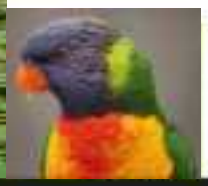
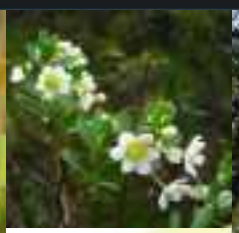
BURCHILLS
SCIENCE AND ENGINEERING



The experience you deserve






9 Trewin Road North, Mundoolun

Ecological Site Assessment

Client: CPS Technology & Infrastructure Pty Ltd
Project No: BE230285
Document No: BE230285-RP-ESA-0

August 2023

Document Control Record

Prepared by:	Kaidon Anderson Gabriela Castan
Position:	Environmental Scientist
Date:	August 2023

Approved by:	Caroline Kelly
Position:	Principal Environmental Scientist
Date:	August 2023

Version No.	Description	Date	Prepared	Approved
00	Draft Issue	15.08.2023	KA/GC	CK

Recipients are responsible for eliminating all superseded documents in their possession

Coote Burchills Engineering Pty Ltd ACN: 166 942 365

Level 2, 26 Marine Parade SOUTHPORT QLD 4215
PO Box 3766, Australia Fair SOUTHPORT QLD 4215
Telephone: +61 7 5509 6400

Level 14, 167 Eagle Street BRISBANE QLD 4000
PO Box 83, BRISBANE QLD 4000
Telephone: +61 7 3606 0201

Level 1, 91 Landsborough Avenue SCARBOROUGH QLD 4020
PO Box 238, SCARBOROUGH QLD 4020
Telephone: +61 409 935 884

Level 3, 16 East Street IPSWICH QLD 4305
Telephone: +61 429 056 347Telephone: +61 7 5509 6400 Facsimile: +61 7 5509 6411 Email: admin@burchills.com.au

Executive Summary

CPS Technology & Infrastructure Pty Ltd engaged Burchills to prepare an Ecological Site Assessment to be considered part of a Development Application to Logan City Council for the establishment of a telecommunications facility. The proposed development is located at 9 Trewin Road North, Mundoolun and is formally described as Lot 5 on RP880863.

Desktop surveys were undertaken for the site and local area to determine ecological features or functions that may be relevant to the subject site. The *Logan Shire Planning Scheme 2015* (Version 9) indicates the site contains vegetation management areas and matters of state and local environmental significance.

Site flora and fauna surveys were undertaken in July 2023. A total of 33 species of flora were identified within the site, comprising 23 native species and 10 non-native species including one (1) weed species declared as a Restricted Invasive Plant under the Qld *Biosecurity Act 2014*. One (1) distinct vegetation community was identified on the site, comprising regrowth *Corymbia citriodora* subsp. *variegata* open forest.

The site vegetation does not meet the benchmark structural criteria (e.g. height and canopy cover) to be considered remnant vegetation but was generally consistent with High Value Regrowth of RE 12.9-10.2. The balance of the investigation area, within the road reserve and powerline easements, was cleared and devoid of native vegetation. No flora species of conservation significance under the NCA or EPBC Act were detected on the subject site.

Thirteen (13) species of fauna were observed on the subject site, including one (1) reptile species, nine (9) bird species and three (3) mammals. All species observed were native, with the exception of domestic dog. No conservation significant fauna species were detected within the site.

The site has 31,163m² of mapped Primary Vegetation Management Area under the Biodiversity Overlay of the *Logan Planning Scheme 2015*; none of this area will be impacted by the proposed works. Of the 168,837m² of mapped Secondary Vegetation Management Area mapped on the site, there is an assessable impact of 352m² resulting from the proposed works. A financial settlement offset is proposed for this impact, with an estimated value of $2,624.32. This offset will ensure that the unavoidable vegetation clearing required to facilitate the works will achieve no net loss in biodiversity within the local region.

In summary, the proposed works comply with the Biodiversity Areas Overlay Code and, provided works are undertaken in accordance with the recommendations of this report, it is not expected that the proposed development will impact local or regional environmental values.

Table of Contents

Tables

Figures

Appendices

1. Introduction

CPS Technology & Infrastructure Pty Ltd engaged Burchills to prepare an Ecological Site Assessment (ESA) to be considered as part of a Development Application to Logan City Council for the establishment of a telecommunications facility. The proposed development is located at 9 Trewin Road North, Mundoolun (Lot 5 RP 880863).

1.1 Objectives

The intent of this assessment is to determine the ecological values of the subject site, identify any potential impacts on these values as a result of proposed development and recommend strategies to avoid, minimise and mitigate these impacts.

In summary, the objectives of this ESA are to:

- Undertake a comprehensive desktop investigation for the subject site to determine potential ecological values;
- Undertake site investigations to verify these values and assess existing vegetation types and ecological values including matters of environmental significance (MES) at a local state and national level;
- Analyse and map results to assess the impacts of the development on MES;
- Provide recommendations to avoid, minimise and mitigate impacts on MES; and
- Assess the final design against the *Logan Planning Scheme 2015 Version 9*.

1.2 Site Context

The subject site is located within Mundoolun and occupies an area of approximately 20ha (Figure 1.1). A single dwelling and ancillary infrastructure (shed) is present in the southwest of the site, with the balance of the site vegetated (Figure 1.2). The site is zoned as Rural and within the Farming Precinct under the *Logan Planning Scheme 2015* Version 9*.*

The site is bordered by three (3) roads: Trewin Road North providing access on its eastern boundary, Harrison Road on its north boundary and Little Hawk Road on its eastern boundary. An existing telecommunications facility is present in the west of the site.

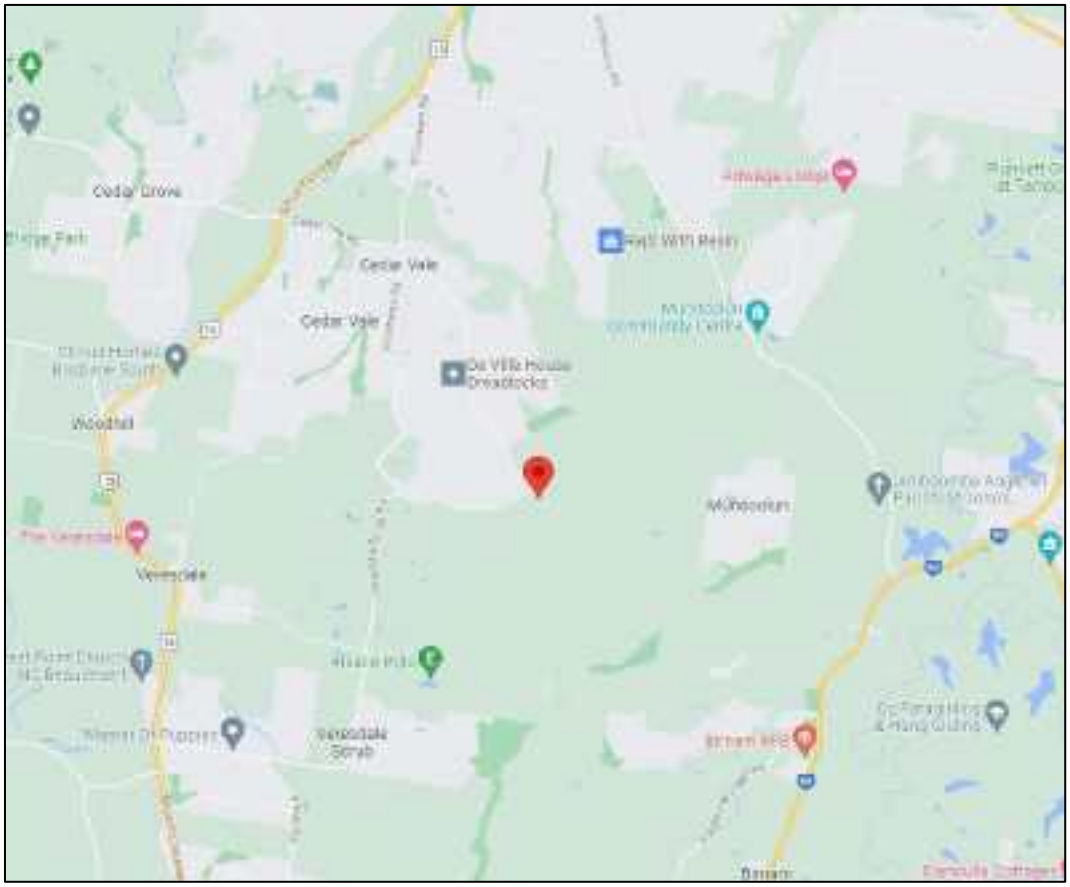


Figure 1.1 Site location (Google, 2023)

Figure 1.2 Site Aerial Photography (MetroMap 2023)

2. Site Description

In order to provide background and context for the investigation of ecological features and functions within and adjacent to the site, an assessment of the abiotic environment associated with the site was undertaken.

2.1 Soils, Geology and Land Zone

According to the Queensland Department of Natural Resources and Mines Geological Survey of Queensland: Beenleigh 1:100,000 Series Map, the subject site comprises sublabile to quartzose sandstone, siltstone, quartz-rich granule to cobble conglomerate and coal. This geological association aligns with Land Zone 9-10 under the Qld regional ecosystem (RE) framework for land classification.

The Logan Planning Scheme indicates that the site is not constrained by potential acid sulfate soils.

2.2 Topography and Drainage

The subject site falls within the Albert River catchment and at a site level stormwater flows via sheetflow to a minor waterway on the site's southern boundary, which flows to Collins Creek approximately 7km upstream of its confluence with the Albert River. The site has a gentle rise from the east to west. The lowest point is at the southeastern corner at 108mAHD and the highest at the southwestern corner at 227mAHD.

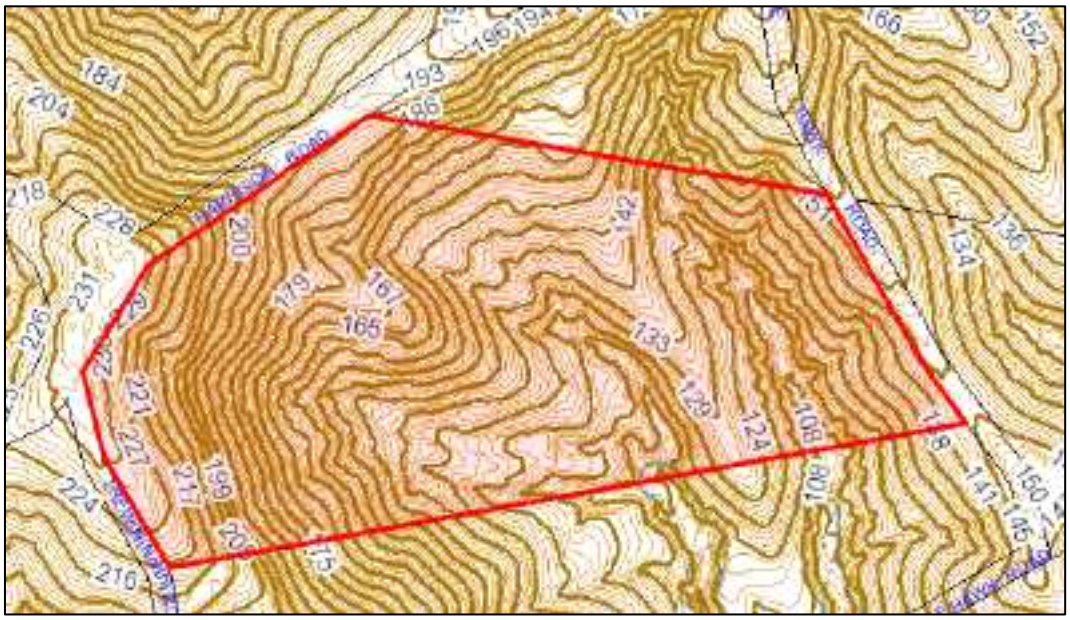


Figure 2.1 Local contours (*Logan Planning Scheme 2015*)

2.3 Proposed Development

The proposal seeks to install a telecommunications facility, comprising a 32m high monopole, antennas, compound, earth mount, access track and parking area within the north/northwestern portion of the site (Figure 2.2 and Appendix A). A 10m Asset Protection Zone (APZ) is required around the compound to manage bushfire impacts (Bushland Protection Systems, 2023).

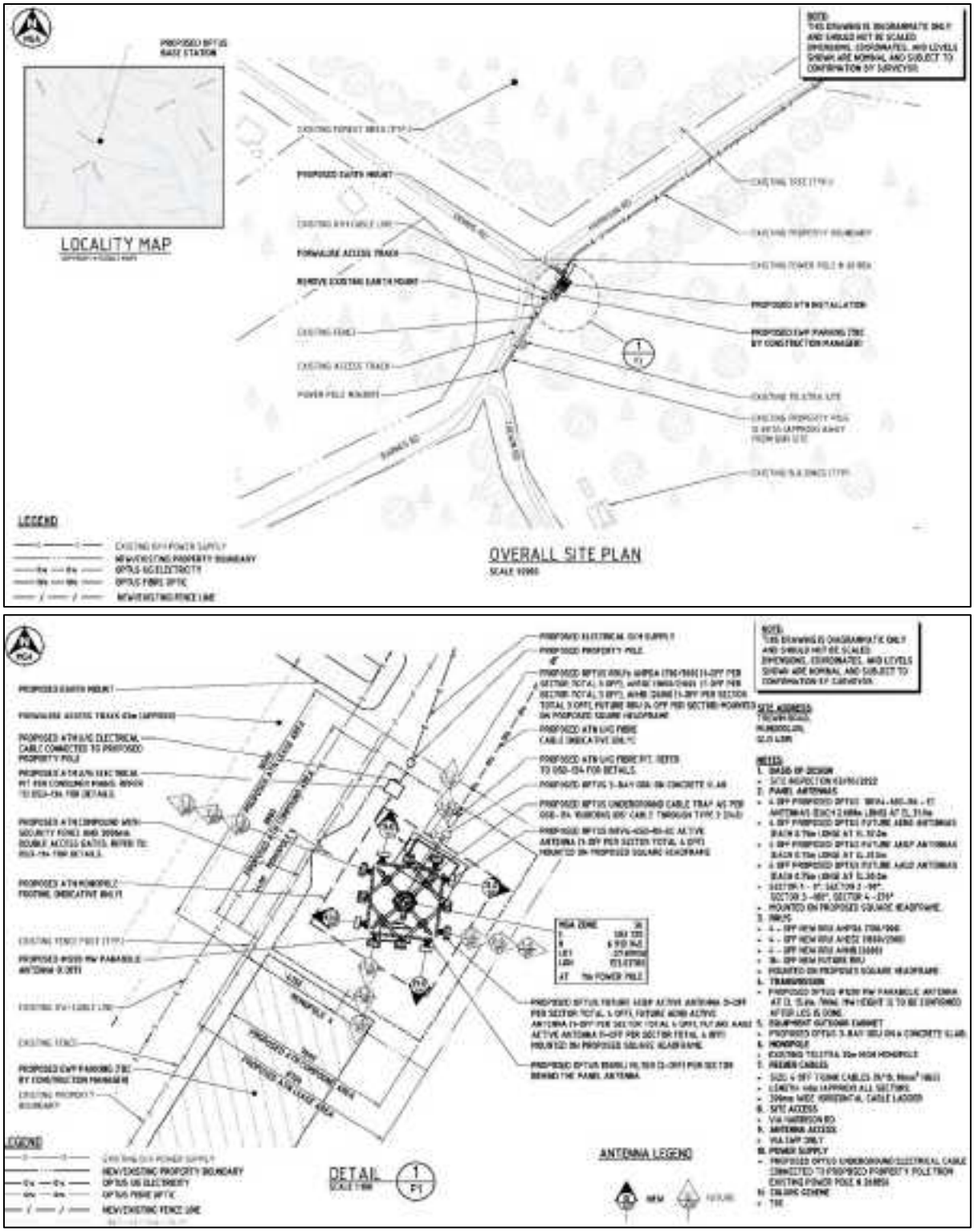


Figure 2.2 Proposed Plan of Development (CPS Technology and Infrastructure, 2022)

2.4 Investigation Area

The investigation area for this assessment was the site and public land (i.e. road reserve) immediately around the proposed telecommunications facility location.

Figure 2.3 Investigation Area

3. Desktop Review

3.1 Matters of National Environmental Significance

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is federal legislation that provides a national framework for the protection and management of nationally and internationally important flora, fauna, ecological communities and heritage places, which are defined in the EPBC Act as Matters of National Environmental Significance (MNES).

If a proposed action is likely to have a significant impact on MNES it must be referred to the Australian Government Minister for the Environment for assessment against the EPBC Act. A significant impact is an impact which is important, notable, or of consequence, having regard to its context or intensity. All of these factors should be considered when determining whether an action is likely to have a significant impact on the environment.

The EPBC Act Protected Matters Search Tool (PMST) enables searches for MNES in a specified area. Results of this database search, using a 2km buffer around the site, identified:

- Seven (7) listed threatened ecological communities may occur within the area, including:
    - Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland (Endangered);
    - Grey box-grey gum wet forest of subtropical eastern Australia (Endangered);
    - Lowland Rainforest of Subtropical Australia (Critically Endangered);
    - Poplar Box Grassy Woodland on Alluvial Plains (Endangered);
    - Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions (Endangered);
    - Swamp Tea-tree (*Melaleuca irbyana*) Forest of South-east Queensland (Critically Endangered); and
    - White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered);
- 51 threatened species may occur within the area, comprising 19 threatened flora species and 32 threatened fauna species; and
- 16 Migratory species may occur within the area.

Results of this search are presented in Appendix B and Table 3.1 shows the threatened terrestrial species identified in this search that may occur in the local area. Pelagic, shorebirds and marine species were omitted from this assessment given suitable habitat does not occur within or near the site. An assessment of the likelihood of presence on and / or near the subject site for all species listed in Table 3.1 based on results of the surveys is presented in Table 4.8 and Appendix D.

Table 3.1 EPBC Act Protected Matters Search Tool Results

Scientific Name	Common Name	Status*
Flora		
Arthraxon hispidus	Hairy-joint grass	V
Bosistoa transversa	Three-leaved Bosistoa	V
Bulbophyllum globuliforme	Hoop Pine Orchid	V
Corchorus cunninghamii	Native Jute	E
Cryptostylis hunteriana	Leafless Tongue-orchid	V
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	V
Dichanthium setosum	Bluegrass	V
Fontainea venosa		V
Macadamia integrifolia	Macadamia nut	V

Scientific Name	Common Name	Status*
Macadamia tetraphylla	Rough-shelled bush but	V
Notelaea ipsviciensis	Cooneana Olive	CE
Notelaea lloydii	Lloyd's Olive	V
Picris evae	Hawkweed	V
Planchonella eerwah	Shiny-leaved Condoo	E
Rhaponticum australe	Austral Cornflower	V
Rhodamnia rubescens	Scrub Turpentine	CE
Rhodomyrtus psidioides	Native Guava	CE
Samadera bidwillii	Quassia	V
Thesium australe	Austral toadflax	V
Birds		
Anthochaera phrygia	Regent honeyeater	CE
Botaurus poiciloptilus	Australasian bittern	E
Calidris ferruginea	Curlew sandpiper	CE, MWS
Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo	V
Charadrius leschenaultii	Greater sand plover	V, MWS
Climacteris picumnus victoriae	Brown Treecreeper	V
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	CE
Erythrotriorchis radiatus	Red goshawk	E
Falco hypoleucos	Grey Falcon	V
Geophaps scripta scripta	Squatter pigeon (southern)	V
Grantiella picta	Painted Honeyeater	V
Hirundapus caudacutus	White-throated needletail	V, MTS
Lathamus discolor	Swift parrot	CE
Numenius madagascariensis	Eastern curlew	CE, MWS
Rostratula australis	Australian painted-snipe	E
Stagonopleura guttata	Diamond Firetail	V
Turnix melanogaster	Black-breasted button-quail	V
Frogs		
Mixophyes fleayi	Fleay's frog	E
Insects		
Argynnis hyperbius inconstans	Australian fritillary	CE
Mammals		
Chalinolobus dwyeri	Large-eared pied bat	V
Dasyurus maculatus maculatus	Spot-tailed quoll	E
Macroderma gigas	Ghost bat	V
Petauroides volans	Greater glider	E
Petaurus australis australis	Yellow-bellied Glider (south-	V
Petrogale penicillata	Brush-tailed Rock-wallaby	V
Phascolarctos cinereus	Koala	E
Potorous tridactylus tridactylus	Long-nosed potoroo	V
Pseudomys novaehollandiae	New Holland Mouse	V
Pteropus poliocephalus	Grey-headed flying-fox	V
Reptiles		
Delma torquata	Adorned delma	V
Furina dunmalli	Dunmall's Snake	V

Scientific Name	Common Name	Status*
Hemiaspis damelii	Grey Snake	E
Migratory Species		
Apus pacificus	Fork-tailed Swift	MM
Actitis hypoleucos	Common sandpiper	MWS
Calidris acuminata	Sharp-tailed sandpiper	MWS
Calidris melanotos	Pectoral sandpiper	MWS
Cuculus optatus	Oriental cuckoo	V, MTS
Gallinago hardwickii	Latham's Snipe	MWS
Monarcha melanopsis	Black-faced monarch	MTS
Motacilla flava	Yellow Wagtail	MTS
Myiagra cyanoleuca	Satin flycatcher	MTS
Rhipidura rufifrons	Rufous fantail	MTS
Symposiachrus trivirgatus	Spectacled monarch	MTS
Tringa nebularia	Common greenshank	MWS

**As listed under the EPBC: CE = Critically Endangered, E = Endangered, V = Vulnerable, CD = Conservation Dependent, MTS = Migratory Terrestrial Species, MWS = Migratory Wetland, MM = Migratory Marine*

3.2 Matters of State Environmental Significance

Matters of state environmental significance (MSES) are a component of the biodiversity state interest that is defined under the State Planning Policy (SPP) and defined under the *Environmental Offsets Regulation 2014* (Offset Regulation). A summary of MSES that may occur within or close to the subject site based on State MSES mapping is listed in Table 3.2.

