyana* (Swamp Tea-tree) and *Coleus habrophyllus* to potentially occur on-site.
- Two (2) conservation significant species were detected on-site, 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) assessment which has 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 portion of the site is cleared paddock which retains limited ecological values. The mapped Category B vegetation consists of a mix of Regional Ecosystems as rectified by PMAV, including Least Concern RE12.9-10.2, and RE12.9-10.17a, and Of Concern RE12.9-10.7, 12.9-10.2/12.9-10.7 and 12.3.11/12.3.7. The vegetation was found to be generally in accordance with the PMAV.
- The site is mapped with three (3) *low risk* waterways for WWBW, one (1) *moderate risk* and one (1) *high risk* waterways for WWBW. These are proposed to be retained and rehabilitated within open space corridors as rectified on ground. Field surveys confirmed the presence of drainage features across the site of lower value and watercourse and waterway values which will be retained within proposed open space corridors. 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 and 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 required 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

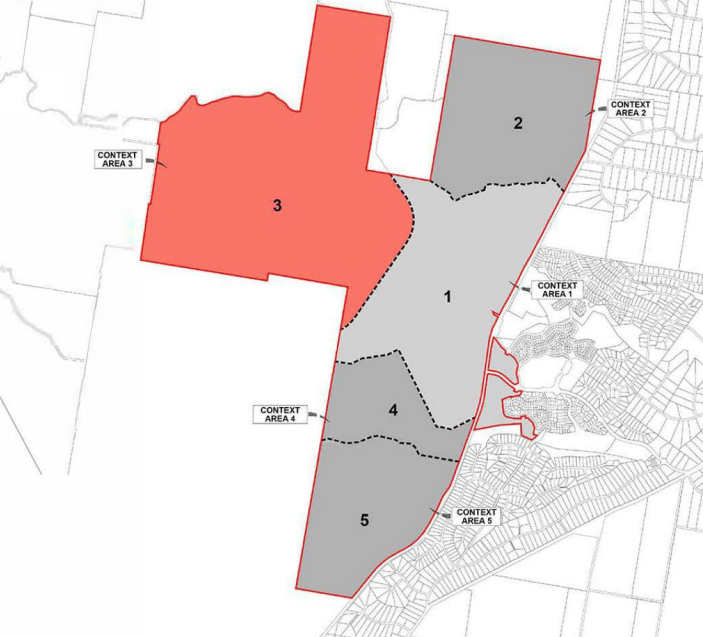
Appendix J

Watercourse Assessments

Appendix A

Development Context Plan

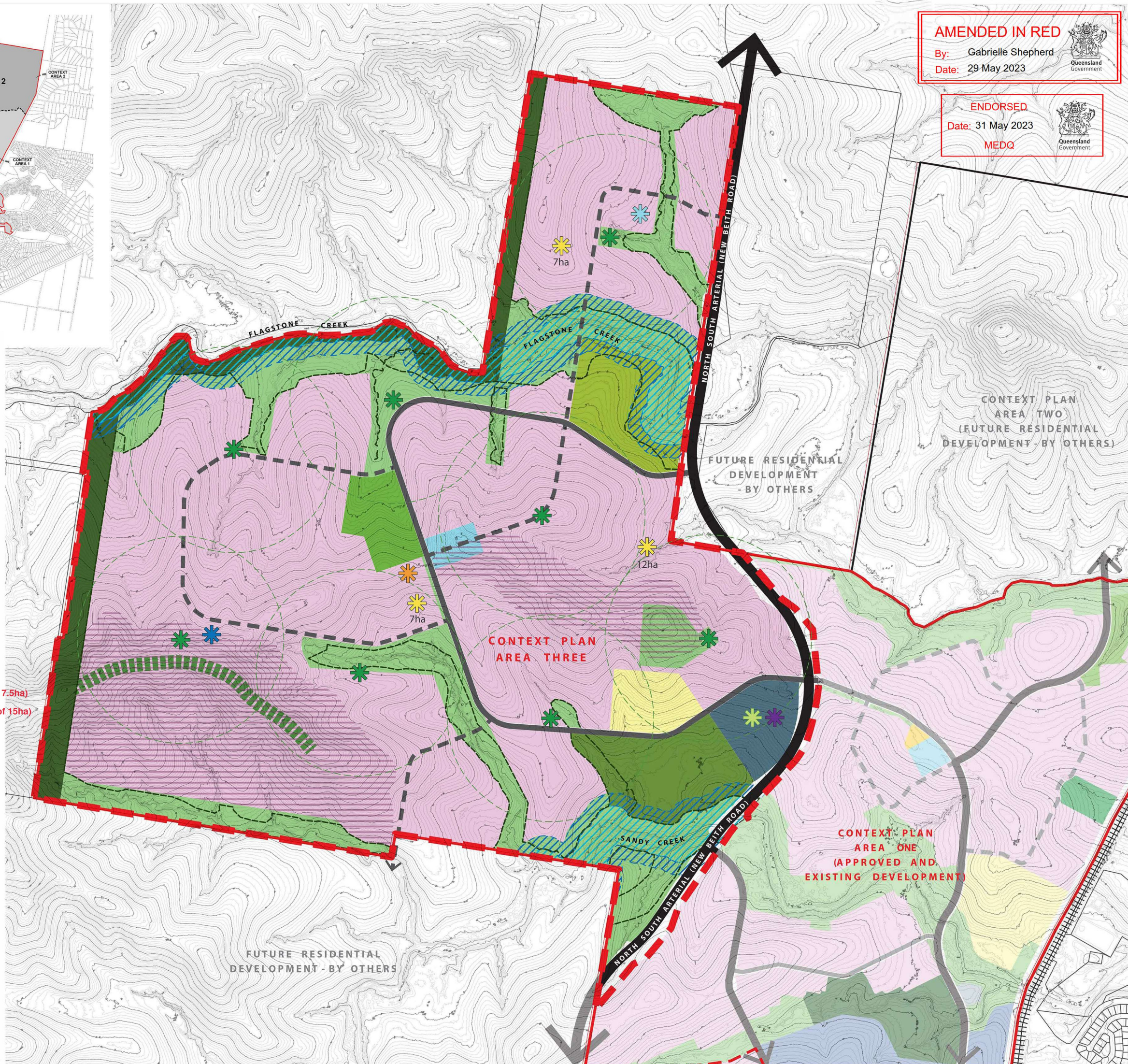
KEY MAP



LEGEND

- PEET Flagstone Site Boundary
- - - Context Area Three Site Boundary
- - - Other Context Area Boundaries
- ||||| Rail Line
- Slope Affected Land ($\geq 15\%$)
- 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)
- ✱ 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 ($\geq 15\%$) may adopt < 15 dw/ha, subject to EDQ approval during detailed design.