Matters that are mapped as potentially occurring within or near the subject site are further detailed in the following sections.

Table 3.2 MSES and potential presence on subject site

Matter	Mapped on/near site
1. Protected areas under the *Nature Conservation Act 1992* and *Marine Parks Act 2004*	No
2. Marine park (highly protected) *Marine Parks Act 2004*	No
3. Declared Fish Habitat Areas A&B under the *Fisheries Act 1994*	No
4. Strategic environmental area (designated precinct) *Regional Planning Interests Act 2014*	No
5. High Ecological Significance wetlands *Environmental Protection Act 1994*	No
6. Wetlands and watercourses in high ecological value waters identified in the *Environmental Protection (Water) Policy 2009*, Schedule 1	No
7. Wildlife Habitat for Endangered, Vulnerable and Special least concern wildlife under the Nature Conservation Act 1992 - includes SEQ koala habitat (core and locally refined)	**Yes**
8. Regulated Vegetation under the *Vegetation Management Act 1999* that is: **a. Category B areas on the regulated vegetation management map, that are 'endangered' and 'of concern' regional ecosystems** **b. Category C areas on the regulated vegetation management map that are 'endangered' and 'of concern' regional ecosystems** c. Category R areas on the regulated vegetation management map	**Yes (a, b, d and e)**

Matter	Mapped on/near site
d. Areas of Essential Habitat on the essential habitat map for an animal that is 'endangered wildlife' or 'vulnerable wildlife' or a plant that is 'endangered wildlife' or 'vulnerable wildlife' wildlife prescribed as **e. Defined watercourse: Category A,B,C,R areas that are located within a defined distance from the defining banks of a relevant watercourse identified on the vegetation management watercourse and drainage feature map** **f.** Wetland: Category A,B,C,R areas that are located within 100 metres from the defining bank of a wetland identified on the vegetation management wetlands map.	
9. Legally secured offsets as defined under the *Environmental Offsets Act 2014*	No
10. Marine plants under the *Fisheries Act 1994* (excluding marine plants in an urban area)	Maps not available for this matter however marine plants are not expected at the subject site
11. Waterways that provide for fish passage under the *Fisheries Act 1994* (excluding waterways providing for fish passage in an urban area)	No
12. High risk area on the flora survey trigger map as described by the *Environmental Offsets Regulation 2014*, schedule 2, part6(1)	No

3.2.1 Threatened Flora and Threatened and Special Least Concern Fauna - *Nature Conservation Act 1992*

Threatened and Special Least Concern wildlife under the *Nature Conservation Act 1992* (NCA) include species listed as Critically Endangered (CR), Endangered (E), Vulnerable (V), Near Threatened (NT; collectively 'EVNT' species) or Special Least concern ('SL') under the NCA.

To determine what flora and fauna species were likely to occur on or near the site, the Wildlife Online database was queried using a limited search area with a radius of 2km from the centre of the site (-27.9004, 153.0382). The search results provide an indication of wildlife that typically frequent the local area including any EVNT flora species and / or EVNT/SL fauna species.

The Wildlife Online database query identified 13 species of flora were identified within 2km of the site, none of which are listed as EVNT. Forty-six (46) species of fauna have been recorded within a 2km radius of the site, comprising 45 native species and one (1) introduced species (Appendix B). The records also included one (1) EVNT species as listed in Table 3.3.

Table 3.3 Threatened wildlife potentially occurring within or near the subject site

Scientific Name	Common Name	NCA	EPBC
Phascolarctos cinereus	koala	E	E#

Status:
NCA = As listed under the *Queensland Nature Conservation Act 1992*: CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SL = Special Least Concern.
EPBC = As listed within the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*: CE# = Critically Endangered, E# = Endangered, V# = Vulnerable, CD# = Conservation Dependent

3.2.2 Koala Protection Framework

The Koala (*Phascolarctos cinereus*) is listed in Queensland as vulnerable under the NCA. The new Koala Protection Framework (KPF), administered by DES, is comprised of the *Nature Conservation Act 1992*, the *Nature Conservation (Animals) Regulation 2020*, the *Nature Conservation (Koala) Conservation Plan 2017*, the *Planning Act 2016* and the *Planning Regulation 2017*.

Under this framework, Koala Protection Areas (KPA) and Koala Habitat Areas (KHA) have been mapped in south east Qld. KPAs are large, connected areas that contain both Koala habitat and restoration areas that will focus efforts for habitat protection, habitat restoration and threat mitigation actions to areas that have the highest likelihood of achieving conservation outcomes for Koalas. Clearing KHA in a KPA is prohibited. Outside of a KPA, approval is required to clear KHA unless the clearing meets certain exemptions. Clearing of Koala habitat is assessed against State Code 25.

The Koala Habitat Area mapping indicates that the site is not within a Koala Priority Area but does contain 15.60ha of Koala Habitat Area (Figure 3.1).

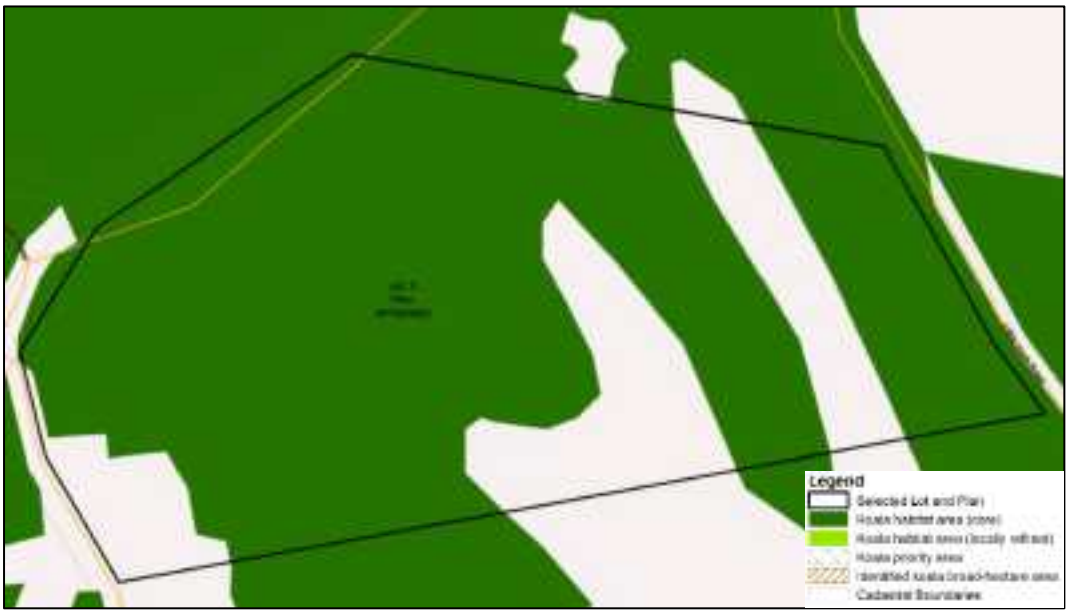


Figure 3.1 Koala Habitat Areas within and close to the site (Department of Resources, 2022)

3.2.3 Regulated Vegetation - *Vegetation Management Act 1999*

The *Vegetation Management Act 1999* (VMA), the *Vegetation Management Regulation 2012*, the *Planning Act 2016* and the *Planning Regulation 2017*, in conjunction with associated policies and codes, form the Vegetation Management Framework. This framework regulates the clearing of vegetation across Queensland mapped as remnant or regrowth. The purpose of the VMA is mainly achieved through the classification of vegetation units and defining permissible clearing for each unit in accordance with its level of significance.

The Regulated Vegetation Map (RVM) for the subject site indicates that the majority of the site is mapped as Category C High Value Regrowth Vegetation (18.98ha), with a small area northwest of the site mapped as Category B Remnant Vegetation (0.07ha) and the balance mapped as Category X Non-Remnant Vegetation (0.91ha). The site's Category B Remnant Vegetation comprises Least Concern RE 12.9-10.2 (7.73 ha), Of Concern RE 12.9-10.16 (4.03ha), Of Concern RE 12.9-10.3 (3.94ha) and Of Concern RE 12.9-10.7 (3.28ha). The site's Category B Remnant Vegetation Comprises Least Concern RE 12.9-10.2 (0.07 ha). Category B and C Of Concern regulated vegetation are MSES.

The VMS map indicates that there are a few waterways on-site mapped as Vegetation Management Watercourses.

The VMS map also indicates that the site's Remnant Vegetation is Essential Habitat for the *Phascolarctos cinereus* (Koala) - threatened fauna species under the NCA and therefore MSES.

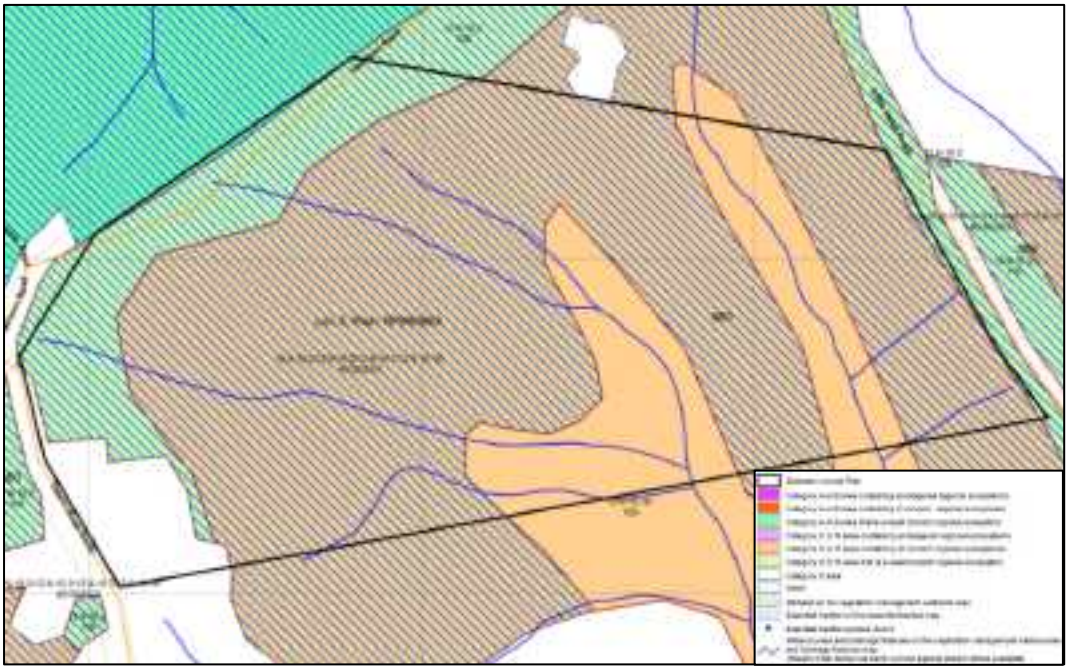


Figure 3.2 Vegetation Management Supporting Map (Department of Resources 2023)

Table 3.4 Regional ecosystems present on subject site

Regional Ecosystem	VMA Status	Category	Area (ha)	Short Description	Structure Category
12.9-10.16	Of concern	C	4.03	Araucarian microphyll to notophyll vine forest on Cainozoic and Mesozoic sediments	Dense
12.9-10.2	Least concern	B	0.07	*Corymbia citriodora* subsp. *variegata* +/- *Eucalyptus crebra* open forest on sedimentary rocks	Mid-dense
12.9-10.2	Least concern	C	7.73	*Corymbia citriodora* subsp. *variegata* +/- *Eucalyptus crebra* open forest on sedimentary rocks	Mid-dense
12.9-10.3	Of concern	C	3.94	*Eucalyptus moluccana* open forest on sedimentary rocks	Mid-dense
12.9-10.7	Of concern	C	3.28	*Eucalyptus crebra* +/- *E. tereticornis, Corymbia tessellaris, Angophora spp*. and *E. melanophloia* woodland on sedimentary rocks	Sparce
Non-rem	None	X	0.91	None	None

3.3 Matters of Local Environmental Significance - Logan Planning Scheme 2015

The following sections discuss the applicable environmental overlays under the *Logan Planning Scheme 2015*.

3.3.1 Biodiversity Areas - Overlay Map OM-02.00

The *Logan Planning Scheme 2015, Version 9* Biodiversity areas overlay encompasses several state and local level environmental interests which seek to ensure the conservation of rare or threatened flora and fauna species and of ecosystems which are poorly conserved at the regional level. It also promotes the adoption of land use practices and environmental design measures that support the conservation and enhancement of the city's biological diversity.

The core principles of this planning instrument aim to ensure that development contributes to the protection and enhancement of a viable biodiversity area network, including habitat values, ecosystem functions and scenic amenity values.

The Biodiversity Areas Overlay Biodiversity Trigger Area (OM-02.00) Map indicates that the site falls within the Biodiversity Trigger Area. Under the Planning Scheme Policy 3 – Environmental Management SC6.2.3, an ecological assessment must be prepared for the site where development is on land that falls within this trigger area.

Under Part 8 of the Planning Scheme, the Biodiversity Areas overlay indicates the site is constrained by:

- OM-02.01 Vegetation Management Areas;
- OM-02.03 Locally significant vegetation types;
- OM-02.04 Matters of Environmental Significance.

3.3.2 Vegetation Management Areas – Overlay Map OM-02.01

The Vegetation Management overlay map identifies areas of primary and secondary vegetation within the Logan City Council local government area.

Primary vegetation management areas identify areas in which all native vegetation is protected. Logan City Council classes native vegetation as *"a bush, a shrub, a grass or other vascular plant and includes any part of a tree, a bush, a shrub, a grass or other vascular plant that is indigenous to Australia."*

All native trees and native habitat trees are protected within *Secondary vegetation management area*s.

Definitions of native trees and native habitat trees as recognised by Logan City Council as provided in Table 3.5.

Table 3.5 Logan City Council Native Tree Definitions

Native Tree	Native Habitat Tree
A tree, whether dead or alive, that is indigenous to Australia: • Greater than 4 metres in height; or • With a trunk circumference of 31.5 centimetres or greater measured at 1.3 metres from the ground.	A tree, whether dead or alive, that is indigenous to Australia: • With a trunk circumference of 220 centimetres or more measured at 1.3 metres above ground level; or • That contains a hollow.

The overlay map for Vegetation Management Areas (OM-02.01) indicates that the majority of the site is within a Secondary Vegetation Management Area, with Primary Vegetation Management Areas mapped within the eastern portion of the site (Figure 3.3).

Figure 3.3 Vegetation Management Areas Overlay 7 (Logan Planning Scheme 2015 v9)

3.3.3 Locally Significant Vegetation Types – Overlay Map OM-02.03

Locally significant vegetation areas identified on the Biodiversity areas overlay map OM-02.03 protects *Melaleuca irbyana*, vine forest, *Gossia gonoclada* and significant remnant vegetation areas from:

- encroachment;
- edge effects.

The Locally Significant Vegetation Types overlay maps indicate that Locally significant Vine Forest areas are present in the east of the site.

Figure 3.4 Locally significant vegetation types Overlay OM-02.03 (Logan Planning Scheme 2015 v9)

3.3.4 Matters of Environmental Significance – Overlay Map OM-02.04

The Matters of State and Local Environmental Significance overlay map (OM-02.04) identifies the recorded locations of, and habitat for, city-wide conservation significance species.

The environmental significance overlay maps indicate that both Matters of State and Local Environmental Significance are present on the site. The majority of the site is mapped as containing Matters of State Environmental Significance. Matters of Local Environmental Significance are present mostly within the west portion of the site (Figure 3.5).

Figure 3.5 Matters of Environmental Significance Overlay OM-02.04 (Logan Planning Scheme 2015 v9)

3.3.5 Ecological Significance Mapping

Under Part 3 of SC6.2.3 Policy 3 – Environmental Management of the *Logan Planning Scheme 2015*, environmental impacts of developments which cannot be avoided or minimised may be offset to achieve a net gain in biodiversity and ecosystem values within the local government area. The governing body applies a numerical index system based on ecological features to calculate the overall ecological values applicable to a development site.

"The ecological index of a premise, clearing site or offset site is the sum of its ecological values expressed per unit area (hectare). The local government will calculate the ecological index and provide an ecological index certificate."

The Ecological Significance map for the site (Figure 3.6) indicates the majority of the site has an ecological significance value >12 and ≤22, with areas classified with an ecological value as>0 and ≤12 and a small portion within the mapped waterway on the southern boundary classified with an ecological value as>22 and ≤32.

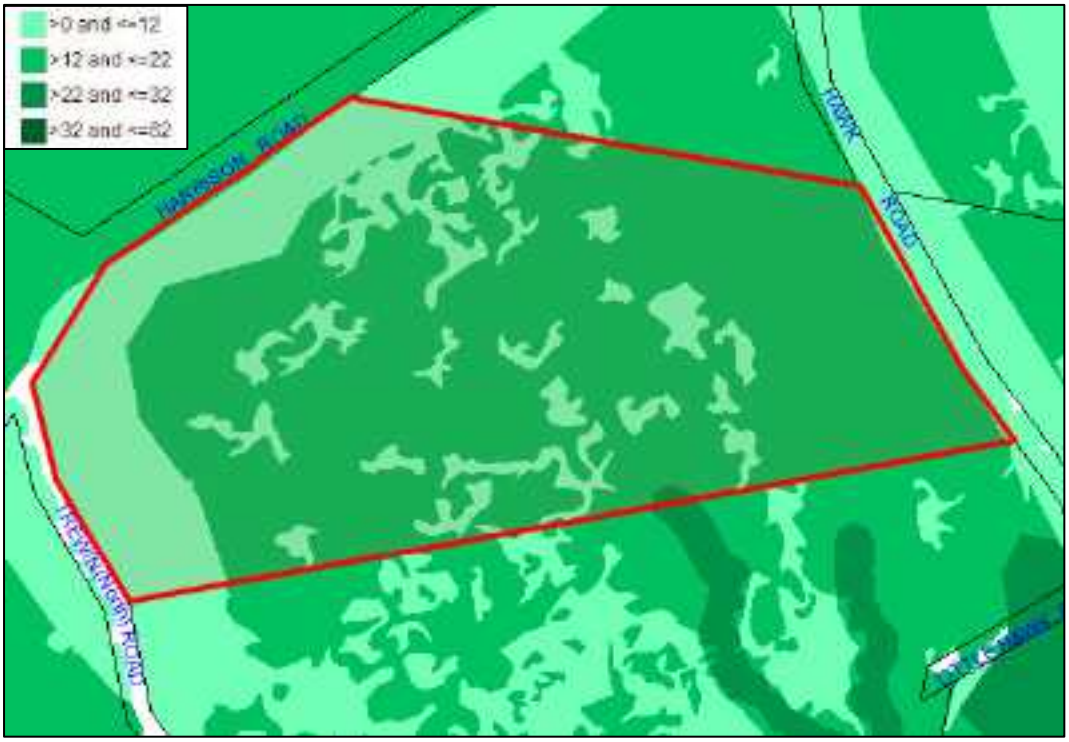


Figure 3.6 Ecological Significance Map (Logan Planning Scheme 2015 v9)

3.3.6 Waterway Corridors and Wetlands Trigger

The Waterway Corridors and Wetlands Trigger indicates that a waterway corridor trigger is present in the site's southern boundary. The site does not contain any mapped wetland area trigger.

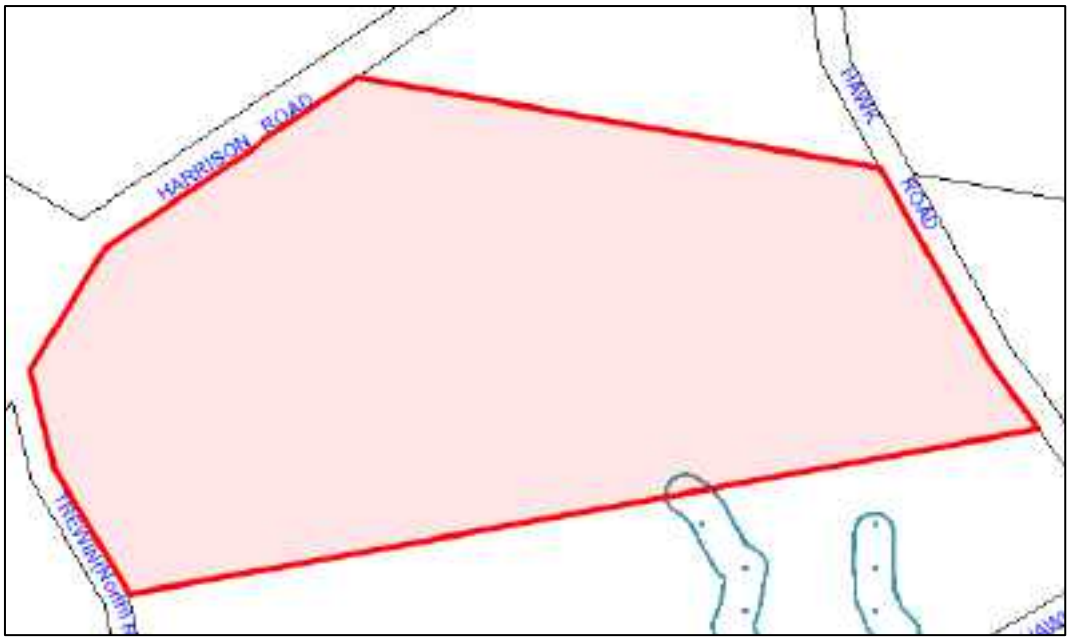


Figure 3.7 Waterway Corridor Mapping (Logan Planning Scheme 2015 v9)

4. Field Surveys

4.1 Flora Survey Methods

To ground-truth the information obtained through the desktop assessment, Burchills ecologists undertook field surveys within the subject site during July 2023. Where relevant, observations regarding floristic values outside the survey area were also recorded.

The survey methodology was consistent with the Queensland Herbarium's *Methodology for survey and mapping of regional ecosystems and vegetation communities in Queensland* v.6 (Neldner et al., 2022) and consisted of an initial visual audit followed by a quantitative assessment of vegetation associations and communities.

The initial visual audit consisted of a random meander over the site to ground-truth desktop investigations. Survey site locations were determined based on information obtained from the initial visual audit.

Quantitative assessments were undertaken by collecting data associated with structural formations (i.e. growth form, stratum intervals, crown cover and height) and floristic associations (i.e. species diversity) for each broad vegetation type.

Unless otherwise noted, all quantitative observations were recorded as follows:

- Single point locations (except tree locations) – positions were estimated based on inferences from survey data, landform elements and / or aerial photography;
- Growth form – determined in accordance with pp 88-93 Hnatiuk et al. (2009);
- Stratum intervals – determined by recording the median height of each stratum using a hand-held clinometer. Strata were defined in accordance with Table 4.1 which is summarised from Hnatiuk *et al.* (2009); and
- Stratum cover – determined using a field estimation of crown cover in accordance with Table 4.2 which is reproduced from Hnatiuk *et al.* (2009).

Table 4.1 Criteria for Defining Vegetation Strata*

Stratum	Description
Emergent	Tallest plants in vegetation associations / communities that are so sparsely distributed that they do not form the dominant or most significant layer (e.g. large trees that rise above a distinct canopy layer).
Dominant or Upper Stratum	In most cases the tallest stratum will be the dominant stratum (i.e. except when emergents are present).
Mid-stratum	If present, this stratum is between the dominant (upper) stratum and the ground stratum. There are no pre-conceived height limits for this stratum. Where multiple strata are present between the dominant (upper) stratum and the ground stratum, the mid-stratum can be subdivided in order of decreasing height (i.e. the highest mid-stratum is termed Mid-stratum 1, the next highest mid-stratum is termed Mid-stratum 2 etc).
Ground stratum	Typically consists of herbaceous ferns, forbs and graminoids; although can also include juvenile species from other strata. The ground stratum can also be the dominant stratum (e.g. where grass cover is closed and trees are very sparse). There are no pre-conceived height limits for this stratum; however, it is usually less than 2.0 m tall.

*Table summarised from Hnatiuk et al. (2009).

Table 4.2 Crown Cover Classes

Criteria Assessed in Field	Description	Crown Separation Ratio	Crown Cover (%)	Foliage Cover (%)
Crowns touching to overlapping	Closed or Dense	<0*	>80	>70
Crowns touching or slightly separated	Mid Dense	0-0.25	50-80	30-70
Crowns clearly separated	Sparse or Open	0.25-1	20-50	10-30
Crowns well separated	Very Sparse	1-20	0.25-20	0.2-10
Isolated plants (trees approximately 100m apart; shrubs approximately 20m apart)	Isolated Plants	>20	<0.25	<0.20
Isolated clumps of two (2) to many plants approximately 200m apart	Isolated Clumps	>20	<0.25	<0.20
Emergent	Emergents	>3	<5 % total crown cover	<3% of total foliage cover

Where crown overlap occurs, the crown ratio has a negative value: the larger the negative value, the greater the overlap. Table reproduced from Table 17 in Hnatiuk et al. (2009).

4.1.1 Taxonomy and Nomenclature

Application of flora scientific names in this report follows the *Queensland Flora Census* (DES, 2022). Use of an asterisk (*) indicates the species is not native to Queensland or the local area.

4.2 Flora Survey Results

Site flora and fauna surveys were undertaken in July 2023. A total of 33 species of flora were identified within the site, comprising 23 native species and 10 non-native species including one (1) weed species declared as a Restricted Invasive Plant under the Qld *Biosecurity Act 2014* (Appendix C).

No flora species of conservation significance under the NCA or EPBC Act were detected on the subject site.

One (1) vegetation association was identified on the site classified as follows and as shown in Figure 4.1:

- Vegetation Community A – Regrowth *Corymbia citriodora* subsp. *variegata* Open Forest.

The balance of the investigation area, within the road reserve and long powerline easements, were cleared and devoid of native vegetation.

The results of the flora survey are described in the following sections. A complete flora survey species list is provided in Appendix C.

HT1

HT2

HT3

9 Trewin Road North, Mundoolun

Figure 4.1

Vegetation Communities

Area of Interest within the Logan City LGA

Legend

- Site Boundary
- Investigation Area
- Vegetation Community A
- Habitat Trees

Project: BE230285
Date: 19-07-2023
Scale: 1:650 at A3
Projection: GDA 94/MGA Zone 56
Data Sources: Queensland Department of Resources (2023), MetroMap (2023)

BURCHILLS ENGINEERING SOLUTIONS

4.2.1 Vegetation Community A – Regrowth *Corymbia citriodora* subsp. *variegata* Open Forest

Vegetation Community A was present throughout the majority of the investigation area. The results of the quantitative assessments and floristic formations are listed in Table 4.3 and Table 4.4.

Table 4.3 Vegetation Community A Quantitative Assessments

Stratum†	Growth Form	Crown Cover (%)	Stratum Height Range (m)	Stratum Median Height (m)
Upper	Tree	5	14-20	16
Mid1	Tree/Shrub	60	4-10	8
Mid2	Shrub	60	1-4	1.5
Ground	Graminoid	80	0-1	0.5

†Strata that were not present have been omitted.

Table 4.4 Vegetation Community A Floristic Formation

Stratum†	Species
Upper	*Corymbia citriodora* subsp. *variegata* (Spotted gum), *Eucalyptus crebra* (Narrow-leaved red ironbark), *Eucalyptus moluccana* (Gum-topped box)
Mid 1	*Corymbia citriodora* subsp. *variegata* (Spotted gum), *Eucalyptus crebra* (Narrow-leaved red ironbark), *Lophostemon confertus* (Brush box), *Eucalyptus moluccana* (Gum-topped box)
Mid 2	*Corymbia citriodora* subsp. *variegata* (Spotted gum), *Acacia fimbriata (Brisbane wattle), Lophostemon confertus* (Brush box), *Acacia disparrima susbsp. disparrima* (Hickory wattle), *Acacia podalyriifolia* (Silver wattle), *Eucalyptus crebra* (Narrow-leaved red ironbark), *Alphitonia excelsa* (Red ash), *Acacia maidenii* (Maiden's wattle), *Allocasuarina littoralis* (Black she-oak), *Jacksonia scoparia* (Dogwood), *Corymbia torreliana** (Cadaghi), *Heptapleurum actinophyllum* (Umbrella tree)
Ground	*Themeda triandra* (Kangaroo grass), *Cymbopogon refractus* (Barbed wire grass), *Panicum effusum* (Hairy panic), *Imperata cylindrica* (Blady grass), *Lepidospermum laterale* (Variable swordsdedge), *Xanthorrhoea johnsonii* (Grass tree), *Cirsium vulgare* (Spear thistle), *Dianella caerulea* (Blue flax lily), *Eragrostis brownie* (Lovegrass), *Goodenia rotundifolia* (Star goodenia), *Glycine clandestine* (Twining glycine), *Cynodon dactylon* (Common couch), *Myoporum acuminatum* (Boobialla), *Bryophyllum fedtschenkoi** (Lavender scallops), *Lantana camara** (Lantana), *Setaria sphacelata** (South African pigeon grass), *Emilia sonchifolia* (Emilia), *Sansevieria trifasciata* (Mother in law's tongue), *Agave spp.* (Agave), *Bidens pilosa* (Cobbler's pegs)

†Species are listed in order of dominance. * Non-native

Variation and Disturbance

Canopy trees were generally sparse and limited to a small number of mature retained trees within both the road reserve and bounds of the site. Mid strata density varied throughout this vegetation association, being mostly mid-dense throughout and sparse in areas subject to ongoing maintenance (e.g. within the road reserve). This vegetation association has suffered significant historical disturbance through historical clearing, ongoing maintenance in some areas and weed incursion.

Conservation Significance

The canopy and upper mid stratum floristics reflect the preclearing RE 12.9-10.2, however the structure (height and cover) do not meet the benchmarks to be considered remnant vegetation. The conditions of this vegetation community generally meet the criteria to be considered 'High Value Regrowth'. No flora species of conservation significance were recorded in this association. One (1) Special Least Concern species, *Xanthorrhoea johnsonii* (Grass tree) was present throughout this vegetation association.

Figure 4.2 Vegetation Community A in location of proposed telecommunications facility

Figure 4.3 Vegetation Community A – looking west to east uphill to proposed telecommunications facility location

Figure 4.4 Cleared areas along road, powerline easement and existing telecommunications facility

4.2.2 Conservation Significant Flora

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

- Scheduled as Critically Endangered, Endangered, Vulnerable or Conservation Dependent under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act); and / or
- Scheduled as Endangered, Vulnerable, or Near Threatened under the Queensland *Nature Conservation Act 1992* (NCA).

No conservation significant species of flora were recorded during surveys.

4.2.3 Weed Infestations

For the purposes of this report, a weed has been defined as a species that is not native to the Logan City local government area and is recognised as an invasive species in southeast Queensland by the Qld Herbarium (Batianoff & Butler 2002).

A total of 10 invasive weeds were recorded on the subject site during surveys including one (1) species listed as Restricted Invasive Plants (RIP) under the Qld *Biosecurity Act 2014* (Table 4.5). No serious infestations of weeds were observed.

Table 4.5 Weeds Observed On-Site

Family	Scientific Name	Common Name	Qld Status*
Agavaceae	*Agave spp.*	Agave	
Araliaceae	*Heptapleurum actionophyllum*	Umbrella tree	
Asteraceae	*Bidens pilosa*	Cobbler's pegs	

Family	Scientific Name	Common Name	Qld Status*
Asteraceae	*Cirsium vulgare*	Spear thistle	
Asteraceae	*Emilia sonchifolia*	Emilia	
Crassulaceae	*Bryophyllum fedtschenkoi*	Lavender scallops	
Dracaenaceae	*Sansevieri trifasciata*	Mother in law's tongue	
Myrtaceae	*Corymbia torreliana*	Cadaghi	
Poaceae	*Setaria sphacelata*	South African pigeon grass	
Verbenaceae	*Lantana camara*	Lantana	RIP

*Qld Status per the *Biosecurity Act 2014,* where:

RIP = Restricted invasive plants must not be given away, sold or released into the environment without a permit. The Biosecurity Act requires everyone to take all reasonable and practical steps to minimise the risks associated with invasive plants under their control. At a local level, each local government must have a biosecurity plan that covers invasive plants and animals in its area. This plan may include actions to be taken on certain species. Some of these actions may be required under local laws.

4.3 Fauna Survey Methods

With consideration given to the information obtained within the desktop assessment Burchills ecologists undertook fauna surveys over the site in July 2023.

The survey methodology incorporated the following survey techniques:

- Assessment of habitat features and functions;
- Opportunistic records and observations of inferential evidence.
- Diurnal bird surveys;
- Ground dwelling reptile surveys; and
- Targeted Conservation Significant Species surveys.

4.3.1 Fauna Habitat Features and Functions

The site was surveyed to verify presence of any features and functions of faunal habitat significance. This can include significant features such as hollow-bearing trees, waterways / wetlands and riparian areas and functions such as corridors and buffers.

4.3.2 Opportunistic Observations and Inferential Evidence

Observations of inferential evidence and opportunistic fauna encounters were recorded throughout the duration of the flora survey. Inferential evidence included observation of scratches, scats, tracks, shed skins, diggings and nests, as well as targeted inspected and searches for potential habitat features such as hollow bearing limbs and trunks, arboreal termite mounds with holes, stick or mud nests and dreys.

4.3.3 Diurnal Bird Surveys

Diurnal bird surveys were undertaken within the site for one (1) hour by one (1) observer. Surveys were undertaken in mid-afternoon. Bird species were identified through direct observations (i.e. visual sighting) and / or vocalisations and involved the observer walking slowly and quietly through the site, looking and listening for birds.

4.3.4 Survey Limitations

It should be noted that the fauna survey that was undertaken only provides a very limited 'snap-shot' of the species present and detectable on the subject site at the time of the field investigations. Weather and time

constraints impact on the detectability of some species. Failure to detect a species during a single survey does not mean it is absent from the site. It cannot be confidently claimed a target species is absent from a site without repeated seasonal surveys. Therefore, it is acknowledged that the full inventory of fauna species utilising the site is unlikely to have been recorded. Although assessments of habitat and species ecology do provide an additional measure to predict the presence of species (i.e. in lieu of direct observation), it should be noted that there are no methodologies that can be used to predict, with absolute certainty, the absence of a species from marginal or potential habitat.

Where relevant, observations regarding fauna habitat values on adjacent sites were also recorded. However, as permission for access to adjacent sites had not been secured, observations of fauna habitat values external to the site were limited to those that were discernible from within the subject site and / or from publicly accessible land. Notwithstanding the above, the survey effort conducted provides a level of fauna assessment that is consistent with the requirements associated with the preparation of an Ecological Assessment.

4.4 Fauna Survey Results

Thirteen (13) species of fauna were observed on the subject site, including one (1) reptile species, nine (9) bird species and three (3) mammals. All species observed were native, with the exception of domestic dog.

No conservation significant fauna species were detected within the site (Table 4.6). These results are discussed further in the following sections.

4.4.1 Reptiles

One (1) reptile species was observed during field surveys: *Lampropholis delicata* (Grass skink). This species are ubiquitous on the in rural and semi-rural areas, commonly found in most terrestrial environments.

4.4.2 Birds

All nine (9) bird species observed on-site were native, with no EVNT or SL avifauna were detected. The site's conditions provide shelter, foraging and breeding opportunities for species with broad habitat requirements, that are disturbance-tolerant.

4.4.3 Mammals

Two (2) common native mammal species were observed on the site: *Macropus giganteus* (Eastern grey kangaroo) and *Thylogale thetis* (Red-necked pademelon). These species are generalists with broad habitat requirements. Evidence of one (1) introduced mammal species, *Canis familiaris* (Domestic dog) was observed, likely entering the site from neighbouring properties.

Table 4.6 Fauna Species Identified On-Site

Scientific Name	Common Name	Family	Status	Method	Location	Survey Type
Reptiles						
Lampropholis delicata	Grass skink	Scincidae	C	V	W	OO
Birds						
Corvus orru	Torresian crow	Corvidae	C	V	W	DBS
Malurus lamberti	Variegated fairy wren	Maluridae	C	V	W	DBS
Malurus melanocephalus	Red-backed fairy wren	Maluridae	C	V	W	DBS
Manorina melanocephala	Noisy miner	Meliphagidae	C	V	W	DBS
Rhipidura leucophrys	Willie wagtail	Dicruridae	C	V	W	DBS
Threskiornis Molucca	Australian white ibis	Threskiornithidae	C	V	W	DBS
Trichoglossus moluccanus	Rainbow lorikeet	Psittacidae	C	V	W	DBS
Taeniopygia bichenovii	Double-barred finch	Estrildidae	C	V	W	DBS
Rhipidura albiscapa	Grey fantail	Rhipiduridae	C	V	W	DBS
Mammals						
Canis familiaris domesticus	Dog	Canidae	I	S	W	OO
Macropus giganteus	Eastern grey kangaroo	Macropodidae	C	V	W	OO
Thylogale thetis	Red-necked pademelon	Macropodidae	C	V	W	OO

*Status: As listed under the NCA: CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SL = Special Least Concern, C = Least Concern.

As listed under the EPBC: CE# = Critically Endangered, E# = Endangered, V# = Vulnerable, CD# = Conservation Dependent, MT = Migratory (Terrestrial Species), MW = Migratory (Wetland Species), M = Marine Species, I# = Introduced Species

**Primary method of identification: C = hand caught, H = heard, V = visually observed, T = trapped, S = other signs of presence (e.g. scats, traces etc).

†Survey type: DBS = bird survey; NS = Nocturnal survey; GDRS = ground dwelling reptile survey; OO = opportunistic observation.

††Location: W = species observed within subject property; E = species observed external but close (within 100m) to subject site.

4.4.4 Habitat Trees

The Logan Planning Scheme defined Habitat Trees are as "*a tree, whether dead or alive, that is indigenous to Australia with a trunk circumference of 220 centimetres or more measured at 1.3 metres above ground level, or that contains a hollow*".

Three (3) trees meeting this definition were observed on the site (Table 4.7).

Table 4.7 Habitat Tree Present On-Site

ID	Species Name	Common Name	DBH	Habitat feature
HT1	*Eucalyptus moluccana*	Gum-topped box	65	Hollows
HT2	*Corymbia citriodora subsp. variegata*	Spotted gum	80	Hollows, diameter
HT3	Stag		80	Hollows, diameter

4.4.5 Conservation Significant Fauna Species

No species scheduled as Endangered, Vulnerable or Near Threatened (EVNT) under the Queensland NCA and / or Commonwealth EPBC Act were observed within the subject site during surveys.

Table 4.8 presents the results of an assessment of the likelihood of presence of conservation significant fauna species identified by the desktop analysis based on the results of the field surveys. Three (3) conservation significant species are identified as possibly occurring within the subject site based on presence of suitable habitat and / or foraging resources. The complete results for this analysis including a description of habitat requirements for each species are presented in Appendix D.

Table 4.8 Expected and Observed Conservation Significant Fauna Species within Subject Site

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Actitis hypoleucos	Common sandpiper	MWS	**UNLIKELY**
Anthochaera phrygia	Regent honeyeater	CE	**UNLIKELY**
Apus pacificus	Fork-tailed Swift	MM	**UNLIKELY**
Argynnis hyperbius inconstans	Australian fritillary	CE	**UNLIKELY**
Botaurus poiciloptilus	Australasian bittern	E	**UNLIKELY**
Calidris acuminata	Sharp-tailed sandpiper	MWS, SL	**UNLIKELY**
Calidris ferruginea	Curlew sandpiper	CE, MWS	**UNLIKELY**
Calidris melanotos	Pectoral sandpiper	MWS	**UNLIKELY**
Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo	V	**UNLIKELY**
Chalinolobus dwyeri	Large-eared pied bat	V	**UNLIKELY**
Charadrius leschenaultii	Greater sand plover	V, MWS	**UNLIKELY**
Climacteris picumnus victoriae	Brown Treecreeper	V	**UNLIKELY**
Cuculus optatus	Oriental cuckoo	MTS, SL	**UNLIKELY**
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	CE	**UNLIKELY**
Dasyurus maculatus maculatus	Spot-tailed quoll	E	**UNLIKELY**
Delma torquata	Adorned delma	V	**UNLIKELY**
Erythrotriorchis radiatus	Red goshawk	E, E	**UNLIKELY**

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Falco hypoleucos	Grey Falcon	V	**UNLIKELY**
Furina dunmalli	Dunmall's Snake	V	**UNLIKELY**
Gallinago hardwickii	Latham's Snipe	MWS	**UNLIKELY**
Geophaps scripta scripta	Squatter pigeon (southern)	V	**UNLIKELY**
Grantiella picta	Painted Honeyeater	V	**UNLIKELY**
Hemiaspis damelii	Grey Snake	E	**UNLIKELY**
Hirundapus caudacutus	White-throated needletail	V, V#, MTS	**POSSIBLE**
Lathamus discolor	Swift parrot	CE	**UNLIKELY**
Macroderma gigas	Ghost bat	V	**UNLIKELY**
Mixophyes fleayi	Fleay's frog	E	**UNLIKELY**
Monarcha melanopsis	Black-faced monarch	MTS, SL	**UNLIKELY**
Motacilla flava	Yellow Wagtail	MTS	**UNLIKELY**
Myiagra cyanoleuca	Satin flycatcher	MTS	**UNLIKELY**
Numenius madagascariensis	Eastern curlew	CE, MWS	**UNLIKELY**
Petauroides volans	Greater glider	V	**UNLIKELY**
Petaurus australis australis	Yellow-bellied Glider (south-eastern)	V	**UNLIKELY**
Petrogale penicillata	Brush-tailed Rock-wallaby	V	**UNLIKELY**
Phascolarctos cinereus	Koala	E, E#	**POSSIBLE**
Potorous tridactylus tridactylus	Long-nosed potoroo	V	**UNLIKELY**
Pseudomys novaehollandiae	New Holland Mouse	V	**UNLIKELY**
Pteropus poliocephalus	Grey-headed flying-fox	V	**POSSIBLE**
Rhipidura rufifrons	Rufous fantail	MTS	**UNLIKELY**
Rostratula australis	Australian painted-snipe	E	**UNLIKELY**
Stagonopleura guttata	Diamond Firetail	V	**UNLIKELY**
Symposiachrus trivirgatus	Spectacled monarch	MTS	**UNLIKELY**
Tringa nebularia	Common greenshank	MWS, SL	**UNLIKELY**
Turnix melanogaster	Black-breasted button-quail	V	**UNLIKELY**

*Status: As listed within the Queensland *Nature Conservation Act 1992*): CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SL = Special Least Concern, C = Least Concern. As listed in the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*: CE# = Critically Endangered, E# = Endangered, V# = Vulnerable, CD# = Conservation Dependent, MT = Migratory (Terrestrial Species), MW = Migratory (Wetland Species), M = Marine Species

5. Impacts and Recommendations

5.1 Impacts on Matters of National Environmental Significance

The results of the desktop surveys and field investigations indicate that the proposed development is unlikely to result in a significant impact on values identified as matters of national environmental significance (MNES) so referral for a controlled action to the Commonwealth is not required. Further details regarding the likelihood of occurrence of EVNT species is provided in Table 4.8 and Appendix D.