AMENDED IN RED

By: Gabrielle Shepherd

Date: 29 May 2023



ENDORSED

Date: 31 May 2023

MEDQ



FLAGSTONE CONTEXT AREA 3 CONTEXT PLAN

PLAN REF: 110056-499F
DATE: 05 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: VELS
Cadastral: RCDB
Contour: EIMS
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



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

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

Report created: 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			[<u>Resource Information</u>]
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

Disclaimer

Information presented on this product is distributed by the Queensland Government as an information source only. While every care is taken to ensure the accuracy of this data, the State of Queensland makes no statements, representations or warranties about the accuracy, reliability, completeness or suitability of any information contained in this product.

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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	<i>Hirundapus caudacutus</i>	white-throated needletail		V	V	1
animals	birds	Cacatuidae	<i>Calyptorhynchus lathami lathami</i>	glossy black-cockatoo (eastern)		V	V	1
animals	birds	Strigidae	<i>Ninox strenua</i>	powerful owl		V		1
animals	mammals	Petauridae	<i>Petaurus australis australis</i>	yellow-bellied glider (southern subspecies)		V	V	1
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i>	koala		E	E	34
plants	land plants	Lamiaceae	<i>Coleus habrophyllus</i>			E	E	3/3
plants	land plants	Myrtaceae	<i>Melaleuca irbyana</i>			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**.

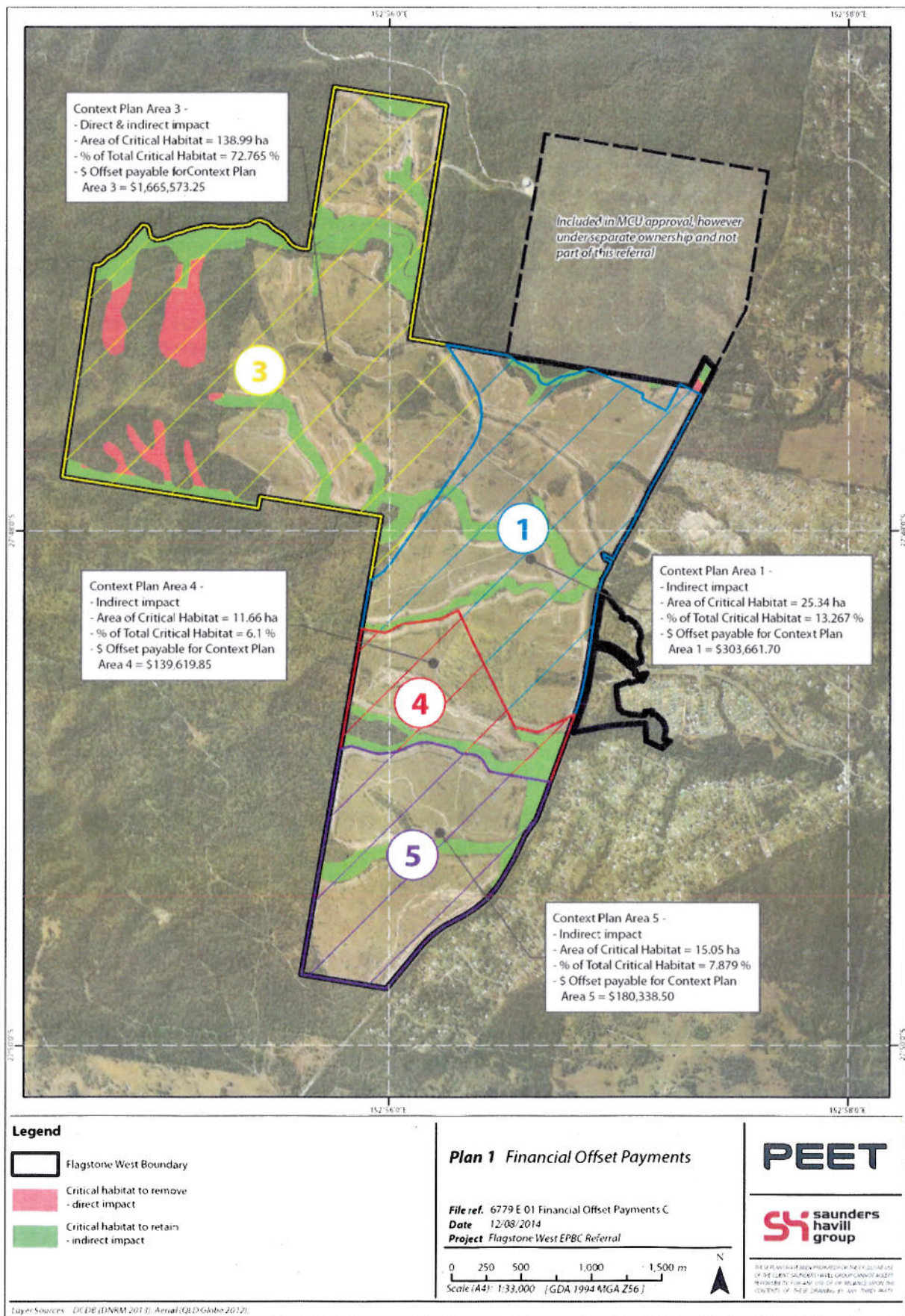
Listed Koala: Koala (*Phascolarctos cinereus* - combined populations of Queensland, New South Wales and the Australian Capital Territory) listed as vulnerable under the **EPBC Act**.

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

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 contemporary⁵ 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 disturbed⁶.
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 dispersal⁷ 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 • 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

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.

- 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.

Listed Wetlands of International Importance

Matters of National Environmental Significance					
Wetlands of National Importance					
Name	Status	Type of presence	Description of the community/preferred habitat	Desktop Occurrence (on-site)	Likelihood of Field Survey Confirmed Likelihood of Occurrence (on-site)
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 - No Wetlands or Wetland values observed on site

Matters of National Environmental Significance

Threatened Ecological Communities

Name	Status	Type of presence	Description of the community/preferred habitat	Likelihood of Occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	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).	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 may occur within area	The Coastal Swamp Sclerophyll Forests of South-eastern Australia is a type of forest or scrub associated with freshwater (to brackish) wetlands on low-lying coastal areas. Several regional ecosystem communities coincide with this TEC, including Least Concern RE 12.2.7 (Melaleuca quinquenervia or rarely M. dealbata open forest on sand plains), Of Concern RE 12.3.4/12.3.4a (Melaleuca quinquenervia, Eucalyptus robusta woodland on coastal alluvium/Eucalyptus bancroftii open woodland often with Melaleuca quinquenervia), Least Concern RE 12.3.5 (Melaleuca quinquenervia open forest on coastal alluvium), Least Concern RE 12.3.6 (Melaleuca quinquenervia +/- Eucalyptus tereticornis, Lophostemon suaveolens, Corymbia intermedia open forest on coastal alluvial plain) and Endangered RE 12.3.20 (Melaleuca quinquenervia, Casuarina glauca +/- Eucalyptus tereticornis, E. siderophloia open forest on low coastal alluvial plain).	Unlikely	Unlikely - No rectified RE's or values characteristics of this TEC located on site
Grey box-grey gum wet forest of subtropical eastern Australia	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 Gum)). Other canopy species often present include E. siderophloia (Grey Ironbark) and/or	Unlikely	Unlikely - No RE's or values characteristics of this TEC located on site

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 <i>Eucalyptus</i> , <i>Melaleuca</i> and <i>Casuarina</i> 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.	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 <i>Eucalyptus populnea</i> and understorey mostly of grasses and other herbs. The ecological community mostly occurs in gently undulating to flat landscapes and occasionally on gentle slopes on a wide range of soil types of alluvial and depositional origin. In Queensland, this TEC corresponds with 11.3.2, 11.3.17, 11.4.7, 11.4.12 and 12.3.10.	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 to 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 recognised as endangered under this framework, including; RE 12.3.3, RE 12.3.3a, RE 12.3.3d, and RE 12.3.20.	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 understorey 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 understorey. 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 to 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'.	Unlikely	Unlikely - No RE's or values characteristics of this TEC located on site

Listed Threatened Species

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
Bird								
<i>Anthochaera phrygia</i>	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 one-hundred and seventy-two (172) records of this species occurring within 10km of the site in the previous 20 years. Four (4) of which were within 5km of the site. There is a high number of records of this species occurring within 10km of the site. However, reviewing ALA majority of these records occurred within the same area around the same time in 2019. Looking at the data source, eBird, it appears multiple people recorded these records. This potentially indicates that the same individual or group of individuals of this species was being observed by multiple people within this area at this time. 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	High	Moderate

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
						dominance of winter flowering eucalypts including <i>Corymbia citriodora</i>, <i>Eucalyptus crebra</i> and <i>Eucalyptus tereticornis</i>. 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 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.		
<i>Botaurus poiciloptilus</i>	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	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 with tall dense vegetation.	Low	Unlikely

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Field Survey Confirmed Likelihood of Occurrence (on-site)
					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.		
<i>Calidris acuminata</i>	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, salt pans and hypersaline salt lakes inland. They also occur in salt works and sewage farms. They use flooded paddocks, sedgeland and other ephemeral wetlands, but leave when they dry. They use intertidal mudflats in sheltered bays,	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, or any regions which could support temporary pooling water.	Low Unlikely

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
							Desktop Likelihood of occurrence	
					inlets, estuaries or seashores, and also swamps and creeks lined with mangroves.			
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE	CE	856	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. In Queensland, scattered records occur in the Gulf of Carpentaria, with widespread records along the coast south of Cairns.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. The site is not coastal. Characteristic that could support ephemeral pooled water are present, however these locations are highly disturbed with significant weed incursion.	Low	Unlikely
<i>Calyptorhynchus lathami lathami</i>	South-eastern 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 Allocasuarina, Casuarina, cypress Callitris and brigalow Acacia harpophylla woodland assemblages. In	There are eight (8) records of this species occurring within 10km of the site in the previous 20 years. No records are within 5km of the site. The western half of the site is mapped as remnant vegetation with eucalypt dominated Regional Ecosystems. Allocasuarina species were lacking across	Moderate	Low

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
					SEQ west of the Great Dividing Range, they have been observed feeding in remnant belah Casuarina cristata and bullock 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	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.		
<i>Charadrius leschenaultii</i>	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	There are 0 records of this species occurring within 10 km of the site within the previous 20 years.	Unlikely	Unlikely
						There are no coastal or estuarine habitats present on site. Therefore there is no suitable habitat for this species present.		
<i>Climacteris picumnus victoriae</i>	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	Unlikely	Unlikely
						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.		

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
							Desktop Likelihood of occurrence	
<i>Cyclopsitta diophthalma coxeni</i>	Coxen's Fig-Parrot	CE	CE	59714	The Coxen's Fig Parrot occurs in rainforest habitats including subtropical rainforest, dry rainforest, littoral and developing littoral rainforest, and vine forest. Food is mainly taken from figs however other species fruit have been recorded in their diet including <i>Elaeocarpus grandis</i> , <i>Syzygium corynanthum</i> , <i>Litsea reticulata</i> and <i>Grevillea robusta</i> .	There are 0 records of this species occurring within 10 km of the site within the previous 20 years 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 and <i>Grevillea robusta</i> 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.	Low	Unlikely
<i>Erythroriorchis radiatus</i>	Red Goshawk	E	E	942	A wide ranging and highly mobile species generally observed over eucalypt habitats. This species prefers forest and woodland with a mosaic of vegetation types, large prey populations (birds) and permanent water. The vegetation types include eucalypt woodland, open forest, tall open forest, gallery rainforest, swamp sclerophyll forest and rainforest margins. Habitat has to be open enough for fast attack and manoeuvring in	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	Moderate	Low

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
					flight, but provide cover for ambushing of prey.	unlikely that it would be used for breeding		
<i>Falco hypoleucos</i>	Grey Falcon	V	V	929	The Grey Falcon is a medium-sized, compact, pale falcon with a heavy, thick-set, deep-chested appearance. Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey. Preys primarily on birds, especially parrots and pigeons, using high-speed chases and stoops; reptiles and mammals are also taken. Like other falcons it utilises old nests of other birds of prey and ravens, usually high in a living eucalypt near water or a watercourse; peak laying season is in late 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 (<i>Eucalyptus camaldulensis</i>) and Coolibah (<i>E. coolabah</i>).	There are 0 records of this species occurring within 10 km of the site within the previous 20 years 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
<i>Gallinago hardwickii</i>	Latham's Snipe,	V	V	863	Latham's Snipe occurs in permanent and ephemeral wetlands. They usually inhabit	There are thirty-three (33) records of this species occurring within 10km of the site in the previous 20 years. Eight (8) of which	Low	Unlikely

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
	Japanese Snipe				open, freshwater wetlands with low, dense vegetation.	are within 5km. There are an additional four (4) updated records within 10km of the site. This site does not contain any terrestrial wetlands or swamps. Characteristic that could support ephemeral pooled water are present, however these locations are highly disturbed with significant weed incursion. Furthermore vegetation that could be characterised as low and dense and not present. As such suitable habitat for this species is not present.		
<i>Geophaps scripta scripta</i>	Squatter Pigeon (southern)	V	V	64440	This species inhabits open grasslands and woodlands typically with a native understorey although may occur in artificial pasture.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years Suitable habitat in the form of open grasslands and woodlands with a predominantly native understorey is not present on-site. In addition, the species is very rarely observed in southern	Unlikely	Unlikely