5.2 Impacts on Matters of State Environmental Significance

5.2.1 Impacts on Regulated Vegetation

The proposed works are within an area mapped as Category C High Value Regrowth Vegetation of RE 12.9-10.2. Site surveys found that the on-ground floristics and structure of this vegetation were consistent with this classification, however the extent differed from what is mapped (compare Figure 3.2 and Appendix B to Figure 4.1).

The proposed works comprise necessary built infrastructure that requires less than 2ha of clearing, and therefore meets the criteria to be considered Exempt Clearing Work under the *Planning Regulation 2017*. Furthermore, the works meet the requirements of the *Accepted Development Vegetation Clearing Code – Clearing for Infrastructure* (ADVCC), as a telecommunications facility meets the definition of 'non-linear infrastructure' and the clearing is less than 2ha in area and is not within a riparian zone.

5.2.2 Impacts on Threatened Wildlife

Threatened wildlife under the NCA (EVNT) and Special Least Concern (SL) fauna under the *Nature Conservation (Animals) Regulation 2020* are defined as MSES under the Qld SPP and Offset Regulation. The results of the desktop review indicate that three (3) EVNT fauna may occur on the site based on nearby historical records. The field surveys did not detect koala activity within the site and no other EVNT / SL fauna were detected during the surveys. Further details regarding the likelihood of occurrence of EVNT species is provided in Table 4.8 and Appendix D.

5.2.3 Impacts on Koala Habitat

The majority of the site is mapped with Core Koala Habitat Areas. Including the entirety of the proposed impact area. Under the Qld *Planning Act 2016* and the Qld Koala Protection Framework, impacts on Koala Habitat Areas require referral to State unless these impacts meet certain exemptions.

Exempted development (that is the interfering with koala habitat), as defined in Schedule 24 of the *Planning Regulation 2017*, includes impacts of 500m² or less under the ADVCC for non-linear infrastructure. The proposed clearing works are required to facilitate a telecommunications facility, therefore meeting the definition of 'non-linear infrastructure'. It has been determined that the total impact area of 406m², as shown in Figure 5.1, meet the exemptions outlined above and therefore no referral to SARA is required for this application.

Earth Mount

Tower and Compound

10m Essential Management Clearing around Tower and Compound

Carpark

9 Trewin Road North, Mundoolun

Figure 5.1

Koala Habitat Impacts

N

Area of Interest within the Logan City LGA

Legend

- Site Boundary
- Investigation Area
- Core Koala Habitat Area
- Exempt Development - 5m Buffer Along Existing Boundary
- Infrastructure - 38m² Impact on Koala Habitat (not including existing Exempted Development allowance of 5m along boundary)
- 10m Essential Management Clearing for Asset Protection Zone around Tower and Compound - 368m² Impact on Koala Habitat (outside of Proposed Infrastructure and not including existing Exempted Development allowance of 5m along boundary)

Total Impact on Core Koala Habitat Area - 406m²

Project: BE230285
Date: 14-08-2023
Scale: 1:250 at A3
Projection: GDA 94/MGA Zone 56
Data Sources: Queensland Department of Resources (2023), MetroMap (2023)

BURCHILLS ENGINEERING SOLUTIONS

5.3 Impacts on Matters of Local Environmental Significance

5.3.1 Vegetation Management Areas

The site has 31,163m² of mapped Primary Vegetation Management Area under the Biodiversity Overlay of the Logan Planning Scheme 2015; none of this area will be impacted by the proposed works. Of the 168,837m² of mapped Secondary Vegetation Management Area mapped on the site, 687m² will be impacted by the proposed works. Within this impact area there is a total of 456m² of Vegetation Community A, with the balance of the impact area previously cleared. Offsets are proposed for this impact to ensure no net loss of biodiversity within the local region (refer to Figure 6.1).

A response to the Biodiversity Areas Overlay Code is provided in Appendix E.

5.4 Recommendations

Potential impacts associated with the development can be mitigated during the construction and operational phases. The following sections outline the recommendations for minimising the impact of the development on environmental values associated with the site and surrounding area.

5.4.1 Vegetation

The proposed development will impact upon a small area of regrowth vegetation. It is recommended that a Vegetation Management Plan (VMP) is prepared and approved for an Operational Works – Vegetation Clearing application prior to works being undertaken. This VMP should detail management measures to ensure that retained and protected vegetation within and proximate to the site is not impacted by the works. To minimise waste from the site, it is recommended that all felled vegetation be recycled (milled, chipped or mulched) and where possible incorporated into the landscape features, batter stabilisation techniques or other approved site works.

5.4.2 Fauna

Clearing will result in the loss of a small amount of native vegetation and habitat on the subject site. To mitigate the risk of injury and / or death to fauna during construction operations, the site needs to be assessed by a licensed Spotter-Catcher prior to the commencement of any clearing activities. A licensed Spotter-Catcher should be present on-site during clearing operations.

Though none were recorded, Koalas have been detected in the local area so the possible presence of this species should be considered. Threats to Koalas as a result of clearing and construction activities can be mitigated by:

- Undertaking clearing of vegetation in stages (e.g. 1ha / day);
- Between clearing stages allow at least 12 hours overnight to facilitate Koala movement out of the development site;
- Use of qualified Koala spotters during clearing works;
- Prohibition of domestic dogs and security dogs on site; and
- Use of Koala safety fencing where recommended by the Koala spotter.

5.4.3 General Recommendations

To minimise disturbance to environmental values during the construction phase, the following general recommendations are provided:

- All parties involved in construction works of the site should be aware of ‘No go’ areas, such as drainage lines, tree protection zones and areas of vegetation to be retained, where construction vehicles are not permitted

- Penalty provisions for non-compliant construction contractors should be considered by the development proponent.
- Appropriate scale machinery should be used;
- Construction methods used should support the retention of important natural values;
- Site entry / exit points should be limited and clearly identified on the ground (e.g. with star pickets); and
- Vehicle servicing should be conducted off site in a suitable location to avoid the risk of fuel/chemical spillage.

6. Vegetation Offset Assessment

Environmental offsets are used in the *Logan Planning Scheme 2015* as a mitigation measure when unavoidable clearing of protected native vegetation is required as a result of an approved development.

An environmental offset is an action such as planting trees or a payment made by the property owner to compensate for the environmental impacts of their development – usually associated with clearing protected vegetation.

The *Logan Planning Scheme 2015* defines protected vegetation as follows:

- **Primary** vegetation - protects all mapped native vegetation;
- **Secondary** vegetation - protects mapped native vegetation or native trees that meet the following criteria:
    - Greater than 4 metres in height; or
    - With a trunk circumference of 31.5 centimetres or greater, measured at 1.3 metres from the ground.

No impacts are proposed for the site's Primary Vegetation Management Areas, however the works will impact 687m² of mapped Secondary Vegetation Management Area. This impact includes clearing required to facilitate the compound, tower, carpark and earth mount, along with a 10m Asset Protection Zone bushfire buffer around the compound. An existing access track is in-place along the site's boundary, and it is anticipated that any works require to formalise this track will be within existing exempt clearing areas (e.g. within 5m of the site's boundary; discussed further in paragraphs below).

Of the 687m² of mapped Secondary Vegetation Management area impacted by the works, 231m² is within areas along the boundary that have been previously cleared, with the remaining 456m² having Ecological Significance under the Planning Scheme Policy 3 – Environmental Management. Additionally, a total of 104m² is within 5m of the site's boundary, with clearing of this area comprising Accepted Development per *Logan Planning Scheme 2015 Part 5 Table 5.10.2.1.4*, given that the site is greater than 5ha in size. This leaves a balance impact of 352m² on Secondary Vegetation Management Areas.

A KML file of this 352m² impact area, projected in GDA2020/MGA Zone 56, was uploaded to the Logan City Council Online Offset Estimator Tool. This tool found that there was a total of 267.3m² of MLES mapped within the impact area, with an associated estimated financial settlement offset at $2,624.32 (Table 6.1, Figure 6.1 and Appendix F).

This is an estimate only and is required to be verified by Logan City Council.

Table 6.1 Estimate of Financial Settlement Offset Amount (LCC Online Offset Tool, July 2023)

Impact Matter	Area (m²)	Ecological Index	Estimated Offset Amount
MLES	**267.3**	**10.858900**	**$2,624.32**

Earth Mount

HT1

HT2

Tower and Compound

10m Essential Management Clearing around Tower and Compound

Carpark

9 Trewin Road North, Mundoolun

Figure 6.1

Vegetation Impacts

Area of Interest within the Logan City LGA

Legend

- Site Boundary
- Investigation Area
- Accepted Development Clearing - 5m Buffer Along Existing Boundary
- Proposed Infrastructure - 327m²
- 10m Essential Management Clearing for Asset Protection Zone around Tower and Compound - 360m² (outside of Proposed Infrastructure)
- Habitat Trees (with TPZ) to be Retained (Earthworks within TPZ of HT1 total less than 2% of the total area of the TPZ; clearing for APZ around compound will not impact TPZ)
- Vegetation Community A - 352m² Impacted (not including existing Accepted Development allowance for clearing 5m along the existing boundary)

Project:	BE230285
Date:	14-08-2023
Scale:	1:250 at A3
Projection:	GDA 94/MGA Zone 56
Data Sources:	Queensland Department of Resources (2023), MetroMap (2023)

BURCHILLS ENGINEERING SOLUTIONS

7. Conclusions

CPS Technology & Infrastructure Pty Ltd engaged Burchills to prepare an Ecological Site Assessment to be considered part of a Development Application to Logan City Council for the establishment of a telecommunications facility. The proposed development is located at 9 Trewin Road North, Mundoolun and is formally described as Lot 5 on RP880863.

Desktop surveys were undertaken for the site and local area to determine ecological features or functions that may be relevant to the subject site. The *Logan Shire Planning Scheme 2015* (Version 9) indicates the site contains vegetation management areas and matters of state and local environmental significance.

Site flora and fauna surveys were undertaken in July 2023. A total of 33 species of flora were identified within the site, comprising 23 native species and 10 non-native species including one (1) weed species declared as a Restricted Invasive Plant under the Qld *Biosecurity Act 2014*. One (1) distinct vegetation community was identified on the site, comprising regrowth *Corymbia citriodora* subsp. *variegata* open forest.

The site vegetation does not meet the benchmark structural criteria (e.g. height and canopy cover) to be considered remnant vegetation but was generally consistent with High Value Regrowth of RE 12.9-10.2. The balance of the investigation area, within the road reserve and powerline easements, was cleared and devoid of native vegetation. No flora species of conservation significance under the NCA or EPBC Act were detected on the subject site.

Thirteen (13) species of fauna were observed on the subject site, including one (1) reptile species, nine (9) bird species and three (3) mammals. All species observed were native, with the exception of domestic dog. No conservation significant fauna species were detected within the site.

The site has 31,163m² of mapped Primary Vegetation Management Area under the Biodiversity Overlay of the *Logan Planning Scheme 2015*; none of this area will be impacted by the proposed works. Of the 168,837m² of mapped Secondary Vegetation Management Area mapped on the site, there is an assessable impact of 352m² resulting from the proposed works. A financial settlement offset is proposed for this impact, with an estimated value of $2,624.32. This offset will ensure that the unavoidable vegetation clearing required to facilitate the works will achieve no net loss in biodiversity within the local region.

In summary, the proposed works comply with the Biodiversity Areas Overlay Code and, provided works are undertaken in accordance with the recommendations of this report, it is not expected that the proposed development will impact local or regional environmental values.

.

8. Definitions

DBH	Diameter at Breast Height
DES	Queensland Department of Environment and Science
EPBCA	*Environmental Protection and Biodiversity Conservation Act 1999*
EVNT	Endangered, Vulnerable or Near Threatened
EOA	*Environmental Offsets Act 2014*
Koala SPRP	Koala State Planning Regulatory Provisions
MES	Matters of Environmental Significance
MLES	Matters of Local Environmental Significance
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NCA	*Nature Conservation Act 1992*
PPFST	Protected Plants Flora Survey Trigger Map
RE	Regional Ecosystem
RVM	Regulated Vegetation Map
SARA	State Assessment Referral Agency
KSAT	Koala Spot Assessment Technique
SDAP	State Development Assessment Provision
SPP	State Planning Policy
SPRP	State Planning Regulatory Provisions
VMA	*Vegetation Management Act 1999*
VMS Map	Vegetation Management Support Map

9. References

Batianoff, G.N. and Butler, D.W. (2002). *Assessment of invasive naturalised plants in south-east Queensland*. Environmental Protection Agency, Brisbane.

Bushland Protection Systems (2023). *Bushfire Hazard Assessment and Mitigation Plan. Proposed Telecommunciations Tower and Facility on Lot 5 RP880862, No. 9 Trewin Road North Mundoolun*. Bushfire Protection Systems, Ormeau.

DES (2020) *Census of the Queensland Flora 2020*. Brisbane (eds G.K. Brown & P.D. Bostock)

Hnatiuk, R.J., Thackway, R. and Walker, J. (2009). *Vegetation*. In *Australian soil and land survey field handbook* (3rd edn). National committee on Soil and Terrain, CSIRO Publishing, Melbourne.

Eyre T.J., Ferguson, D.J., Smith, G.C., Mathieson, M.T., Venz, M.F., Hogan, L.D., Hourigan, C.L., Kelly, A.L., and Rowland, J. (2022). *Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland*, Version 4.0. Queensland Department of Environment and Science, Brisbane.

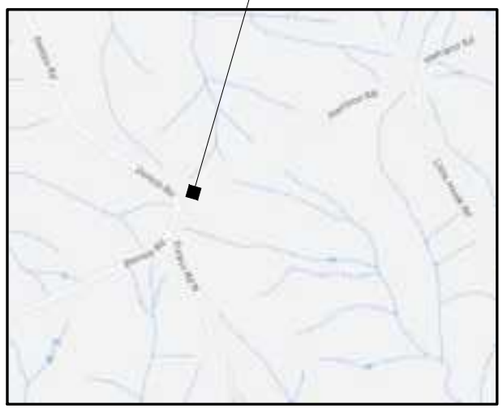
Neldner, V.J., Wilson, B.A., Thompson, E.J. and Dillewaard, H.A. (2022). *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland*, Version 6. Queensland Herbarium, Queensland Department of Science, Information Technology, Innovation and the Arts, Brisbane.

Walker, J. and Hopkins, M.S. (1990). *Vegetation*. In McDonald, R.C., Isbell, R.F., Speight, J.G., Walker, J. and Hopkins, M.S. (eds), Australian Soil and Land Survey – Field Handbook. Inkata Press, Melbourne.

Appendix A – Proposed Works

N
MGA

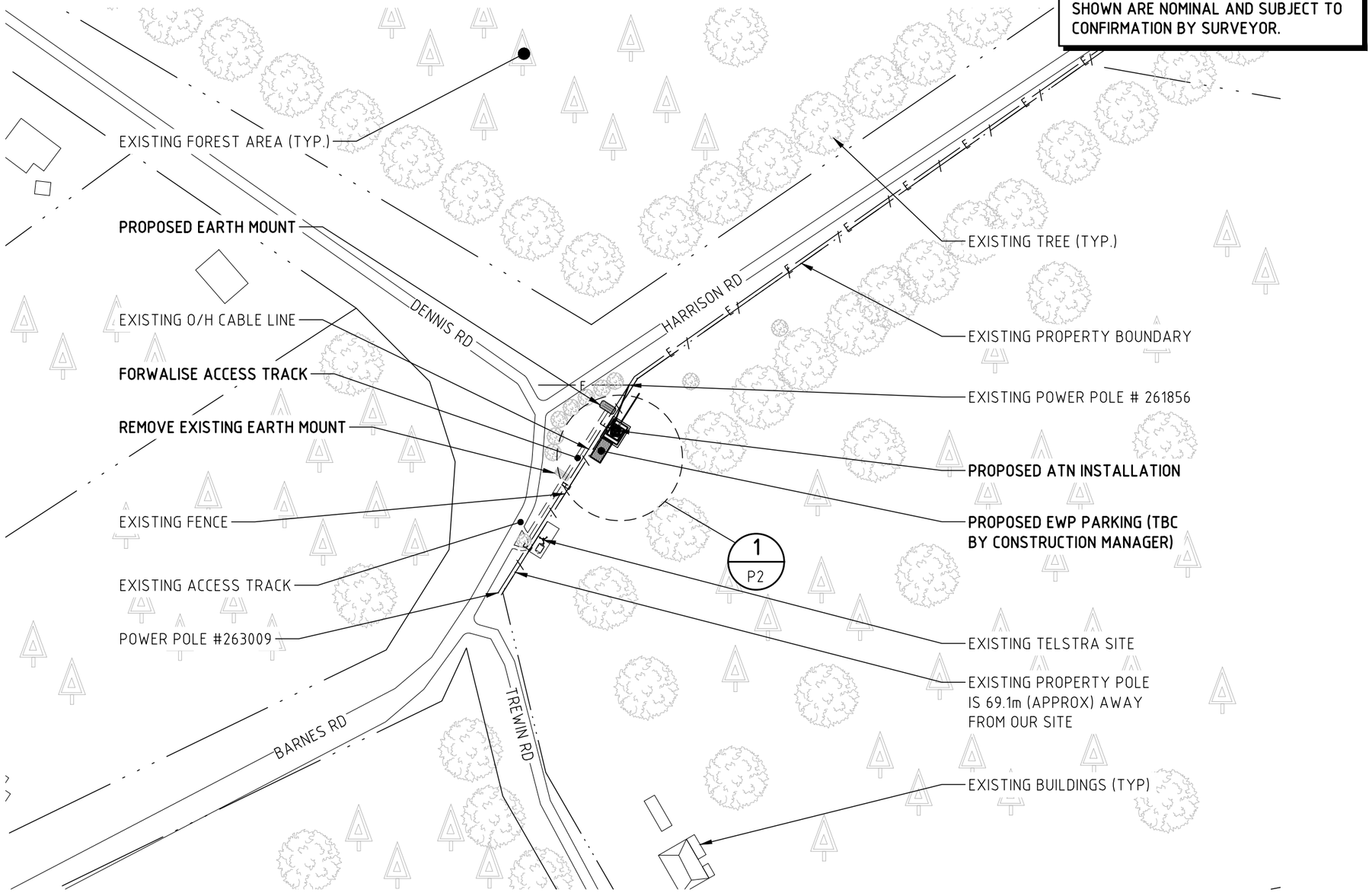
PROPOSED OPTUS BASE STATION



LOCALITY MAP

COPYRIGHT © GOOGLE MAPS

NOTE:
THIS DRAWING IS DIAGRAMMATIC ONLY AND SHOULD NOT BE SCALED. DIMENSIONS, COORDINATES, AND LEVELS SHOWN ARE NOMINAL AND SUBJECT TO CONFIRMATION BY SURVEYOR.