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
							Desktop Likelihood of occurrence	
						Queensland, and thus this species is not expected to occur on-site.		
<i>Grantiella picta</i>	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
<i>Hirundapus caudacutus</i>	White-throated Needletail	V	V	682	Although they occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland. They also commonly occur over heathland, but less often over treeless areas, such as grassland or swamps.	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	Moderate	Moderate

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
						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. There are 0 records of this species occurring within 10 km of the site within the previous 20 years.		
<i>Lathamus discolor</i>	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.	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 <i>Corymbia citriodora</i>, <i>Eucalyptus crebra</i> and <i>Eucalyptus tereticornis</i>. However, due to historical logging, the vegetation is lacking large, old-growth trees that this species prefers. As such, the	Moderate	Moderate

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
						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.		
<i>Ninox sternua</i>	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 the 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
<i>Rostratula australis</i>	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. Characteristics that could support ephemeral pooled water are present, however these locations are	Low	Low

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
							Desktop Likelihood of occurrence	
						highly disturbed with significant weed incursion.		
						The likelihood is believed to be low on the basis that no suitable habitat was observed on site.		
						There are 0 records of this species occurring within 10 km of the site within the previous 20 years.		
<i>Stagonopleura guttata</i>	Diamond Firetail	V	V	59398	Diamond Firetails are found in open grassy woodland, heath and farmland or grassland with scattered trees.	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
						There are 0 records of this species occurring within 10 km of the site within the previous 20 years.		
<i>Tringa nebularia</i>	Common Greenshank, E Greenshank	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 wetlands present within the site therefore there is not suitable habitat for this species.	Unlikely	Unlikely

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
							Desktop Likelihood of occurrence	

<i>Turnix melanogaster</i>	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.	There 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. Therefore it is considered unlikely that this species will occur on site.	Low	Unlikely
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Fish

<i>Maccullochella mariensis</i>	Mary River Cod	E	E	83806	Found in southeast Queensland in the Mary River system, their ideal habitat is described as deep, shaded, slow flowing pools with plenty of snags and log-piles.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. <i>Low risk, moderate risk and high risk for WWBW are located on site. Ordinarily, these waterways would be considered as potential habitat for the Mary River Cod.</i>	Unlikely	Unlikely
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<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
						The recognized current natural species range is restricted to suitable areas of habitat in the Mary River system 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.		

Insect

<i>Argynnis hyperbius inconstans</i>	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, <i>Viola betonicifolia</i> ,	There are 0 records of this species occurring within 10 km of the site within the previous 20 years.	Unlikely	Unlikely
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Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
					grows as a small, insignificant ground herb in association with Lomandra longifolia (Long Leaved Matrush) and grasses, especially the grass Imperata cylindrica (Bladey Grass). This habitat is called Melaleuca wetlands, although the larval food plant does not occur in all sub-types of this plant community.	Coastal riverine habitat is not mapped on-site.	Desktop Likelihood of occurrence	
Mammal								
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat, Large 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
<i>Dasyurus maculatus maculatus</i> (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)	E	E	75184	The Spot-tailed Quoll has a preference for mature wet forest habitat. Unlogged forest or forest that has been less disturbed by timber harvesting is also preferable. This predominantly nocturnal species rests during the day in dens. Habitat requirements include suitable den sites such as hollow logs, tree hollows, rock outcrops or caves. Individuals require an abundance of food such	There are two (2) records of this species occurring within 10km of the site in the previous 20 years. No records are within 5km of the site. 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	Moderate	Low

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					as birds and small mammals, and large areas of relatively intact vegetation through which to forage.	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 significant survey effort demonstrated in a published study by ⁸Wildlife 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		

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

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
						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. 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		

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
						throughout the remnant bushland did not detect suitable denning habitat.		
<i>Macroderma gigas</i>	Ghost Bat	V	E	174	Ghost Bats have been recorded in both arid regions (Pilbara region) and rainforest areas (north Queensland). <i>Macroderma gigas</i> 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
<i>Petauroides volans</i>	Greater Glider (southern and central)	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 dispersability make this species sensitive to clearing and fragmentation, with low persistence in small forest fragments.	There are four (4) records of this species occurring within 10km of the site in the previous 20 years. No records are within 5km of the site. There is an additional three (3) undated records within 10km of the site. The presence of large area (130 ha) of remnant eucalypt woodland on-site is considered to provide potential for the Greater Glider to occur from a desktop perspective.	High	Low

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
							Desktop Likelihood of occurrence	
						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.		
<i>Petaurus australis australis</i>	Yellow-bellied Glider (south-eastern)	V	V	87600	The Yellow-bellied Glider largely occurs in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. Denning occurs within hollows of large trees, with the species preferring to live in family groups of two to six individuals. This species is very mobile and occupy large home ranges of 20 to 85 ha to encompass dispersed and seasonally available food resources.	There are twenty (20) records of this species occurring within 10km of the site in the previous 20 years. Six (6) of which are within 5km of the site. There is an additional two (2) undated records within 10 km of the site. 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	High	Low

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
						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 be 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.		
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	V	V	225	This species prefers rocky habitats, including loose boulder-piles, rocky outcrops, steep rocky slopes, cliffs, gorges and isolated rock stacks. It also utilises tree limbs. While it appears that most Brush-tailed Rock-wallaby colonies are on north-facing slopes and cliff lines, colonies have been found on south-facing cliffs in Kangaroo Valley, in the Macleay River Gorge, in the Warrumbungles and at Mt Kaputar, although usually in lower densities.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. 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	Moderate	Low

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
						suitable habitat, there is a low likelihood this species would occur.		
<i>Phascolarctos cinereus</i> (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	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 two-hundred and sixty-two (262) records of this species occurring within 10km of the site in the previous 20 years. 11 of which are within 5km of the site. An additional 114 undated records are present within 10km of the site. The site contains suitable habitat in the form of remnant eucalypt woodland. Koalas are also known to occur within the locality. A Koala was detected on 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 (<i>Eucalyptus tereticornis</i>) are dominant.	High	Known

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
<i>Potorous tridactylus tridactylus</i>	Long-nosed Potoroo (northern)	V	V	66645	The Long-nosed Potoroo inhabits coastal heaths and dry and wet sclerophyll forests. Dense understorey with occasional open areas is an essential part of habitat, and may consist of grass-trees, sedges, ferns or heath, or of low shrub of tea-trees or melaleucas. A sandy loam soil is also a common feature.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. 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
<i>Pseudomys novaehollandiae</i>	New Holland Mouse, Pookila	V	V	96	Across the species' range the New Holland Mouse is known to inhabit open heathlands, open woodlands with a heathland understorey and vegetated sand dunes. The New Holland Mouse is a social animal, living predominantly in burrows shared with other individuals. The home range of the New Holland Mouse ranges from 0.44 ha to 1.4 ha. The species peaks in abundance during early to mid stages	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

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Field Survey
						Desktop Likelihood of occurrence	Confirmed Likelihood of Occurrence (on-site)
					of vegetation succession typically induced by fire.		
<i>Pteropus poliocephalus</i>	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 nine (9) records of this species occurring within 10km of the site in the previous 20 years. No records are within 5km of the site. An additional 8 undated records are present within 10km of the site. 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 on site during spotlighting surveys in other areas within CA3.	High Known
Plant							
<i>Arthraxon hispidus</i>	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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years	Low Unlikely

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Field Survey Confirmed Likelihood of Occurrence (on-site)
						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.	
<i>Bosistoa transversa</i>	Three-leaved Bosistoa, Yellow Satinheart	V	-	16091	The Three-leaved Bosistoa is conserved within Mt Warning National Park, Numbinbah Nature Reserve, Limpinwood Nature Reserve and Whian Whian State Forest. While population information is unavailable, it is thought to be common in its range. It generally grows in wet sclerophyll forest, dry sclerophyll forest and rainforest up to 300 metres in altitude. It is commonly associated with <i>Argyrodendron trifoliolatum</i>, <i>Syzygium hodgkinsoniae</i>, <i>Endiandra pubens</i>, <i>Dendrocnide photinophylla</i>, <i>Acmena ingens</i>, <i>Diploglottis australis</i> and <i>Diospyros mabacea</i>.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Rainforest and high-altitude habitat was not present on-site, therefore it is unlikely that this species would occur.	Low Unlikely
<i>Coleus habrophyllus</i>		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	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Potentially suitable habitat for this species occurs on site. The entire site was walked by qualified ecologists; however, this	High Low

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
					Park, incorporating Six Mile Creek Conservation Park near Ormeau (south of Beenleigh).	species was not detected, therefore there is a low likelihood this species is present on-site.		
<i>Cryptostylis hunteriana</i>	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
<i>Cupaniopsis shirleyana</i>	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 up to 550 m above sea level. This species is also likely to occur on the margins of native vegetation in scrubby urbanised areas. Predominately found on dark brown sandy loams and sandy clay loams (pH 5-7.5) and rocky scree slopes. Generally, these soils have formed from volcanic parent materials (mainly granites and granodiorites, basalt and andesitic flows, and pyroclastics).	There are 0 records of this species occurring within 10 km of the site within the previous 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

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
							Desktop Likelihood of occurrence	
<i>Cupaniopsis tomentella</i>	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, and the only seven known occurrences are confined to small isolated remnants on scree slopes and roadsides. All known records are from outside of conservation reserves.	There are four (4) records of this species occurring within 10km of the site in the previous 20 years. One of which is within 5km of the site No RE's reflective of rainforest present on 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.	Low	Low
<i>Dichanthium setosum</i>	Bluegrass	V	-	14159	In Queensland, bluegrass has been reported from the Leichhardt, Morton, North Kennedy and Port Curtis regions. <i>Dichanthium setosum</i> 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

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
							Desktop Likelihood of occurrence	
<i>Fontainea venosa</i>	-	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.	There are 0 records of this species occurring within 10 km of the site within the previous 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
<i>Leuzea australis</i>	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 Gum), E. melanophloia (Silver-leaved Ironbark), Angophora subvelutina (Broad-leaved Apple), A. floribunda (Rough-barked Apple), Cirsium vulgare (Spear Thistle - introduced species), Dichanthium sericeum (Queensland Bluegrass) and Themeda triandra (Kangaroo	There are 0 records of this species occurring within 10 km of the site within the previous 20 years The site provides marginal habitat for this species due to soils being unsuitable. Furthermore significant disturbance is evident within the site with major weed infestation, in particular exotic grass species.	Low	Unlikely

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
					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 <i>Chloris gayana</i> (Rhodes Grass) (QDNR 2000).			
<i>Macadamia integrifolia</i>	Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak	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 <i>Araucaria</i> and <i>Argyrodendron</i> emergents.	There are 0 records of this species occurring within 10 km 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
<i>Macadamia tetraphylla</i>	Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia,	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 moderate to steep hillslopes on alluvial soils at well drained sites.	There is one (1) record of this species occurring within 5km of the site in the previous 20 years. Rainforest and vine thicket RE's are not mapped on site and it was confirmed in	Low	Unlikely

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
	Rough-leaved Queensland Nut					surveys vegetation reflective of these values is not present on-site It is unlikely that this species would occur on site due to the lack of rainforest vegetation.		
<i>Melaleuca irbyana</i>	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.	<i>Melaleuca irbyana</i> 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	Low
<i>Notelaea lloydii</i>	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
<i>Notelaea x ipsviciensis</i>	Cooneana Olive	CE	CE	93460	The Cooneana Olive survives as an understorey plant in degraded, eucalypt dominated dry sclerophyll vegetation	There are 0 records of this species occurring within 10 km of the site within the previous 20 years.	Low	Unlikely

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
					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.	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 detected, therefore it is unlikely that this species is present on-site.		
<i>Picris evae</i>	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
<i>Planchonella eerwah</i>	Shiny-leaved Condoo, Black Plum, Wild Apple	E	E	17340	Rare tree with dense glossy foliage and scaly bark. It is restricted to three locations in southeastern Queensland, the Ipswich–Beautesert area south-west of Brisbane; the	There are three (3) records of this species occurring within 10km of the site in the previous 20 years. One of which is within	Low	Unlikely

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
					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 (<i>Araucaria cunninghamii</i>), <i>Harpullia pendula</i> , and members of the genus <i>Flindersia</i> , and in the northern <i>Argyrodendron</i> species, <i>Atalaya multiflora</i> , <i>Choricarpia subargentea</i> , <i>Excoecaria dallachyana</i> , and <i>Flindersia australis</i> .	5km of the site. There is an additional undated record within 10km of the site. No rainforest RE's present on site. No vegetation characteristic of rainforest is observed on site during surveys nor any of the specific species <i>Planchonella eerwah</i> is usually associated with.		
<i>Rhodamnia rubescens</i>	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 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.	Low	Unlikely
<i>Rhodomyrtus psidioides</i>	Native Guava	CE	CE	19162	Pioneer species found in littoral, warm temperate and subtropical rainforest and wet	There are nine (9) records of this species occurring within 10km of the site in the	Low	Unlikely

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
					sclerophyll forest often near creeks and drainage lines.	previous 20 years. 1 of which is within 5km. There is an additional one (1) undated record within 10 km of the site. 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.		
<i>Samadera bidwillii</i>	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 watercourses in locations up to 510 m altitude. The species occurs on lithosols, skeletal soils, loam soils, sands, silts and sands with clay subsoils.	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 species favours lowland rainforest or rainforest margins which is not present on-site. In addition, no local records exist,	Low	Unlikely