LEGEND

- E — E — EXISTING O/H POWER SUPPLY
- NEW/EXISTING PROPERTY BOUNDARY
- 0 e — 0 e — OPTUS UG ELECTRICITY
- 0fo — 0fo — OPTUS FIBRE OPTIC
- / — / — NEW/EXISTING FENCE LINE

OVERALL SITE PLAN

SCALE 1:2000

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
01	29.08.22	ISSUED FOR APPROVAL	ALL TELECOS	ROB	KM	MB	JD

CPS TECHNOLOGY & INFRASTRUCTURE

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:-B2752
MUNDOOLUN
LOT 5 ON RP880863, 9 TREWIN ROAD, MUNDOOLUN, QLD 4285

Drawing Title: OVER ALL SITE LAYOUT

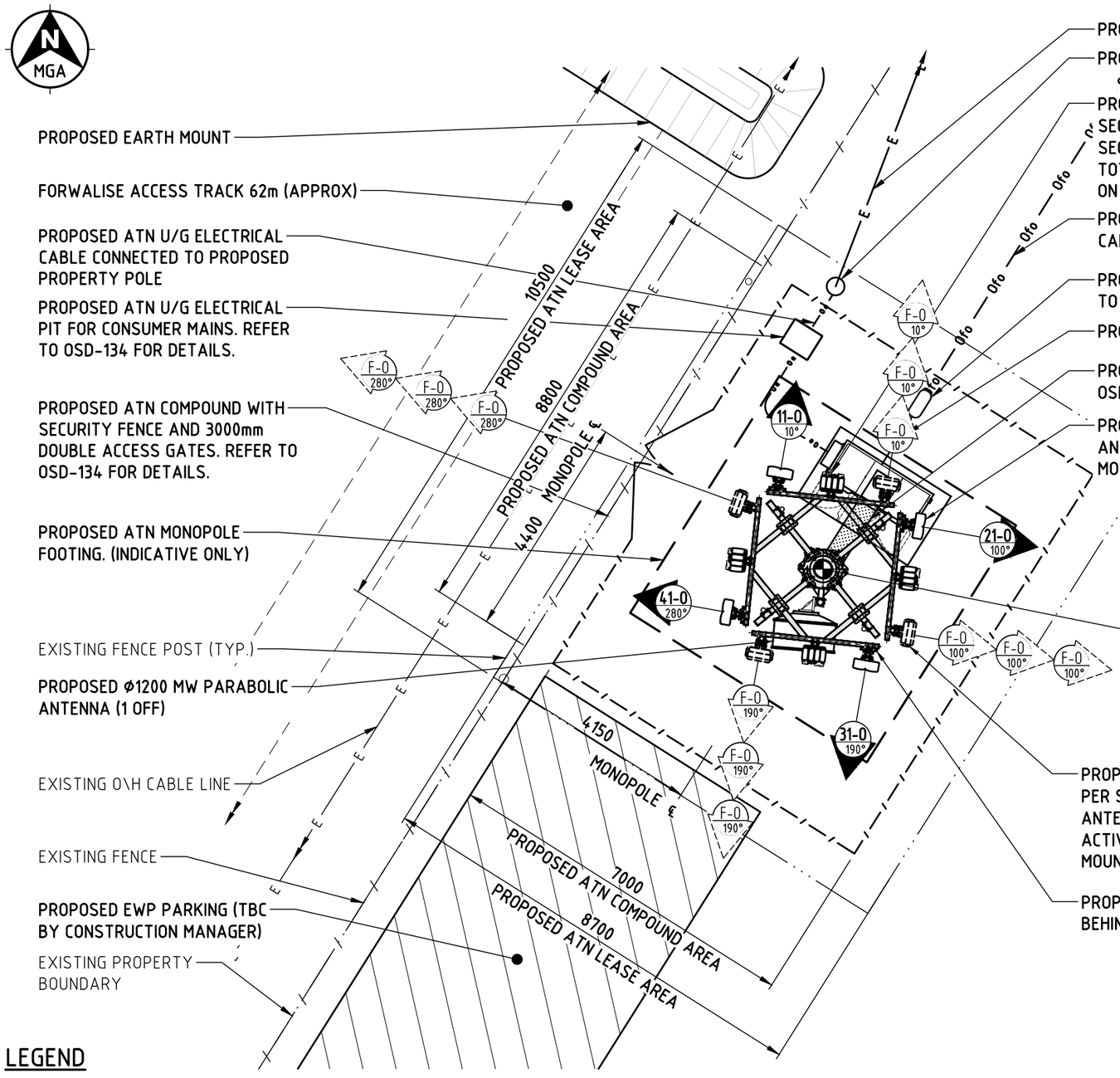
Drawing Status: FOR APPROVAL

Drawing No. B2752-P1

Revision 01

20 10 0 10 20 30 40 50mm

A3



MGA ZONE	56
E	503 720
N	6 913 945
LOT	-27.89936
LON	153.03780
AT	11m POWER POLE

NOTE:
THIS DRAWING IS DIAGRAMMATIC ONLY AND SHOULD NOT BE SCALED. DIMENSIONS, COORDINATES, AND LEVELS SHOWN ARE NOMINAL AND SUBJECT TO CONFIRMATION BY SURVEYOR.

SITE ADDRESS:
TREWIN ROAD,
MUNDOOLUN,
QLD 4285

NOTES:

1. **BASIS OF DESIGN**
   - SITE INSPECTION 03/05/2022
2. **PANEL ANTENNAS**
   - 4 OFF PROPOSED OPTUS RRV4-65D-R6 - EC ANTENNAS (EACH 2.688m LONG) AT EL.31.0m
   - 4 OFF PROPOSED OPTUS FUTURE AENB ANTENNAS (EACH 0.75m LONG) AT EL.32.0m
   - 4 OFF PROPOSED OPTUS FUTURE AEQP ANTENNAS (EACH 0.75m LONG) AT EL.31.0m
   - 4 OFF PROPOSED OPTUS FUTURE AAU2 ANTENNAS (EACH 0.75m LONG) AT EL.30.0m
   - SECTOR 1 - 0°, SECTOR 2 -90°, SECTOR 3 -180°, SECTOR 4 -270°
   - MOUNTED ON PROPOSED SQUARE HEADFRAME.
3. **RRU'S**
   - 4 - OFF NEW RRU AHPDA (700/900)
   - 4 - OFF NEW RRU AHEGC (1800/2100)
   - 4 - OFF NEW RRU AHHB (2600)
   - 16- OFF NEW FUTURE RRU
   - MOUNTED ON PROPOSED SQUARE HEADFRAME.
4. **TRANSMISSION**
   - PROPOSED OPTUS Ø1200 MW PARABOLIC ANTENNA AT EL 15.0m. FINAL MW HEIGHT IS TO BE CONFIRMED AFTER LOS IS DONE.
5. **EQUIPMENT OUTDOOR CABINET**
   - PROPOSED OPTUS 3-BAY ODU ON A CONCRETE SLAB.
6. **MONOPOLE**
   - EXISTING TELSTRA 30m HIGH MONOPOLE
7. **FEEDER CABLES**
   - SIZE: 4 OFF TRUNK CABLES (9/18, 10mm² H&S)
   - LENGTH: 40m (APPROX) ALL SECTORS
   - 300mm WIDE HORIZONTAL CABLE LADDER
8. **SITE ACCESS**
   - VIA HARRISON RD
9. **ANTENNA ACCESS**
   - VIA EWP ONLY
10. **POWER SUPPLY**
    - PROPOSED OPTUS UNDERGROUND ELECTRICAL CABLE CONNECTED TO PROPOSED PROPERTY POLE FROM EXISTING POWER POLE # 261856
11. **COLORS SCHEME**
    - TBC

LEGEND

- E — E — EXISTING O/H POWER SUPPLY
- NEW/EXISTING PROPERTY BOUNDARY
- O e — O e — OPTUS UG ELECTRICITY
- Ofo — Ofo — OPTUS FIBRE OPTIC
- / — / — NEW/EXISTING FENCE LINE
- PROPERTY BOUNDARY

DETAIL 1 P1

SCALE 1:100

ANTENNA LEGEND

ID AZI° NEW — ID AZI° FUTURE

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
01	29.08.22	ISSUED FOR APPROVAL	ALL TELECOS	ROB	KM	MB	JD

CPS TECHNOLOGY & INFRASTRUCTURE

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:-B2752
MUNDOOLUN
LOT 5 ON RP880863, 9 TREWIN ROAD, MUNDOOLUN, QLD 4285

Drawing Title: DRAFT SITE LAYOUT

Drawing Status: FOR APPROVAL

Drawing No. B2752-P2

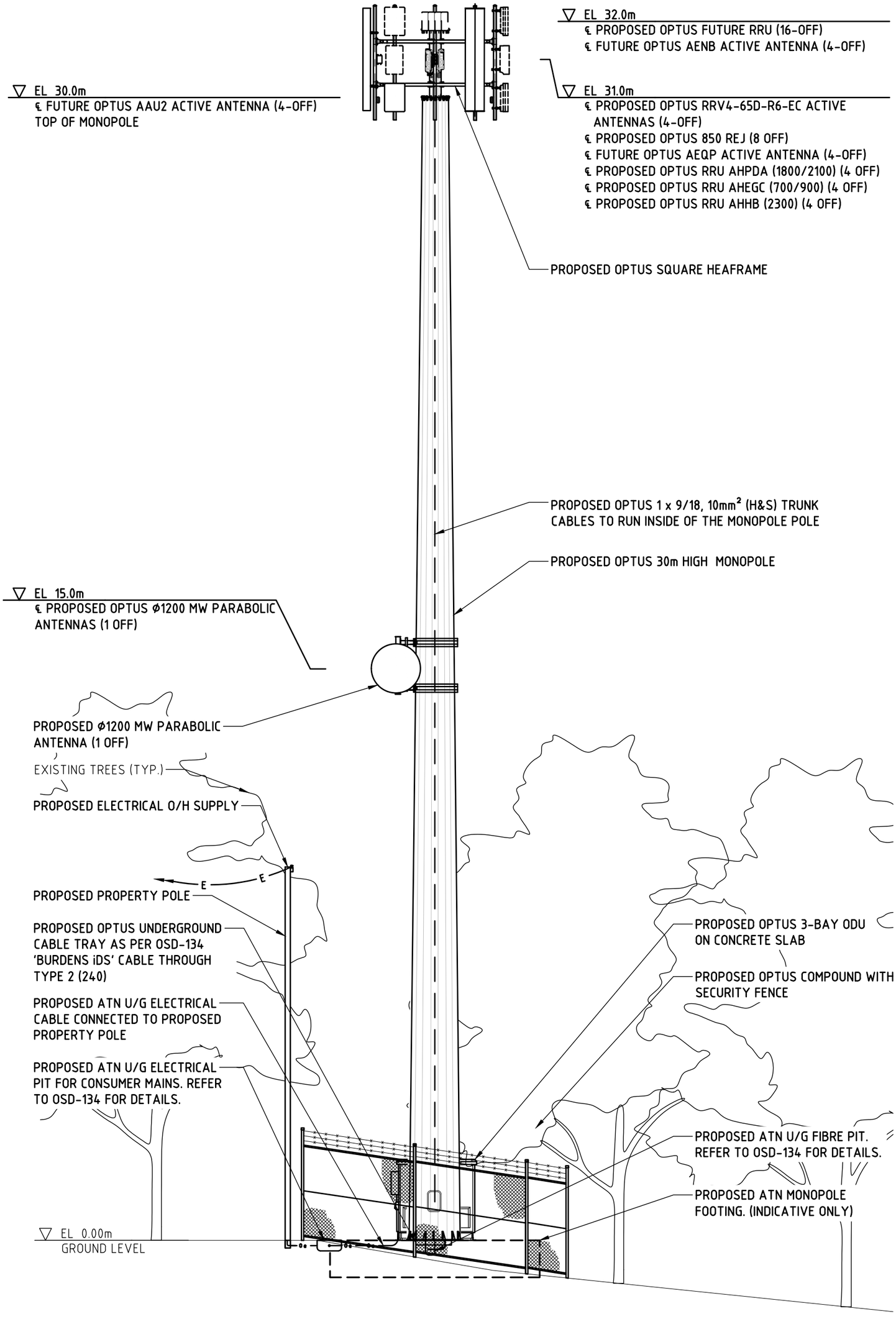
Revision 01

20 10 0 10 20 30 40 50mm

A3

Rev	Date	Revision Details	Consultant	CAD	Designer	Verifier	Approver
01	29.08.22	ISSUED FOR APPROVAL	ALL TELCOS	ROB	KM	MB	JD

NOTE:
THIS DRAWING IS DIAGRAMMATIC ONLY AND SHOULD NOT BE SCALED.



SOUTH ELEVATION

SCALE 1:100

CPS TECHNOLOGY & INFRASTRUCTURE

Client: OPTUS

Project: MOBILE NETWORK AUSTRALIA
SITE No:-B2752
MUNDOOLUN

LOT 5 ON RP880863, 9 TREWIN ROAD, MUNDOOLUN, QLD 4285

Drawing Title: DRAFT SITE ELEVATION

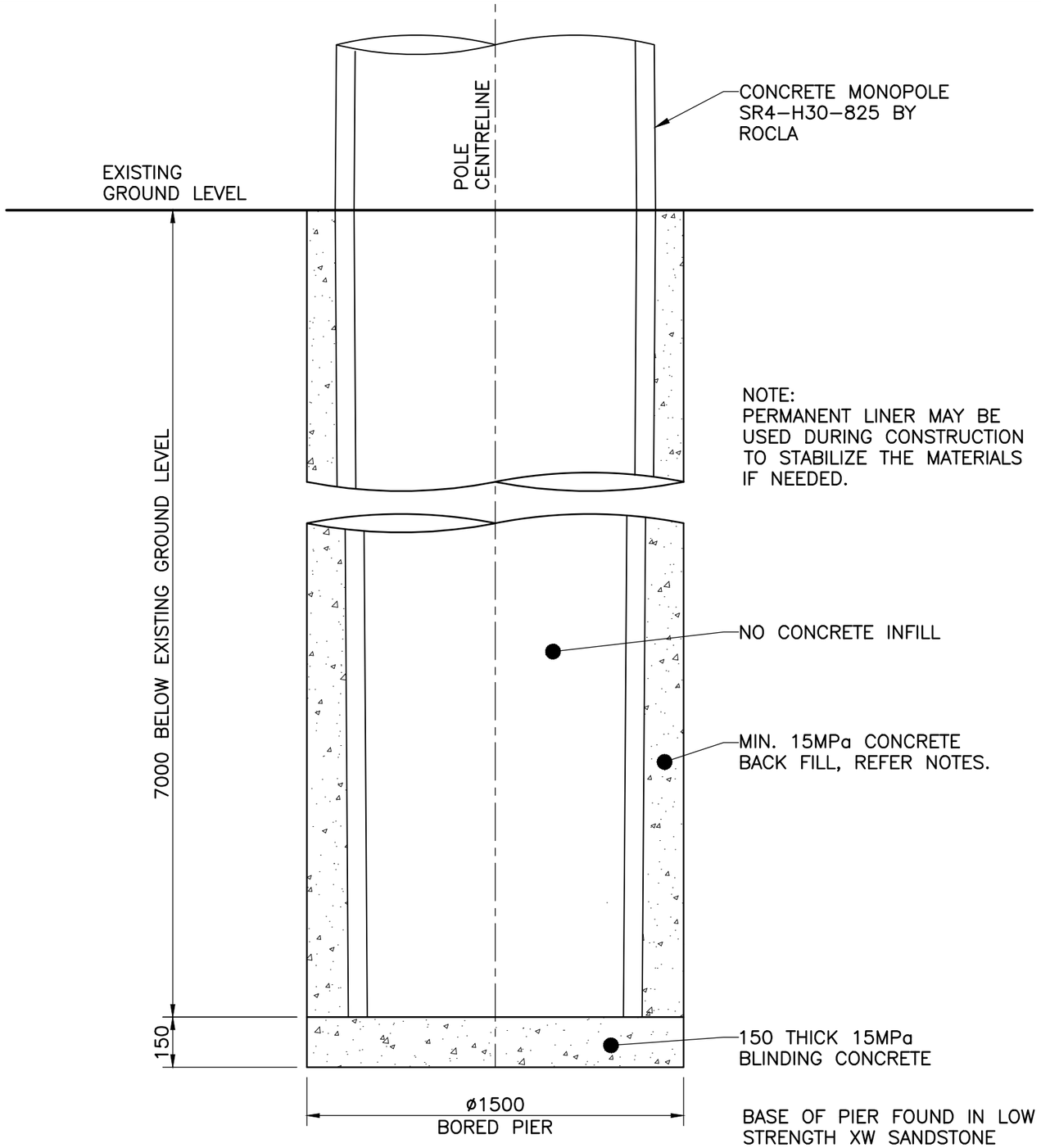
Drawing Status: FOR APPROVAL

Drawing No. B2752-P3

Revision 01

20 10 0 10 20 30 40 50mm

A3



SECTION
NOT TO SCALE

0 200 400 600 800mm

POLE STRENGTH REDUCTION FACTOR: 1.0
FACTOR k = 1.15
DESIGN FORCES AT GROUND LEVEL:
ULTIMATE BASE MOMENT Mo(max): 4690kN.m
ULTIMATE BASE SHEAR: 219kN

NOTES

B1. Footing design based on Soil Report by CivilTest Pty Ltd, Report No. 1230144–1, dated 25/05/2023.
Refer to this report for site preparation, excavation etc.
A qualified Geotechnical engineer shall inspect the excavation/bored hole to confirm the foundation materials as per the soil report.

B2. Builder to ensure to no existing underground services prior to pier footing drilling.

B3. Blinding layer and backfill concrete f'c = 15MPa, maximum aggregate size shall be 20mm.
Where applicable, infill concrete inside stub footing f'c = 32MPa, maximum aggregate size shall be 20mm.

B4. Construct all concrete works in accordance with AS2159 and AS3600. Concrete shall be manufactured in accordance with AS1379.

B5. Slurry used to lubricate concrete pump lines shall not be pumped into any structural members. Water shall not be added to pre–mixed concrete once it has left the batching plant.

B6. Concrete should be poured as soon as the pile excavations have been completed, hole base cleaned of loose material, and base inspected and approved by Geotech Engineer. If the Geotech deems that the pile excavation is destabilized by water seepage, permanent or temporary lining will be required. If there is water present but is not destabilizing the excavation, the blinding layer and backfill may be poured using a tremie.

B7. The footing section of the concrete pole should ideally be placed when the blinding concrete begins to set so that the footing "beds" into the concrete.
The crane or temporary supports can release the footing section when the backfill concrete begins to set. This is typically 2 to 3 hours for GP cement based concrete.
Other sections can be assembled without delay.

B8. The ground surface shall be graded to drain water away from the footing to minimise wetting up.

B9. No other excavation deeper than 1000mm shall be made within 5000mm of footing.

Sheet Size: A3
Scale: As Shown

NOTES 1. Builder to verify all information & dimensions on site prior to commencement of construction 2. DO NOT SCALE DRAWINGS 3. This drawing and the copyright thereof remains the property of Osborn Consulting Engineers Pty. Ltd. A.B.N. 83 602 572 967, A.C.N. 602 572 967 and must not be modified. 4. Refer to only the hard copies of drawings. Electronic versions not to be used for any purposes and Osborn consulting takes no responsibility for any use thereof.

–	Original Issue	07/07/23

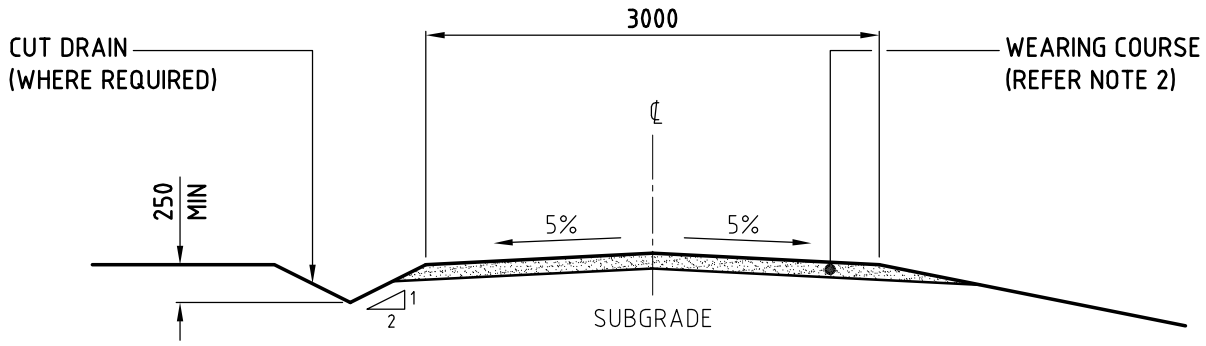
Osborn
CONSULTING ENGINEERS
Unit 14, 99 Musgrave Road, Red Hill Qld. 4059
Ph 07 3510 8510 Fax 07 3876 3045
148A Palmerin Street, (PO Box 495) Warwick Qld. 4370 Ph 07 4660 3300 Fax 07 4660 3310
25 Warwick Road, Ipswich Qld. 4305 Ph 07 3282 7770 Fax 07 3281 7237

SITE REF: B2752
SITE NAME: MUNDOOLUN
CARRIER: OPTUS
9 TREWIN ROAD
MUNDOOLUN, QLD 4285
for Civilmart (Rocla)

TELECOM MONPOLE FOOTING SECTIONS AND DETAILS

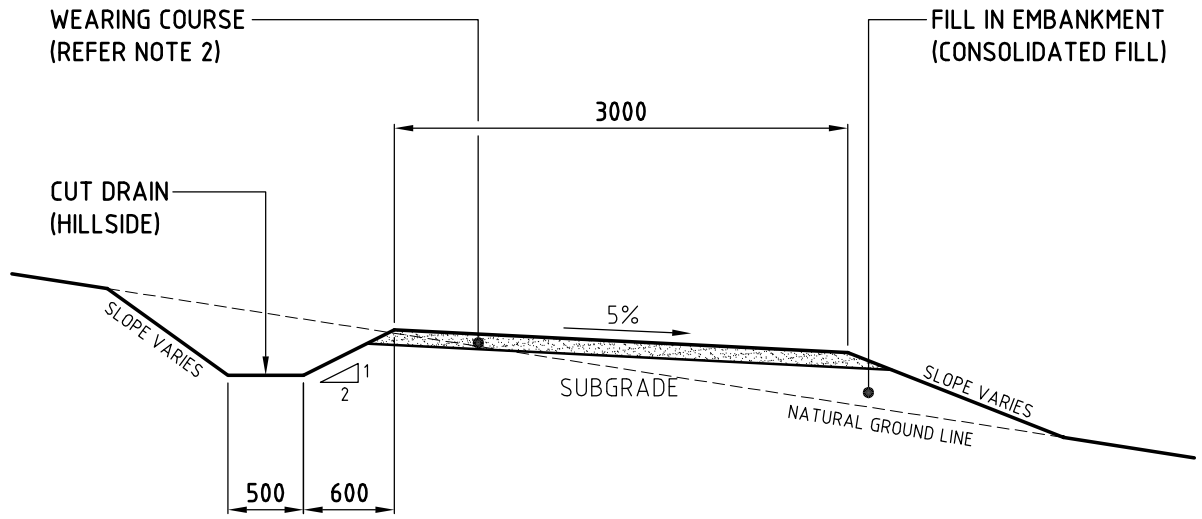
drawn: C. Ting	approved: P. Brown
designed: C. Ting	checked: P. Brown
Sheet: 1 of 1	23–0433–01

A3



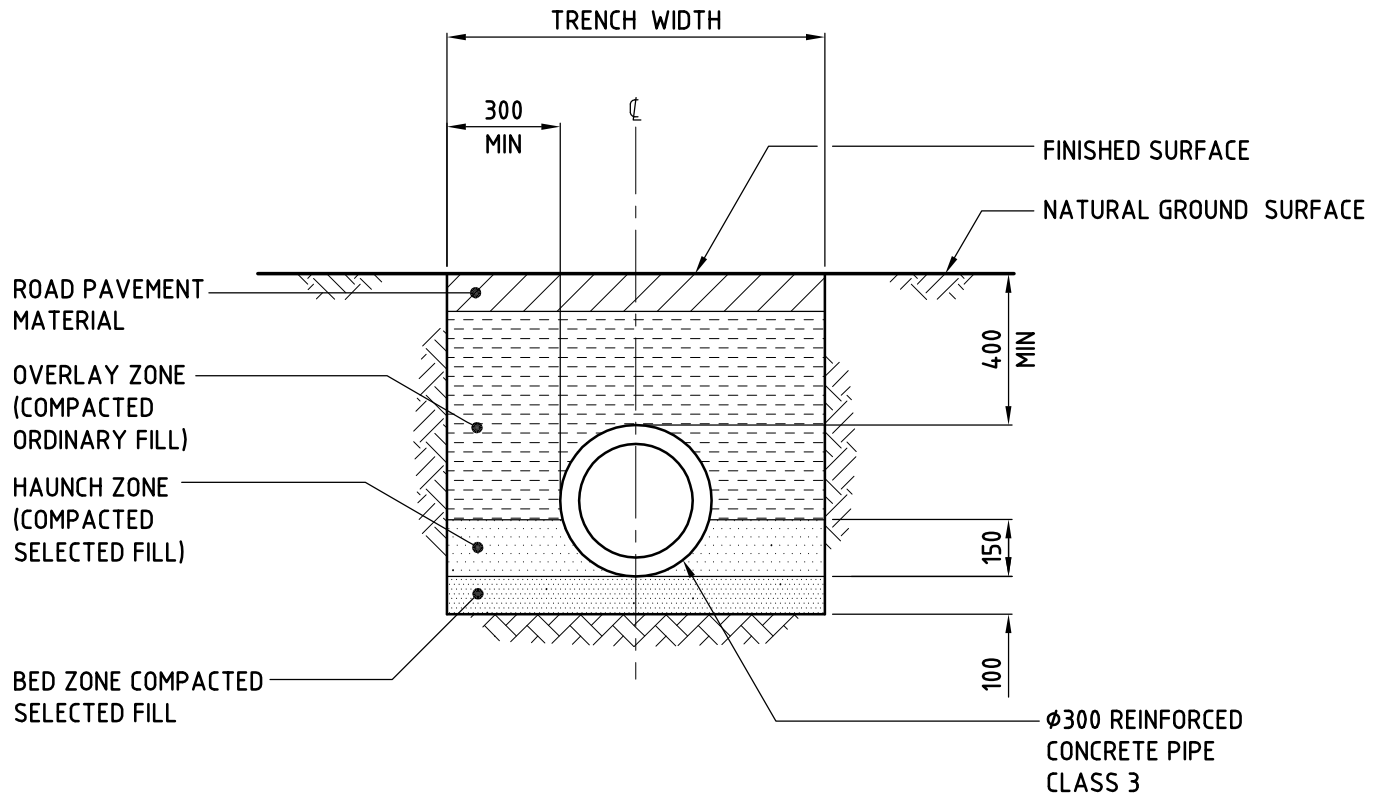
TYPICAL CROSS SECTION - CROWN PROFILE

1:50



TYPICAL CROSS SECTION - SINGLE SLOPE PROFILE

1:50



PIPE BEDDING DETAIL

1:20

NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE OPTUS ACCESS TRACK SPECIFICATION (OSD-050).
2. UNLESS SPECIFIED OTHERWISE, WEARING COURSE THICKNESS IS 100mm. REFER TO SECTION 3 OF THE OPTUS ACCESS TRACK SPECIFICATION (OSD-050) FOR FURTHER DETAILS.

FOR CONSTRUCTION

Rev	Date	Revision Details	Co.	By	Ver.	App.
A	NOV 08	ISSUED FOR CONSTRUCTION (REPLACES GSM-7.2)	CW	DCL	MTA	SN

Connell Wagner

Connell Wagner Pty Ltd ABN 54 005 139 873
116 Military Road (PO Box 538) Neutral Bay
New South Wales 2089 Australia

Telephone: +61 2 9465 5599
Facsimile: +61 2 9465 5598
Email: cwsyd @ conwag.com

Client: 'yes' OPTUS

Project: MOBILE NETWORK AUSTRALIA

OPTUS STANDARD DRAWING

Drawing Title: ACCESS TRACK DETAILS

Designed	Drawn	Date
DCL	dcl	NOV 08

Verified	Scale
MTA	1:50, 1:20

Approved	Project No.
SN	6488

Drawing No. OSD-150 Revision A

20 10 0 10 20 30 40 50mm

CAD File: L:_OPTUS STANDARDS\NOV 2008\OSD-150 gsm-7.2.dwg Plot Date: 28.11.08

Appendix B – Desktop Review Search Results

EPBC Act Protected Matters Report

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

Report created: 19-Jul-2023

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:	51
Listed Migratory Species:	16

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	23
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	2
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

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

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

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

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

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may 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
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
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
Numenius madagascariensis			
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may 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
Turnix melanogaster			
Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
FROG			
Mixophyes fleayi			
Fleay's Frog [25960]	Endangered	Species or species habitat may occur within area	In feature area
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]	Vulnerable	Species or species habitat may occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
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 likely 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 feature area
Pseudomys novaehollandiae			
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	In feature area
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour 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
Bulbophyllum globuliforme			
Miniature Moss-orchid, Hoop Pine Orchid [6649]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Corchorus cunninghamii			
Native Jute [14659]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In feature area
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may 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
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 ipsviciensis Cooneana Olive [81858]	Critically Endangered	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
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
Rhaponticum australe Austral Cornflower, Native Thistle [22647]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhodamnia rubescens			
Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to 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 likely to 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			
Cuculus optatus			
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus			
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Monarcha melanopsis](#) Black-faced Monarch [609]		Species or species habitat likely to occur within area	In feature area
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat likely to occur within area	In feature area
[Rhipidura rufifrons](#) Rufous Fantail [592]		Species or species habitat likely to occur within area	In feature area
[Symposiachrus trivirgatus as Monarcha trivirgatus](#) Spectacled Monarch [83946]		Species or species habitat likely to occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]		Species or species habitat may 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]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Numenius madagascariensis			
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Tringa nebularia			
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

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]		Species or species habitat may 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
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]		Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely 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 likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Numenius madagascariensis			
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pterodroma cervicalis			
White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons			
Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Sterna striata			
White-fronted Tern [799]		Migration route may occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus			
Spectacled Monarch [83946]		Species or species habitat likely to occur within area overfly marine area	In feature area
Tringa nebularia			
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Upgraded sewerage infrastructure in the Helensvale/Coombabah catchment	2004/1427	Not Controlled Action	Completed	In feature area

Bioregional Assessments

SubRegion	BioRegion	Website	Buffer Status
Clarence-Moreton	Clarence-Moreton	BA website	In feature area

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

Please feel free to provide feedback via the Contact us page.

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Queensland status: All
Records: All
Date: All
Latitude: -27.9004
Longitude: 153.0382
Distance: 2
Email: gabriela.castan@burchills.com.au
Date submitted: Wednesday 19 Jul 2023 09:40:28
Date extracted: Wednesday 19 Jul 2023 09:50:02

The number of records retrieved = 59

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Bufonidae	*Rhinella marina*	cane toad	Y			1
animals	amphibians	Hylidae	*Litoria caerulea*	common green treefrog		C		2
animals	amphibians	Hylidae	*Litoria fallax*	eastern sedgefrog		C		16
animals	amphibians	Hylidae	*Litoria latopalmata*	broad palmed rocketfrog		C		1
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		1
animals	amphibians	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog		C		17
animals	amphibians	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog		C		9
animals	amphibians	Myobatrachidae	*Crinia parinsignifera*	beeping froglet		C		3
animals	birds	Alcedinidae	*Dacelo novaeguineae*	laughing kookaburra		C		4
animals	birds	Alcedinidae	*Todiramphus sanctus*	sacred kingfisher		C		1
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		3
animals	birds	Artamidae	*Cracticus nigrogularis*	pied butcherbird		C		1
animals	birds	Artamidae	*Cracticus torquatus*	grey butcherbird		C		1
animals	birds	Artamidae	*Gymnorhina tibicen*	Australian magpie		C		4
animals	birds	Artamidae	*Strepera graculina*	pied currawong		C		1
animals	birds	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo		C		1
animals	birds	Cacatuidae	*Eolophus roseicapilla*	galah		C		1
animals	birds	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike		C		4
animals	birds	Columbidae	*Geopelia humeralis*	bar-shouldered dove		C		2
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		2
animals	birds	Corvidae	*Corvus orru*	Torresian crow		C		4
animals	birds	Estrildidae	*Neochmia temporalis*	red-browed finch		C		2
animals	birds	Estrildidae	*Taeniopygia bichenovii*	double-barred finch		C		3
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		4
animals	birds	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater		C		2
animals	birds	Meliphagidae	*Lichmera indistincta*	brown honeyeater		C		2
animals	birds	Meliphagidae	*Manorina melanocephala*	noisy miner		C		1
animals	birds	Meliphagidae	*Meliphaga lewinii*	Lewin's honeyeater		C		4
animals	birds	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater		C		2
animals	birds	Meliphagidae	*Myzomela sanguinolenta*	scarlet honeyeater		C		1
animals	birds	Meliphagidae	*Philemon corniculatus*	noisy friarbird		C		2
animals	birds	Monarchidae	*Grallina cyanoleuca*	magpie-lark		C		2
animals	birds	Oriolidae	*Oriolus sagittatus*	olive-backed oriole		C		1
animals	birds	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler		C		2
animals	birds	Petroicidae	*Petroica rosea*	rose robin		C		1
animals	birds	Psittaculidae	*Alisterus scapularis*	Australian king-parrot		C		2
animals	birds	Psittaculidae	*Platycercus adscitus*	pale-headed rosella		C		3
animals	birds	Psittaculidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet		C		3
animals	birds	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet		C		1
animals	birds	Psophodidae	*Psophodes olivaceus*	eastern whipbird		C		1
animals	birds	Rhipiduridae	*Rhipidura albiscapa*	grey fantail		C		2
animals	birds	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail		C		1
animals	birds	Strigidae	*Ninox boobook*	southern boobook		C		1
animals	birds	Threskiornithidae	*Threskiornis spinicollis*	straw-necked ibis		C		1
animals	birds	Zosteropidae	*Zosterops lateralis*	silvereye		C		4
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		E	E	28

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	land plants	Asteraceae	*Olearia nernstii*	Ipswich daisy		C		1/1
plants	land plants	Celastraceae	*Elaeodendron australe var. australe*			C		1/1
plants	land plants	Commelinaceae	*Aneilema acuminatum*			C		1/1
plants	land plants	Goodeniaceae	*Goodenia rotundifolia*			C		1/1
plants	land plants	Lamiaceae	*Anisomeles moschata*			C		1/1
plants	land plants	Laxmanniaceae	*Lomandra laxa*	broad-leaved matrush		C		1/1
plants	land plants	Leguminosae	*Acacia podalyriifolia*	Queensland silver wattle		C		1/1
plants	land plants	Leguminosae	*Indigofera australis subsp. australis*			C		1/1
plants	land plants	Leguminosae	*Pararchidendron pruinosum*			C		1/1
plants	land plants	Leguminosae	*Pultenaea euchila*	orange pultenaea		C		1/1
plants	land plants	Menispermaceae	*Echinostephia aculeata*	prickly snake vine		C		1/1
plants	land plants	Myrtaceae	*Syzygium australe*	scrub cherry		C		1/1
plants	land plants	Pteridaceae	*Adiantum hispidulum var. minus*			SL		1/1

CODES

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

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

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

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

resources.QLD.GOV.AU

Vegetation management report

For Lot: 5 Plan: RP880863

19/07/2023

Queensland Government

This publication has been compiled by Operations Support, Department of Resources.

Recent changes

Updated mapping

Updated vegetation mapping was released on 8 September 2022 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, wetland, high-value regrowth and essential habitat mapping.

The Department of Environment and Science have also updated their protected plant and koala protection mapping to align with the Queensland Herbarium scientific updates.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:

Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Resources who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:

- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 8 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 5 Plan: RP880863, are listed in Table 1.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Property title area (sq metres)
5	RP880863	Freehold	200,000

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

Does this property have a freehold tenure and is in the Wet Tropics of Queensland World Heritage Area?

No, this property is not located in the Wet Tropics of Queensland World Heritage Area.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 5 Plan: RP880863, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)
Logan City

Bioregion(s)	Subregion(s)
Southeast Queensland	Moreton Basin

Catchment(s)
Logan-Albert

2. Vegetation management framework (administered by the Department of Resources)

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem prescribed under Schedule 5 of the Vegetation Management Regulation 2012; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify the Department of Resources or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact the Department of Resources before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at
https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/exemptions.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact the Department of Resources prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at
https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/codes

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify the Department of Resources before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://apps.dnrm.qld.gov.au/vegetation/

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the Department of Resources and then follow the conditions and requirements listed in the AMP.
https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/area-management-plans

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at
https://www.qld.gov.au/environment/land/management/vegetation/clearing-approvals/development

2.5. Contact information for the Department of Resources

For further information on the vegetation management framework:
Phone 135VEG (135 834)
Email vegetation@resources.qld.gov.au
Visit https://www.resources.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 5 Plan: RP880863

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property. Total area: 19.97ha

Vegetation category	Area (ha)
Category B	< 0.1
Category C	19.0
Category X	0.9

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact the Department of Resources to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact the Department of Resources to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

There is no Property Map of Assessable Vegetation (PMAV) present on this property.

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at
https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
12.9-10.16	Of concern	C	4.03	Araucarian microphyll to notophyll vine forest on Cainozoic and Mesozoic sediments	Dense
12.9-10.2	Least concern	B	0.07	Corymbia citriodora subsp. variegata +/- Eucalyptus crebra open forest on sedimentary rocks	Mid-dense
12.9-10.2	Least concern	C	7.73	Corymbia citriodora subsp. variegata +/- Eucalyptus crebra open forest on sedimentary rocks	Mid-dense
12.9-10.3	Of concern	C	3.94	Eucalyptus moluccana open forest on sedimentary rocks	Mid-dense
12.9-10.7	Of concern	C	3.28	Eucalyptus crebra +/- E. tereticornis, Corymbia tessellaris, Angophora spp. and E. melanophloia woodland on sedimentary rocks	Sparse
non-rem	None	X	0.91	None	None

Please note:

1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat

Under the VMA, essential habitat for protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA) as critically endangered, endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or

2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
860	Phascolarctos cinereus	koala	E	Open forests and woodlands containing Eucalyptus, Corymbia, Lophostemon or Melaleuca trees having a trunk of a diameter of more than 10cm at 1.3m above the ground. Tree species used for food and habitat varies across the state and can include: Corymbia citriodora, Corymbia henryi, Corymbia intermedia, Eucalyptus acmenoides, Eucalyptus bancroftii, Eucalyptus biturbinata, Eucalyptus blakelyi, Eucalyptus brownii, Eucalyptus camaldulensis, Eucalyptus carnea, Eucalyptus chloroclada, Eucalyptus coolabah, Eucalyptus crebra, Eucalyptus dealbata, Eucalyptus drepanophylla, Eucalyptus dunnii, Eucalyptus eugenioides, Eucalyptus exserta, Eucalyptus fibrosa, Eucalyptus grandis, Eucalyptus helidonica, Eucalyptus latisinensis, Eucalyptus longirostrata, Eucalyptus major, Eucalyptus melanophloia, Eucalyptus melliodora, Eucalyptus microcarpa, Eucalyptus microcorys, Eucalyptus microtheca, Eucalyptus moluccana, Eucalyptus montivaga, Eucalyptus orgadophila, Eucalyptus papuana, Eucalyptus pilularis, Eucalyptus platyphylla, Eucalyptus populnea, Eucalyptus portuensis, Eucalyptus propinqua, Eucalyptus racemosa, Eucalyptus resinifera, Eucalyptus robusta, Eucalyptus saligna, Eucalyptus seeana, Eucalyptus siderophloia, Eucalyptus sideroxylon, Eucalyptus tereticornis, Eucalyptus thozetiana, Eucalyptus tindaliae, Eucalyptus umbra, Lophostemon confertus, Melaleuca leucadendra, Melaleuca quinquenervia.	Sea level to 1000m.	None	Riparian areas, plains and hill/escarpment slopes.

Label	Regional Ecosystem (mandatory unless otherwise specified)
860	4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 7.11.48, 7.11.49, 7.11.50, 7.11.51, 7.12.4, 7.12.5, 7.12.17, 7.12.21, 7.12.22, 7.12.23, 7.12.24, 7.12.25, 7.12.26, 7.12.27, 7.12.28, 7.12.29, 7.12.30, 7.12.33, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.65, 7.12.66, 7.12.69, 8.1.5, 8.2.3, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.5.7, 8.9.1, 8.10.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.11.10, 8.11.12, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.29, 8.12.31, 8.12.32, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.10, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.27, 9.4.1, 9.4.2, 9.5.1, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.15, 9.5.16, 9.5.17, 9.7.1, 9.7.2, 9.7.3, 9.7.4, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.3, 9.8.4, 9.8.5, 9.8.9, 9.8.10, 9.8.11, 9.8.13, 9.10.1, 9.10.3, 9.10.4, 9.10.5, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.12, 9.11.13, 9.11.14, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.21, 9.11.22, 9.11.23, 9.11.24, 9.11.25, 9.11.26, 9.11.28, 9.11.29, 9.11.30, 9.11.31, 9.11.32, 9.12.1, 9.12.2, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.14, 9.12.15, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.25, 9.12.26, 9.12.27, 9.12.28, 9.12.29, 9.12.30, 9.12.31, 9.12.32, 9.12.33, 9.12.35, 9.12.36, 9.12.37, 9.12.38, 9.12.39, 9.12.44, 10.3.2, 10.3.3, 10.3.5, 10.3.6, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.17, 10.3.20, 10.3.27, 10.3.28, 10.4.3, 10.4.9, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.5, 11.3.6, 11.3.7, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.21, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.32, 11.3.33, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.18, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.3, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.6, 11.9.7, 11.9.9, 11.9.10, 11.9.11, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.3, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.2, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.12, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.17, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.13, 11.12.14, 11.12.15, 11.12.16, 11.12.17, 11.12.19, 11.12.20, 12.2.5, 12.2.6, 12.2.7, 12.2.8, 12.2.10, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.14, 12.3.18, 12.3.19, 12.3.20, 12.5.1, 12.5.2, 12.5.3, 12.5.4, 12.5.6, 12.5.7, 12.5.10, 12.5.12, 12.8.1, 12.8.8, 12.8.9, 12.8.11, 12.8.12, 12.8.14, 12.8.16, 12.8.17, 12.8.20, 12.8.24, 12.8.25, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.21, 12.9-10.25, 12.9-10.26, 12.9-10.27, 12.9-10.28, 12.9-10.29, 12.11.2, 12.11.3, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.14, 12.11.15, 12.11.16, 12.11.17, 12.11.18, 12.11.22, 12.11.23, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.2, 12.12.3, 12.12.4, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.14, 12.12.15, 12.12.23, 12.12.24, 12.12.25, 12.12.28, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.3.7, 13.9.2, 13.11.1, 13.11.2, 13.11.3, 13.11.4, 13.11.5, 13.11.6, 13.11.8, 13.11.9, 13.12.1, 13.12.2, 13.12.3, 13.12.4, 13.12.5, 13.12.6, 13.12.8, 13.12.9, 13.12.10.