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
							Desktop Likelihood of occurrence	
						therefore Quassia is unlikely to be present on site.		
<i>Thesium australe</i>	Austral Toadflax, 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.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. While <i>Themeda triandra</i> (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
Reptile								
<i>Delma torquata</i>	Adorned Delma, Collared Delma	V	V	1656	In general, the species occurs on rocky hillsides on basalt and lateritic soils supporting open eucalypt and Acacia woodland with a sparse understorey of shrubs and tussocks or semi-evergreen vine thicket.	There are 0 records of this species occurring within 10 km of the 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.	Moderate	Low
<i>Furina dunmalli</i>	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	There are 0 records of this species occurring within 10 km of the site within the previous 20 years.	Moderate	Low

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
					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.	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.		
<i>Hemiaspis damelii</i>	Grey Snake	E	E	1179	In Queensland, grey snake habitat is Brigalow (<i>Acacia harpophylla</i>) and Belah (<i>Casuarina cristata</i>) woodlands on heavy, dark brown to black cracking clay soils, particularly in association with water bodies, areas with small gullies and ditches, and floodplain environments where the species shelters beneath logs, rocks and soil cracks.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years. Habitat attributes, being the presence of Brigalow and Belah woodlands are not present on site to support this species.	Unlikely	Unlikely

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis	Desktop Likelihood of occurrence	Field Survey Confirmed Likelihood of Occurrence (on-site)
						Therefor in is unlikely that this species occurs on site.		

Listed migratory species (not listed above)

Scientific name	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
Bird								
Actitis hypoleucos	Common Sandpiper	-	SL	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 0 records of this species occurring within 10 km of the site within the previous 20 years.	Unlikely	Unlikely
						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.		
Apus pacificus	Fork-tailed Swift	-	SL	678	This species is almost exclusively aerial and mostly occur over inland plains but sometimes above foothills or in coastal areas.	There are 0 records of this species occurring within 10 km of the site within the previous 20 years.	Unlikely	Unlikely
						No suitable habitat to support this species occurs on-site. No inland plains, foothills or coastal habitat present.		
Calidris melanotos	Pectoral Sandpiper	-	SL	858	The Pectoral Sandpiper prefers shallow fresh to saline wetlands. The species is found at coastal lagoons,	There are 0 records of this species occurring within 10 km of	Low	Low

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
					estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands. Occasionally found further inland.	the site within the previous 20 years.	Desktop Likelihood of occurrence	
						A freshwater creek with permanent water is present in the very North 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.		
<i>Cuculus optatus</i>	Oriental Cuckoo, Horsfield's Cuckoo	-	SL	86651	Non-breeding habitat only: monsoonal rainforest, vine thickets, wet sclerophyll forest or open Casuarina, Acacia or Eucalyptus woodlands. Frequently at edges or ecotones between habitat types	There are 0 records of this species occurring within 10 km of the 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 species is commonly recorded in the Brisbane region with some records within Logan.	Low	Low

<i>Scientific name</i>	Common name	EPBC Act	NC Act	EPBC Code	Habitat and Distribution	Likelihood of Occurrence Analysis		Field Survey Confirmed Likelihood of Occurrence (on-site)
							Desktop Likelihood of occurrence	
<i>Motacilla flava</i>	Yellow Wagtail	-	SL	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.	Low	Low

Appendix F

Flora Species List

Native flora species observed for entirety of CA3

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

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

Scientific name**Common name***Xanthorrhoea latifolia*

Grass Tree

Introduced flora species observed for entirety of CA3

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

Appendix G

Quaternary Assessments

Quaternary Site 4 – Area 1

Site Description	Flagstone City
Mapped Regional Ecosystem	12.3.11/12.3.7
T1	<i>Eucalyptus crebra</i> (Narrow-leaved Ironbark) dominated. Median height 20 m.
T2	<i>Eucalyptus tereticornis</i> (Forest Red Gum), <i>Lophostemon suaveolens</i> (Swamp Box), <i>Eucalyptus crebra</i> (Narrow-leaved Ironbark). Median height 13 m.
Shrub	<i>Acacia disparrima</i> (Hickory Wattle), <i>Alphitonia excelsa</i> (Soap Tree), <i>Petalostigma pubescens</i> (Quinine Bush).
Ground	<i>Lomandra multiflora</i> (Many Flowered Mat Rush) and <i>Dianella caerulea</i> (Blue Flax-lily).
Introduced species	Minimal weed cover. <i>Sida cordifolia</i> (Flannel Weed) and <i>Opuntia stricta</i> (Common Pest Pear) present. Approximately 5% coverage.



Quaternary Site 5 – Area 1

Site Description	Flagstone City
Mapped Regional Ecosystem	12.3.11/12.3.7
T1	<i>Corymbia citriodora</i> (Spotted Gum) with <i>Eucalyptus crebra</i> (Narrow-leaved Ironbark) and <i>Eucalyptus tereticornis</i> (Forest Red Gum). Median height 22 m.
T2	<i>Lophostemon suaveolens</i> (Swamp Box) dominated with <i>Corymbia citriodora</i> (Spotted Gum). Median height 12m.
Shrub	Dominated by <i>Alphitonia excelsa</i> (Soap Tree), <i>Acacia fimbriata</i> (Brisbane Wattle) and <i>Acacia leiocalyx</i> (Early Flowering Black Wattle).
Ground	<i>Lomandra longifolia</i> (Long-leaved Matrush), <i>Aristida leptopoda</i> (White Speargrass).
Introduced species	Moderate infestation of ground cover weeds including <i>Ageratum houstonianum</i> (Blue Billygoat weed), <i>Passiflora suberosa</i> (Corky Passion Vine) and <i>Sida rhombifolia</i> (Common Sida). Approximately 45% coverage.



Quaternary Site 9 – Area 2

Site Description	Flagstone City
Mapped Regional Ecosystem	12.9-10.2/12.9-10.7
T1	<i>Corymbia intermedia</i> (Pink Bloodwood). Median height 14 m.
T2	Nil. High levels of die back and disturbance.
Shrub	<i>Alphitonia excelsa</i> (Soap Tree) and <i>Acacia</i> species with dominant weed shrubs.
Ground	Dominated by <i>Imperata cylindrica</i> (Blady Grass) and <i>Panicum decompositum</i> (Native Millet).
Introduced species	Moderate infestation of <i>Lantana camara</i> (Lantana), <i>Passiflora suberosa</i> (Corky Passion Vine), <i>Sida cordifolia</i> (Flannel Weed) and <i>Senecio madagascariensis</i> (Fireweed).