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

No Class A

No Class B

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 5 Plan: RP880863.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.resources.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form

Regulated vegetation management map

The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map

The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

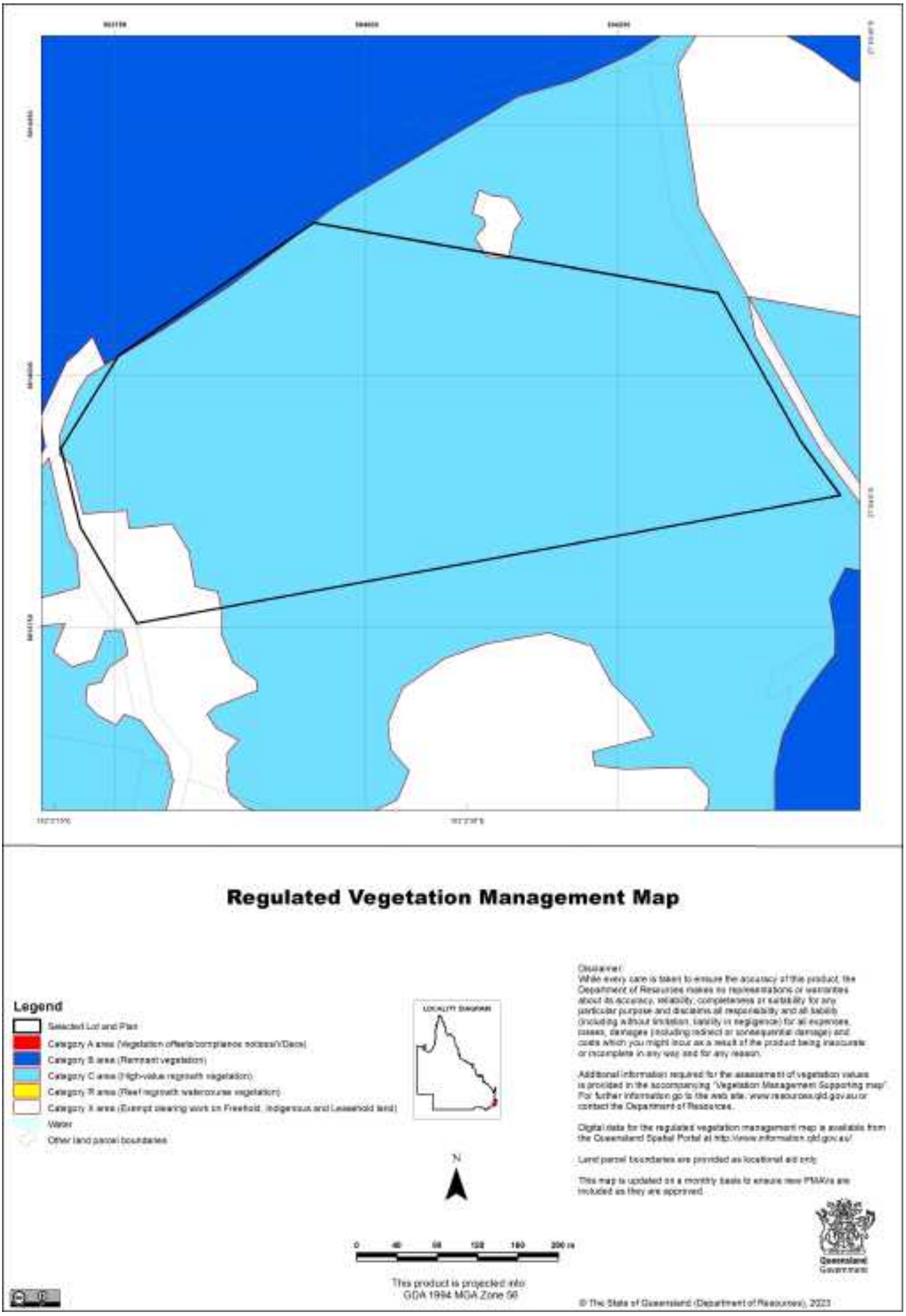
Coastal/non-coastal map

The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

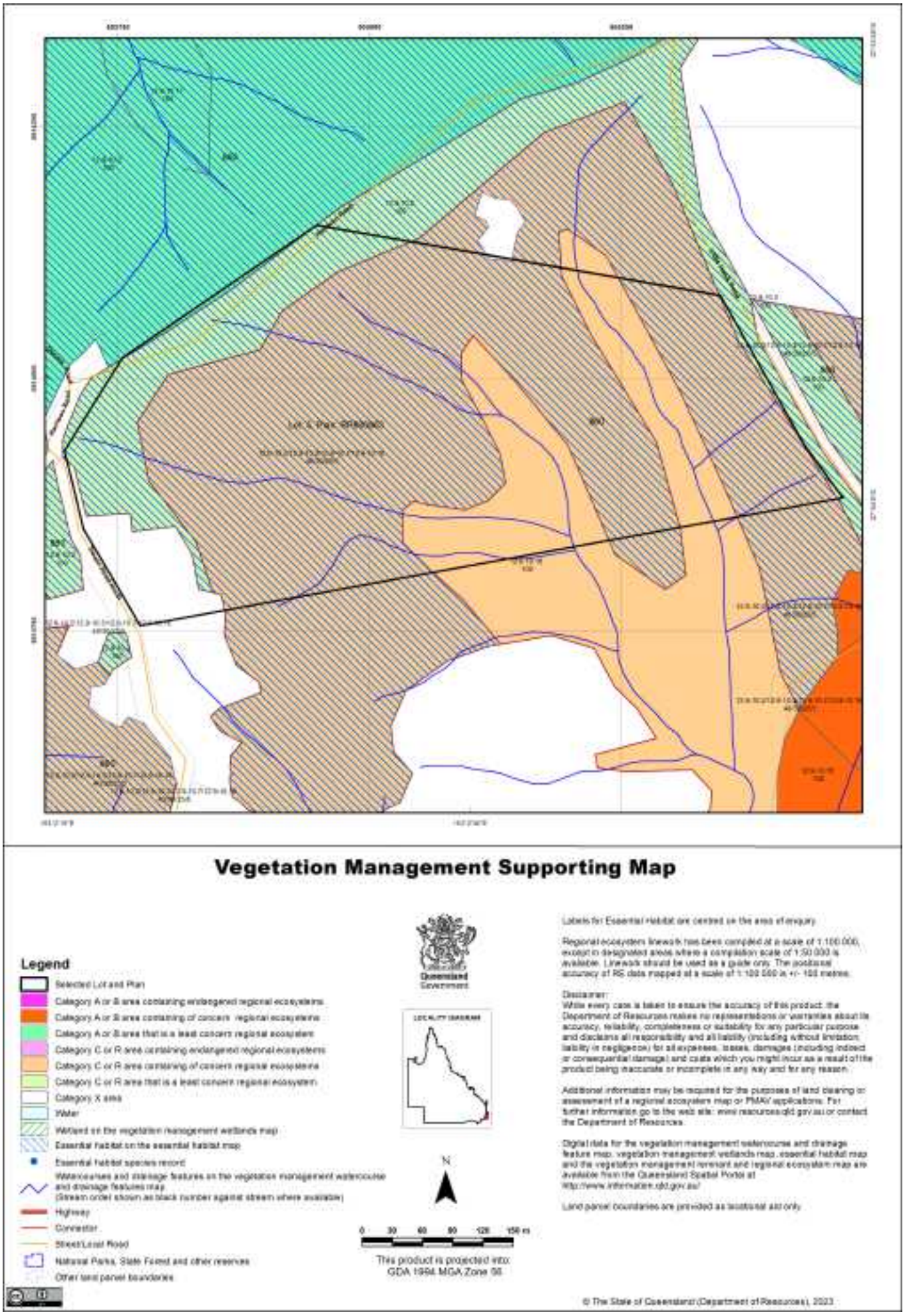
Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture

The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

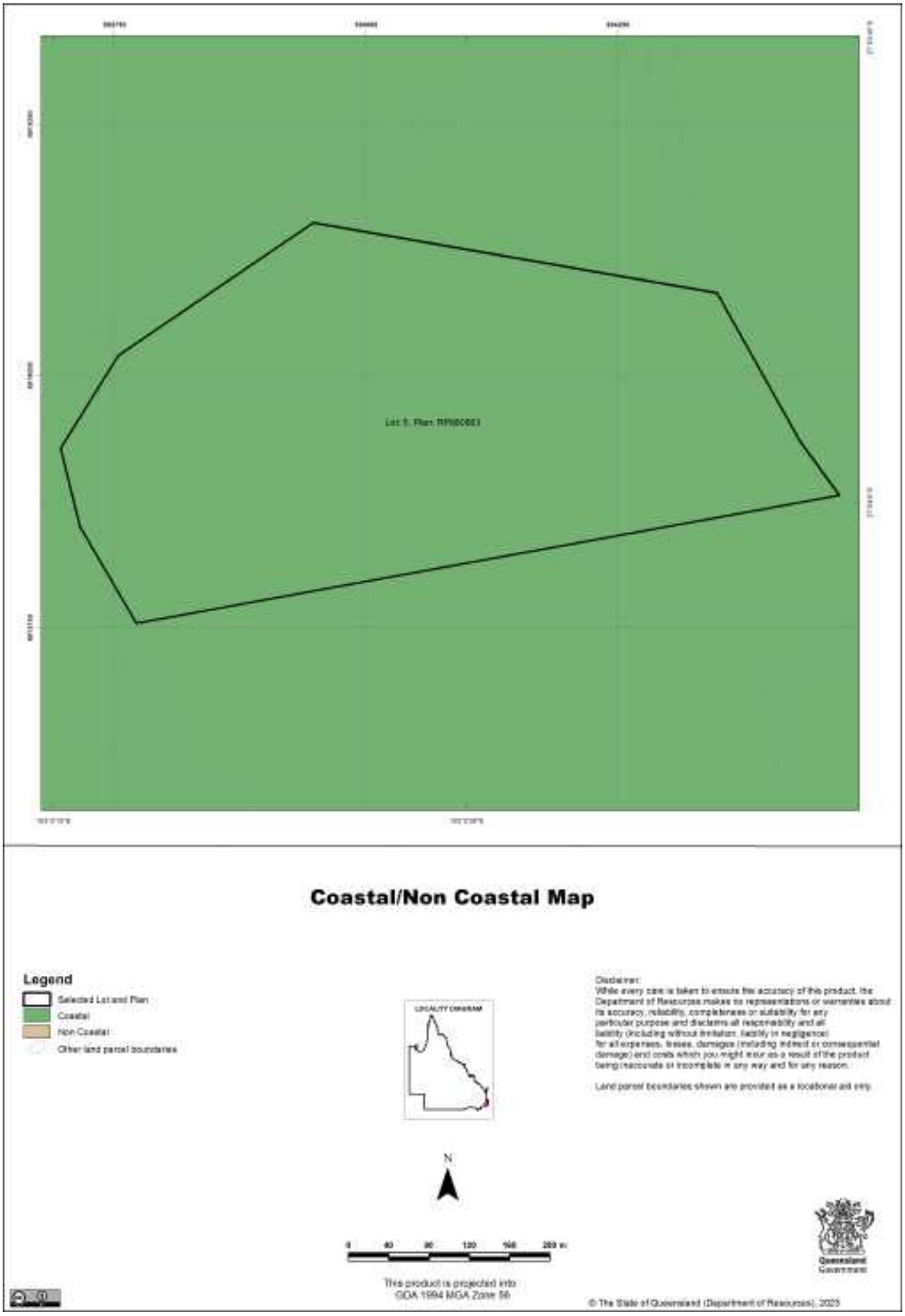
4.1 Regulated vegetation management map



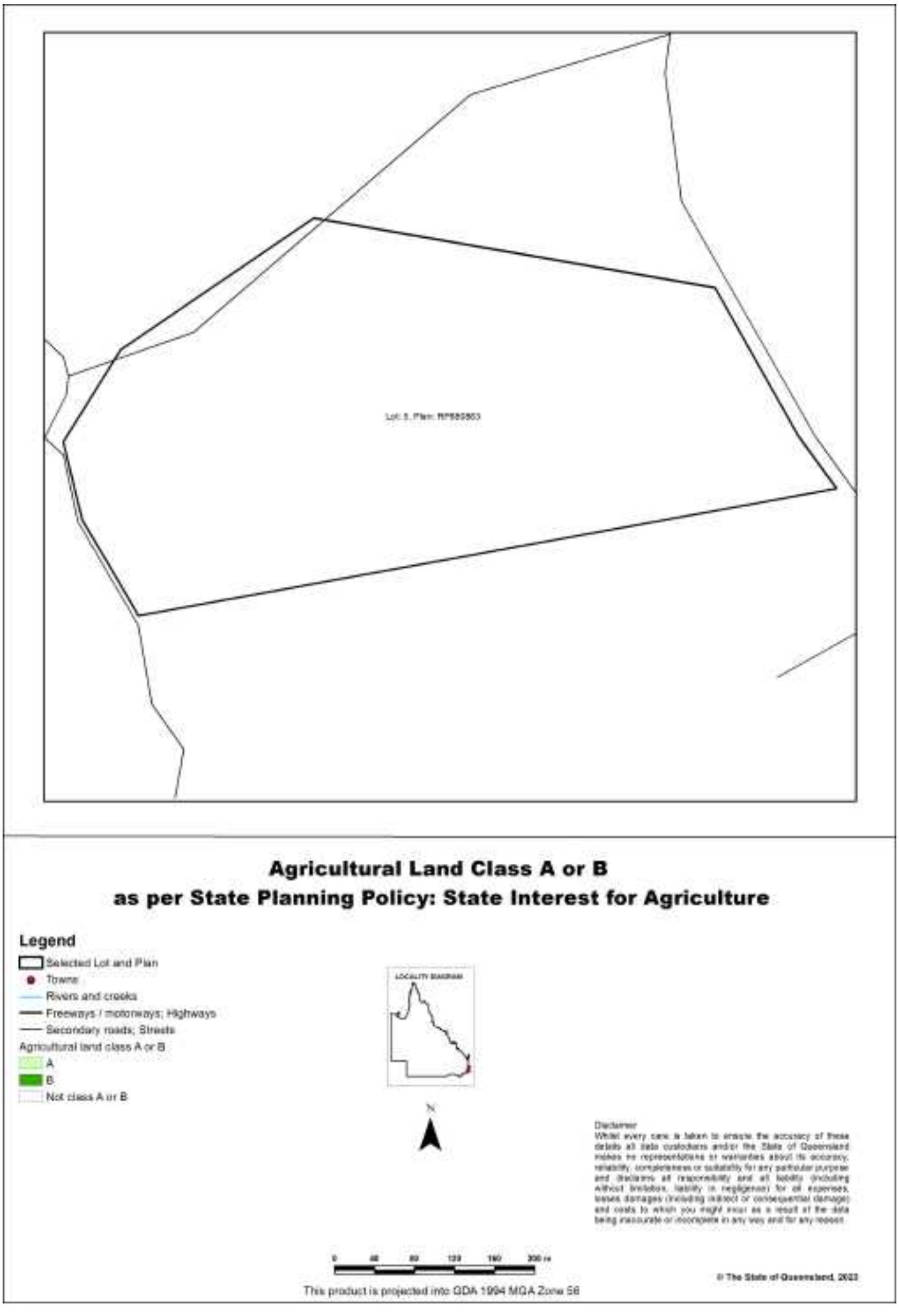
4.2 Vegetation management supporting map



4.3 Coastal/non-coastal map



4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



5. Protected plants framework (administered by the Department of Environment and Science (DES))

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for threatened and near threatened plants. These are areas where threatened or near threatened plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any threatened or near threatened plants that may be present in the clearing impact area.

If the flora survey identifies that threatened or near threatened plants are not present within the clearing impact area or clearing within 100m of a threatened or near threatened plant can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of Environment and Science, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that threatened or near threatened plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the clearing permit application form.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that threatened or near threatened plants are present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DES

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@des.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

5.5 Protected plants flora survey trigger map

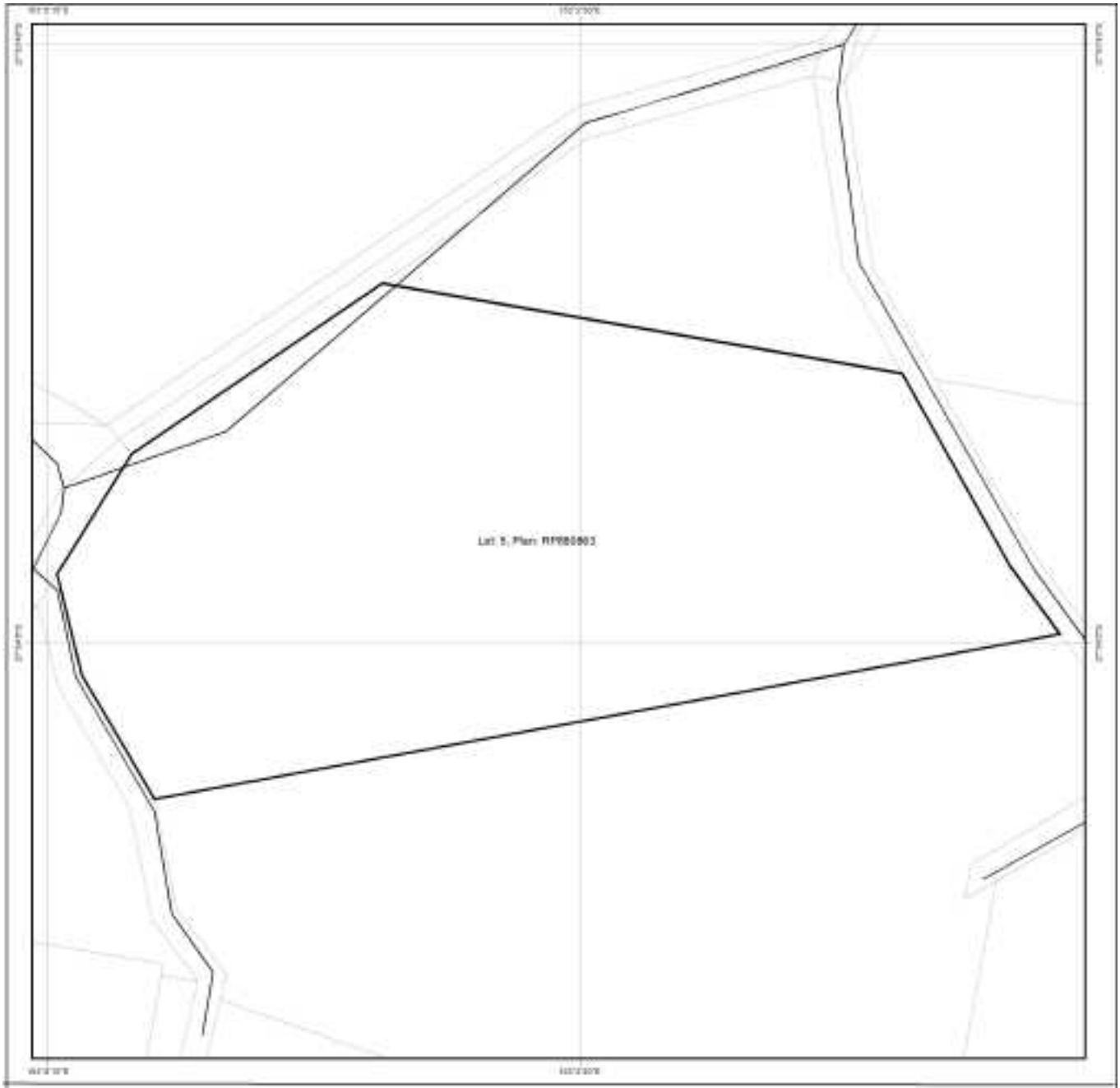
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of Environment and Science does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment and Science webpage on the clearing of protected plants for more information.