Quaternary Site 10 – Area 2

Site Description	Flagstone City
Mapped Regional Ecosystem	12.9-10.2/12.9-10.7
T1	Sparse canopy containing <i>Corymbia intermedia</i> (Pink Bloodwood) and <i>Eucalyptus tereticornis</i> (Forest Red Gum). Median height 20 m.
T2	Sparse <i>Corymbia intermedia</i> (Pink Bloodwood). High levels of die back and dead trees present. Median height 15 m.
Shrub	Regenerating shrub layer dominant with <i>Trema tomentosa</i> (Poison Peach) and <i>Acacia</i> species regrowth.
Ground	<i>Lomandra multiflora</i> (Many Flowered Mat Rush).
Introduced species	Moderate infestation of <i>Lantana camara</i> (Lantana), <i>Passiflora suberosa</i> (Corky Passion Vine) and <i>Ageratum houstonianum</i> (Blue Billygoat weed). Approximately 35% coverage.



Quaternary Site 11 – Area 2

Site Description	Flagstone City
Mapped Regional Ecosystem	12.9-10.2/12.9-10.7
T1	<i>Corymbia citriodora</i> (Spotted Gum) with <i>Eucalyptus crebra</i> (Narrow-leaved Ironbark). Median height 14 m.
T2	<i>Corymbia citriodora</i> (Spotted Gum) and <i>Eucalyptus crebra</i> (Narrow-leaved Ironbark) regrowth. Median height 9 m.
Shrub	Dense <i>Acacia concurrens</i> (Black Wattle) and <i>Acacia leiocalyx</i> (Early Flowering Black Wattle) regrowth with <i>Alphitonia excelsa</i> .
Ground	<i>Themeda triandra</i> (Kangaroo Grass) present. Ground mostly dominated by leaf litter.
Introduced species	<i>Passiflora suberosa</i> (Corky Passion Vine) and <i>Senecio madagascariensis</i> (Fireweed). Approximately 40% coverage.



Appendix H

SAT Survey Results

Spot Assessment Technique Survey 1

Tree number	Species	Common Name	DBH (mm)	Scats Recorded
1	<i>Lophostemon suaveolens</i>	Swamp Box	350	Nil
2	<i>Lophostemon suaveolens</i>	Swamp Box	300	Nil
3	<i>Lophostemon suaveolens</i>	Swamp Box	250	Nil
4	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	750	Nil
5	<i>Eucalyptus tereticornis</i>	Forest Red Gum	650	Nil
6	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	280	Nil
7	<i>Eucalyptus tereticornis</i>	Forest Red Gum	850	Nil
8	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	500	Nil
9	<i>Eucalyptus tereticornis</i>	Forest Red Gum	450	Nil
10	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	350	Nil
11	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	480	Nil
12	<i>Eucalyptus tereticornis</i>	Forest Red Gum	420	Nil
13	<i>Eucalyptus siderophloia</i>	Grey Ironbark	670	Nil
14	<i>Eucalyptus tereticornis</i>	Forest Red Gum	360	Nil
15	<i>Lophostemon suaveolens</i>	Swamp Box	260	Nil
16	<i>Lophostemon suaveolens</i>	Swamp Box	270	Nil
17	<i>Lophostemon suaveolens</i>	Swamp Box	170	Nil
18	<i>Lophostemon suaveolens</i>	Swamp Box	390	Nil
19	<i>Lophostemon suaveolens</i>	Swamp Box	190	Nil
20	<i>Lophostemon suaveolens</i>	Swamp Box	500	Nil
21	<i>Lophostemon suaveolens</i>	Swamp Box	100	Nil
22	<i>Lophostemon suaveolens</i>	Swamp Box	370	Nil
23	<i>Corymbia intermedia</i>	Pink Bloodwood	390	Nil
24	<i>Lophostemon suaveolens</i>	Swamp Box	310	Nil
25	<i>Lophostemon suaveolens</i>	Swamp Box	210	Nil
26	<i>Lophostemon suaveolens</i>	Swamp Box	200	Nil
27	<i>Lophostemon suaveolens</i>	Swamp Box	130	Nil
28	<i>Lophostemon suaveolens</i>	Swamp Box	150	Nil
29	<i>Lophostemon suaveolens</i>	Swamp Box	250	Nil
30	<i>Lophostemon suaveolens</i>	Swamp Box	130	Nil
Total Recorded				0
Percent Recorded				0%
Koala Use				Low

Spot Assessment Technique Survey 4

Tree number	Species	Common Name	DBH (mm)	Scats Recorded
1	<i>Eucalyptus siderophloia</i>	Grey Ironbark	160	Nil
2	<i>Corymbia citriodora</i>	Spotted Gum	180	Nil
3	<i>Corymbia citriodora</i>	Spotted Gum	180	Nil
4	<i>Corymbia citriodora</i>	Spotted Gum	140	Nil
5	<i>Corymbia citriodora</i>	Spotted Gum	210	Nil
6	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	130	Nil
7	<i>Corymbia citriodora</i>	Spotted Gum	220	Nil
8	<i>Corymbia citriodora</i>	Spotted Gum	150	Nil
9	<i>Corymbia citriodora</i>	Spotted Gum	160	Nil
10	<i>Corymbia citriodora</i>	Spotted Gum	280	Nil
11	<i>Corymbia citriodora</i>	Spotted Gum	240	Nil
12	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	310	Nil
13	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	430	Nil
14	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	380	Nil
15	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	420	Nil
16	<i>Corymbia citriodora</i>	Spotted Gum	140	Nil
17	<i>Eucalyptus siderophloia</i>	Grey Ironbark	120	Nil
18	<i>Corymbia citriodora</i>	Spotted Gum	140	Nil
19	<i>Corymbia citriodora</i>	Spotted Gum	140	Nil
20	<i>Corymbia citriodora</i>	Spotted Gum	140	Nil
21	<i>Corymbia citriodora</i>	Spotted Gum	180	Nil
22	<i>Corymbia citriodora</i>	Spotted Gum	130	Nil
23	<i>Corymbia citriodora</i>	Spotted Gum	170, 100	Nil
24	<i>Corymbia citriodora</i>	Spotted Gum	140	Nil
25	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	170, 240	Nil
26	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	140	Nil
27	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	300	Nil
28	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	280	Nil
29	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	260	Nil
30	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	300	Nil
Total Recorded				0
Percent Recorded				0%
Koala Use				Low

Appendix I

Camera Trap Images

Camera 3



Common Brushtail Possum



Common Ringtail Possum



Northern Brown Bandicoot



Red-necked Wallaby



Lace Monitor



Feral Dog

Camera 4



Koala



Red-necked Wallaby



Common Brushtail Possum



Red Fox



Australian Brush Turkey



Black Rat

Appendix J

Watercourse Assessments

Drainage assessment point	line	Description
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7b

Determination: Drainage feature.

- Drainage feature channel shallow, flat _ / shaped
- No bed or bank evident
- No defined flow path
- 1-2 small pockets (scour holes)
- Sandy loam substrate
- No Riparian vegetation
- No drop off / frequent flow of water
- Adjoining vegetation – 12.9-10.2 open Eucalyptus forest - *Corymbia citriodora* and *Eucalyptus crebra*
- *Imperata cylindrica* – Blady Grass throughout channel



8a

Determination: Drainage feature.

- Erosion channel severe – end of erosion flow path
- 0.5m lower flow path channel
- 7m higher / full bank width
- No riparian vegetation
- No scour holes or pools
- Fallen woody debris evident with exposed roots along bank sides
- Adjoining vegetation – 12.9-10.17a - *Eucalyptus tereticornis*, *Corymbia tessellaris*, *Corymbia intermedia* and *Lophostemon suaveolens*



8b

Determination: Overland flow path.

- No distinct bed or bank, flat
- No swore holes or pools
- No riparian vegetation
- 27m full bank width
- Adjoining vegetation – 12.9-10.17a *Lophostemon suaveolens* with emerged Eucalyptus forest - *Eucalyptus tereticornis* and *Corymbia intermedia*
- Medium level grass throughout channel



8c

Determination: Drainage feature.

- U shaped channel
- No defined bed or bank
- Very narrow flow path with deep scour holes
- Scour holes connected with overland flow
- No riparian vegetation
- No permanent water, dry scour holes with damp sand
- 10m full bank width
- 40cm low flow path but with no continuous flow of water
- Adjoining vegetation – 12.9-10.2 *Corymbia citriodora*, *Corymbia intermedia* and *Eucalyptus crebra*
- Medium level grass throughout channel



9b

Determination: Drainage feature.

- 2m width
- Sandy bed
- No Riparian vegetation
- Weed infestation moderate
- *Corymbia citriodora*, *Corymbia intermedia*
- Eroded pools



9c

Determination: Drainage feature.

- 1 m flow path in middle
- Erosion and scouring
- Eroded flow path off dam 2
- Pooling water, banks more defined
- *Lophostemon suaveolens* dominated with *Eucalyptus tereticornis*
- *Lomandra longifolia*, *L. multiflora*, Bunchy sedge, Minimal weeds (5%)



9d

Determination: Eroded drainage feature.

- 2 m flow path
- Banks defined but eroded
- Moderate scouring in areas
- Pooling water
- Left bank 3 m high
- Right bank 1 m
- *Lophostemon suaveolens* dominated with *Corymbia intermedia*
- Minimal weeds (10%)
- Bunchy sedge, *Gahnia aspera*, *Lomandra multiflora*, Lantana on banks.



10a

Determination: Drainage feature / watercourse.

- Sandy bed, 3 m depth
- Defined banks, 1 m left bank-1.5 left bank
- *Lophostemon suaveolens* dominated with *Eucalyptus tereticornis* and *Melaleuca quinquenervia*
- Moderate weeds (30%)
- Lantana, Corky passion
- No pooling water



10b

Determination: Drainage feature / watercourse.

- Sandy bed, 1 m width flow path
- Defined banks, left 2.5 m – 1 m
- *Lophostemon suaveolens* dominated with *Eucalyptus tereticornis* and *Alphitonia excelsa*
- Mild weeds (15%) Lantana
- Mild erosion
- No pooling



10c

Determination: Overland flow path.

- No defined banks
- Sandy bed (5m)
- *Lophostemon suaveolens* and *Melaleuca quinquenervia* dominated with scattered *Eucalyptus tereticornis*
- Mild lantana (10%)
- Reed, bunchy sedge and *M. quinquenervia* regrowth



10d

Determination: Drainage feature.

- Defined water flow path. 30cm-1m in areas.
- Defined banks – about 1m both sides
- *Lophostemon suaveolens* dominated with *Corymbia intermedia*
- Weeds – Corky passion (10%)
- *Gahnia aspera* in bed
- Small amounts of water pooling



10e

Determination: Overland flow path.

- Overland flow (15m width)
- No defined flow path or banks
- No water pooling
- *Melaleuca quinquenervia* dominated with *Lophostemon suaveolens*
- Moderate weeds Lantana 20%
- Fishweed, *Lomandra multiflora*.



10f

Determination: Drainage feature.

- Sandy flow path (50cm)
- Small banks (40cm)
- *Corymbia intermedia* dominated canopy
- Acacia regrowth
- Minimal weeds (5%)
- No pools, No riparian vegetation



11a

Determination: Eroded drainage feature.

- Flow path, sandy bed 1m width
- Defined banks (3m width)
- Left bank 2.5m, Right bank 2.5m
- *Lophostemon suaveolens* dominated Acacia sp.
- *Lomandra hystrix*, *Gahnia aspera*
- No pooling water
- Heavy erosion upper stream



11b

Determination: Eroded drainage feature.

- Flow path 60cm
- Sandy bottom 60cm – 1m
- *Melaleuca quinquenervia* in poor health
- *Lophostemon suaveolens* dominated with *Corymbia citriodora* and *Corymbia intermedia*
- No pooling water
- Min – moderate weeds 30%



11c

Determination: Eroded drainage feature.

- Flow path 50cm, sandy base
- Highly eroded banks. Left bank 2m, right bank 1m.
- Width 3-4 m in areas.
- *Lophostemon suaveolens* and *Corymbia intermedia* dominated.
- Minimal weeds. (15%)
- No pooling water



11d

Determination: Overland flow path.

- Flow line. 1m sandy
- Banks becoming more defined upstream (point taken to show this)
- Banks approx. 2m in height.
- Overland flow in parts.
- *Lomandra longifolia*, Barbwire grass and Blady grass.
- *Lophostemon suaveolens* with *Corymbia citriodora* and *Corymbia intermedia*.
- Limited weeds
- No water pooling.



12a

Determination: Overland flow path.

- Low lying depression (no waterway features).
- No defined channel, no bed.
- No water
- *Lophostemon suaveolens* dominated with *Eucalyptus tereticornis* and dense *L. suaveolens* regrowth.
- Blady grass dominated ground layer
- Fireweed and Blue Billy Goat scattered



13a

Determination: Eroded drainage feature.

- Eroded channel 20cm depth.
- Approximately 1m channel width, sand substrate.
- No water or macrophytes.
- *Melaleuca quinquenervia* dominated with *Eucalyptus tereticornis* and *Corymbia intermedia*.
- Discontinuous bed and bank features.
- Some sedges, reeds and juncus.
- *Lomandra longifolia*.



13b

Determination: Overland flow path.

- No defined channel present
- Low lying area
- *Eucalyptus tereticornis* and *Corymbia tessellaris*
- No water or macrophytes