Protected Plants Flora Survey Trigger Map

Legend

- Selected Lot and Plan
- High risk area
- Other land parcel boundaries
- Freeways / motorways / highways
- Secondary roads / streets

N

0 30 60 90 120 150 m

This product is projected into:
GDA 1994 MGA Zone 56

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@des.qld.gov.au

Disclaimer:
While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

6. Koala protection framework (administered by the Department of Environment and Science (DES))

The koala (*Phascolarctos cinereus*) is listed in Queensland as endangered by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley,

Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1) Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2) Does not include destroying standing vegetation by stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:

- building works, operational works, material change of use or reconfiguration of a lot where:
  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DES

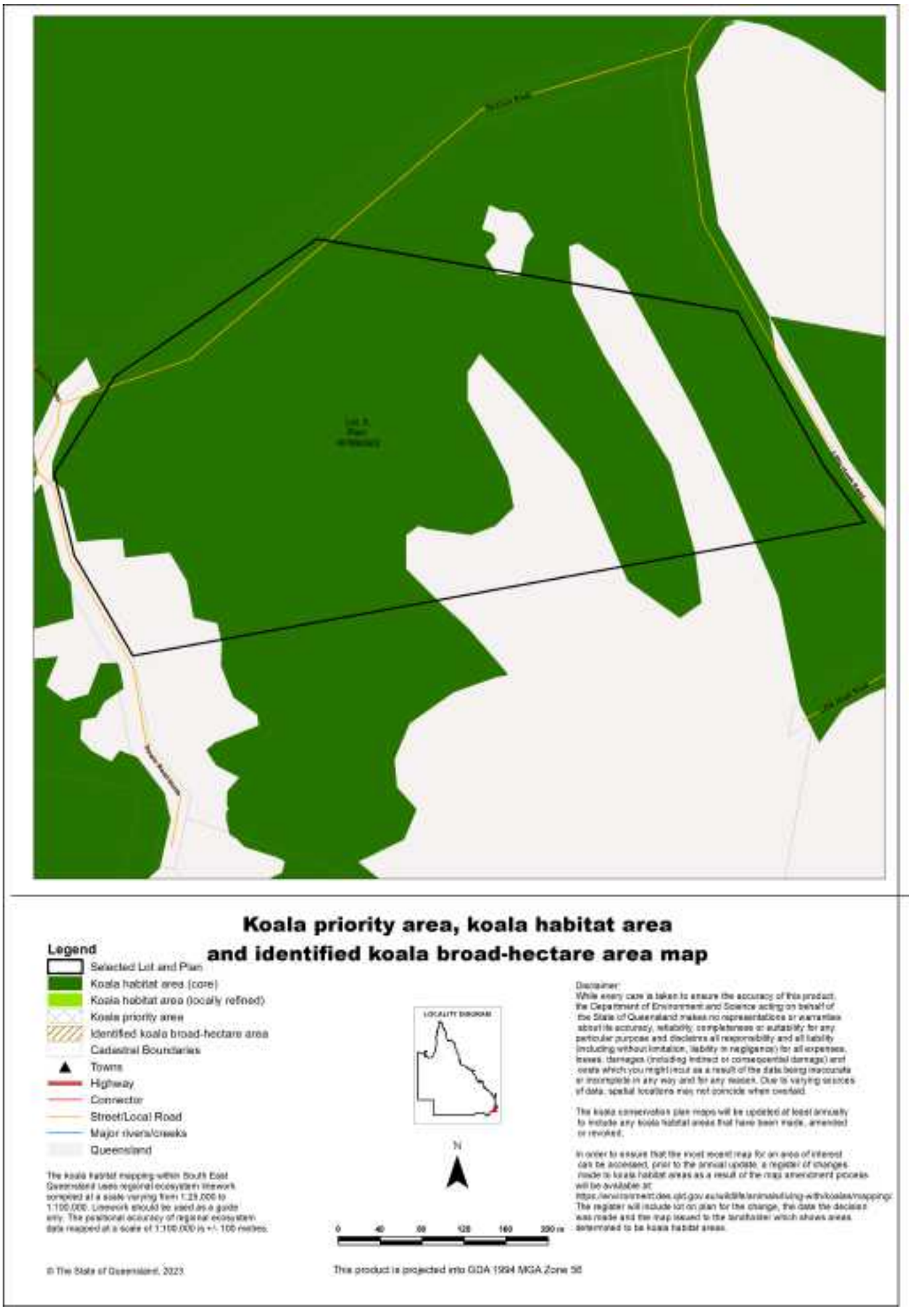
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@des.qld.gov.au
Visit https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 5 Plan: RP880863

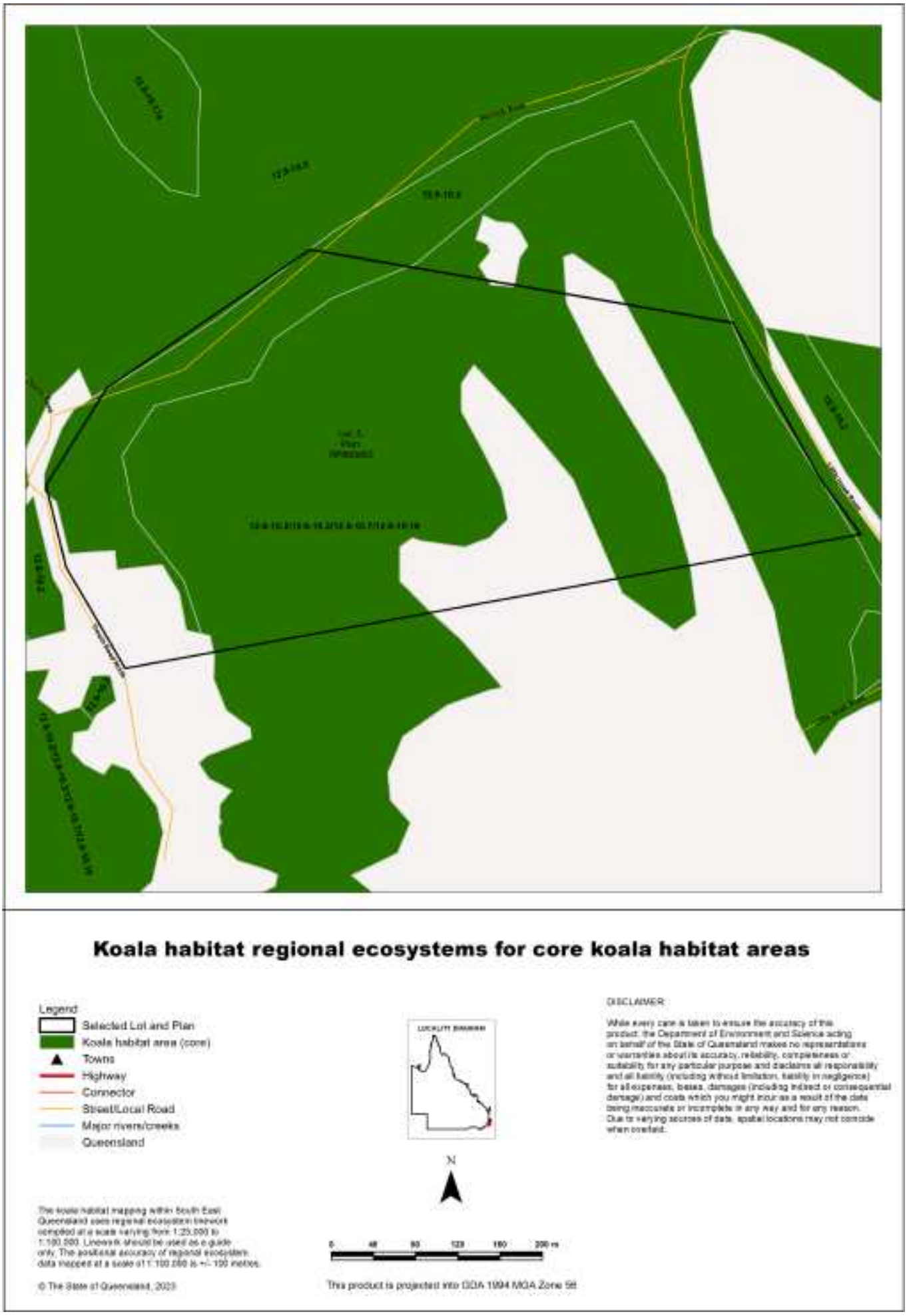
7.1 Koala districts

Koala District A

7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map



7.3 Koala habitat regional ecosystems for core koala habitat areas



8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
• Interference with overland flow • Earthworks, significant disturbance	*Water Act 2000* *Soil Conservation Act 1986*	Department of Regional Development, Manufacturing and Water (Queensland Government) Department of Resources (Queensland Government)	Ph: 13 QGOV (13 74 68) www.rdmw.qld.gov.au www.resources.qld.gov.au
• Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
• Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992*	Department of Environment and Science (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
• Protected plants and protected areas	*Nature Conservation Act 1992*	Department of Environment and Science (Queensland Government)	Ph: 1300 130 372 (option 4) palm@des.qld.gov.au www.des.qld.gov.au
• Koala mapping and regulations	*Nature Conservation Act 1992*	Department of Environment and Science (Queensland Government)	Ph: 13 QGOV (13 74 68) Koala.assessment@des.qld.gov.au
• Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures	*Fisheries Act 1994* *Forestry Act 1959*	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
• Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of Agriculture, Water and the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
• Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au
• Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Department of State Development, Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office
• Harvesting timber in the Wet Tropics of Qld World Heritage area	*Wet Tropics World Heritage Protection and Management Act 1993*	Wet Tropics Management Authority	Ph: (07) 4241 0500 www.wettropics.gov.au

Appendix C – Flora Species Identified On-Site

Species Name	Common Name	Status	Exotic
Acacia disparrima subsp. *disparrima*	Hickory wattle	C	
Acacia fimbriata	Brisbane wattle	C	
Acacia maidenii	Maiden's wattle	C	
Acacia podalyriifolia	Silver wattle	C	
Agave spp.	Agave		Y
Allocasuarina littoralis	Black sheoak	C	
Alphitonia excelsa	Red ash	C	
Bidens pilosa	Cobbler's pegs		Y
Bryophyllum fedtschenkoi	Lavender scallops		Y
Cirsium vulgare	Spear thistle		Y
Corymbia citriodora subsp. *variegata*	Spotted gum	C	
Corymbia torreliana	Cadaghi		Y
Cymbopogon refractus	Barbed wire grass	C	
Cynodon dactylon	Common couch	C	
Dianella caerulea	Blue flax lily	C	
Emilia sonchifolia	Emilia		Y
Eragrostis brownii	Lovegrass	C	
Eucalyptus crebra	Narrow-leaved red ironbark	C	
Eucalyptus moluccana	Gum-topped box	C	
Glycine clandestina	Twining glycine	C	
Goodenia rotundifolia	Star goodenia	C	
Heptapleurum actinophyllum	Umbrella tree		Y
Imperata cylindrica	Blady grass	C	
Jacksonia scoparia	Dogwood	C	
Lantana camara	Lantana	RIP	Y
Lepidosperma laterale	Variable swordsedge	C	
Lophostemon confertus	Brush box	C	
Myoporum acuminatum	Boobialla	C	
Panicum effusum	Hairy panic	C	
Sansevieria trifasciata	Mother in law's tongue		Y
Setaria sphacelata	South African pigeon grass		Y
Themeda triandra	Kangaroo grass	C	
Xanthorrhoea johnsonii	Grass tree	SL	

*Status:

SL = Special Least Concern under the NCA, C – Least Concern under State and Commonwealth Legislation, Y = Introduced

Qld Biosecurity Act 2016: OIP = Other Invasive Plant, RIP = Restricted Invasive Plant

Appendix D – Conservation Significant Fauna Species Likelihood of Occurrence Assessment

Table D1: Likelihood of Occurrence of Conservation Significant Fauna Species on Site

This table incorporates the results of the desktop assessment and the site survey results to determine whether species recorded in the desktop survey results are likely to occur on or near the site based on existing habitat and resources available. Species' habitat descriptions are summarised from the Commonwealth DoEE EPBC SPRAT (Species Profile and Threat) Database (https://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl or for species not listed under the EPBC – the Qld Dept of Environment and Science 'Threatened Species Profiles' https://environment.des.qld.gov.au/wildlife/threatened-species/ and or the NSW OEH Threatened Species Profiles database https://www.environment.nsw.gov.au/threatenedspeciesapp/.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Actitis hypoleucos	Common sandpiper	MWS	**UNLIKELY** *Actitis hypoleucos* utilises a wide range of coastal wetlands and inland wetlands, primarily found around muddy margins or rocky shores, estuaries, stream banks, lakes, pools, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties, mangroves, and areas of mud littered with rocks and / or snags. Roosts on rocks or in roots or branches of vegetation, mangroves, posts, jetties, moored boats and other artificial structures. This species forages in shallow water and on bare soft mud at the edges of wetlands, often where obstacles project from substrate and sometimes ventures into grassy areas adjoining wetlands. The common sandpiper feeds on molluscs, crustaceans and insects. Suitable habitat for this species is not present on-site.
Anthochaera phrygia	Regent honeyeater	E, CE[#]	**UNLIKELY** The Regent Honeyeater is endemic to south-east Australia, where it is widespread but with an extremely patchy distribution. Its range extends from south-east Queensland to central Victoria. In Queensland, the Regent Honeyeater has been recorded from 15 sites, primarily south Chinchilla and the Sunshine Coast. Regent Honeyeaters mostly occur in dry Box-Ironbark eucalypt woodland and dry sclerophyll forest associations in areas of low to moderate relief, especially along creek flats, or in broad river valleys and foothills. Although marginal habitat for this species exists on the site, they were not observed. Known breeding sites for this species are restricted to areas west of the Great Dividing Range.'
Apus pacificus	Fork-tailed Swift	MM	**UNLIKELY** *Apus pacificus* is a medium to large member of the swift family characterised by a long and deeply forked tail. The Fork-tailed Swift is a non-breeding visitor to all states and territories of Australia and in Qld records are widespread but scattered in coastal areas from 20° S, south to Brisbane and in much of the south south-eastern region. The Fork-tailed Swift is almost exclusively aerial, found inland and in coastal areas. They often occur over cliffs and beaches and sometimes well out to sea. They also are recorded over urban areas and cities. Habitats are typically riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh but also grassland and sandplains covered with spinifex, open farmland, coastal sand-dunes and inland. They have been occasionally recorded above rainforests, wet sclerophyll forest or open forest or plantations of pines. Though possible habitat exists on site this species is unlikely to habit the subject site.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Argynnis hyperbius inconstans	Australian fritillary	CE	**UNLIKELY** *Argynnis hyperbius inconstans* predominately occurs around river estuaries or open, swampy coastal areas. The species is restricted to areas where the larval *Viola betonicifolia* (the arrowhead violet), occurs. Moderate densities are required to support a breeding population. The leaves of the arrowhead violet are food for the caterpillars, while adults forage in swampy areas with arrowhead violets feeding on various flowering plants The arrowhead violet typically grows in damp, shaded forest habitats (Australian National Herbarium 2015) and in association with *Lomandra longifolia* (long leaved matrush) and *Imperata cylindrica* (blady grass). This species was not recorded on the subject site so *Argynnis hyperbius inconstans* is unlikely to habit the subject site.
Botaurus poiciloptilus	Australasian bittern	C, E[#]	**UNLIKELY** The Australasian Bittern occurs from south-east Queensland to south-east South Australia, Tasmania and the south-west of Western Australia. The species is rarely recorded in Queensland, and possibly survives only in protected areas such as the Cooloola and Fraser regions. The Australasian Bittern occurs in terrestrial freshwater wetlands and, rarely, estuarine habitats. 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. The Australasian Bittern has been recorded feeding on freshwater crayfish, fish (including goldfish), beetles, snakes, leaves and fruit. Suitable habitat for this species does not occur on the subject site.
Calidris acuminata	Sharp-tailed sandpiper	MWS	**UNLIKELY** *Calidris acuminata* inhabit Australia during the non-breeding season. Their preferred habitat includes muddy edges of shallow fresh or brackish wetlands, saltmarsh, lagoons, swamps, coastal lakes and pools, dams, waterholes, soaks, bore drains and swamps, saltpans and hypersaline salt lakes inland. This species roosts at the edge of wetlands, on wet open mud or sand, in shallow water, or in short sparse vegetation sandy beaches, stony shores or on rocks in water. Sharp-tailed sandpiper forage at the edge of the water of wetlands or intertidal mudflats, wet mud or sand, shallow water, among inundated vegetation, freshwater wetlands, wet or dry mats of algae, among rotting beach cast seagrass or seaweed. This species feeds on seeds, worms, molluscs, crustaceans, insects, arachnids and dead fish. It is unlikely that this species utilises the waterway or dam present on the site.
Calidris ferruginea	Curlew sandpiper	CE	**UNLIKELY** *Calidris ferruginea* is a small wader that migrates in summer from Siberia (however some birds remain in Australia during breeding season despite not breeding in Australia) and inhabits the Australian coast and sporadically inland. It prefers intertidal mudflats in sheltered coastal areas including estuaries, bays, inlets, lagoons, non-tidal swamps, coastal lakes and lagoons, with exposed sandy or muddy edges. Other habitats this species forages include saltmarsh at high tide, wet mats of algae or waterweed, or on banks of beachcast seagrass or seaweed. Curlew sandpipers generally roost on shell or sand beaches, sandspits and islets in or around coastal or near-coastal lagoons and other wetlands. Suitable habitat for this species is not present on-site.
Calidris melanotos	Pectoral sandpiper	SL, MWS	**UNLIKELY / POSSIBLE / LIKELY / EVIDENCE ENCOUNTERED / OBSERVED** *Calidris melanotos* inhabits shallow fresh to saline wetlands (with open fringing mudflats and emergent or fringing vegetation), coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks,

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
			floodplains and artificial wetlands. Pectoral sandpiper forage in shallow water or soft mud at the edge of wetlands on algae, seeds, crustaceans, arachnids and insects (Higgins & Davies 1996). Suitable habitat for this species is not present on-site.
Calyptorhynchus lathami	Glossy black cockatoo	V	**UNLIKELY** *Calyptorhynchus lathami lathami* inhabit open forests and woodlands of the coast and the Great Dividing Range (up to 1000 metres elevation), preferring drier forests within intact landscapes (NPWS 1999). Glossy Black-Cockatoo habitat typically includes stands of Sheoak species such as Black Sheoak (*Allocasuarina littoralis*), Forest Sheoak (*A. torulosa*), or Drooping Sheoak (*A. verticillata*) (Higgins 1999; DEC NSW 2011). This species' diet only consists of the seeds from Casuarina and Allocasuraina trees. Glossy Black-Cockatoos are social birds and are typically observed in pairs or family groups. Glossy Black-Cockatoos are dependent on large hollow-bearing eucalypts for nest sites. The hollows used by the birds are usually at least 14 cm in diameter (Garnett et al. 1999). The same hollow may be reused in subsequent years by the same or different females (Higgins 1999; Mooney and Pedler 2005). Breeding occurs from March to August, with laying in autumn and nesting over winter. Suitable habitat for this species is not present on-site.
Chalinolobus dwyeri	Large-eared Pied Bat	V, V#	**UNLIKELY** The distribution of the large-eared pied bat is discontinuous and ranges from Shoalwater Bay in Queensland through to Ulladulla in New South Wales. In south-east Queensland *Chalinolobus dwyeri* predominately inhabits caves, hollows of trees, mine shafts, overhangs and disused Fairy Martin (*Hirundo ariel*) nests in high altitude, moist eucalypt forest and rainforest. The NSW OEH profile for this species indicates that it is not been recorded in the Sunshine Coast-Gold Coast Lowlands. Suitable habitat for this species is not present on the subject site.
Charadrius leschenaultii	Greater sand plover	V, V#, MWS	**UNLIKELY** Nominate subspecies C. l. leschenaultii breeds in the northern parts of the Gobi Desert in Mongolia, in north-western China and southern Siberia, and spends the nonbreeding season in Australasia, south-east Asia and the Indian s (Marchant & Higgins 1993; Christidis & Boles 2008). To untrained observers, greater sand plovers may be difficult to detect in mixed flocks of shorebirds although, when roosting, the greater sand plover tends to roost higher up the beach than other shorebirds and is usually segregated from lesser sand plovers (Marchant & Higgins 1993). In the non-breeding grounds in Australasia, the species is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches, large intertidal mudflats, sandbanks, salt-marshes, estuaries, coral reefs, rocky islands rock platforms, tidal lagoons and dunes near the coast (Marchant & Higgins 1993; del Hoyo et al. 1996; BirdLife International 2015). Suitable habitat for this species is not present on the subject site.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Climacteris picumnus victoriae	Brown Treecreeper	V, V#	**UNLIKELY** The Brown Treecreeper is endemic to eastern Australia and occurs in eucalypt forests and woodlands of inland plains and slopes of the Great Dividing Range. It is less commonly found on coastal plains and ranges. The subspecies mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species. The subspecies is not usually found in woodlands with a dense shrub layer, and it is absent from heavily degraded woodlands and steep rocky hills (Noske 1982). Suitable habitat for this species is not present on the subject site.
Cuculus optatus	Oriental Cuckoo, Horsefield's Cuckoo	SL, MT	**UNLIKELY** *Cuculus optatus* is a rare non-breeding summer migrant (September to May) to Australia where it is found from the Kimberley Region in Western Australia to north-east and eastern Queensland and eastern NSW to the Shoalhaven River. In SEQ this species typically inhabits rainforest edges, moist gullies, wet sclerophyll forest, riparian forest and mangrove forests. Suitable habitat for this species is not present on the subject site.
Cyclopsitta diophthalma coxeni	Coxen's Fig-Parrot	CE	**UNLIKELY** *Cyclopsitta diophthalma coxeni* is most commonly found in habitats that occur from sea level to roughly 900m above sea level (Coxen's Fig-Parrot Recovery Team 2001). This species inhabits dry rainforest, subtropical rainforest, littoral and developing littoral rainforest and vine forest. Within these rainforests *Cyclopsitta diophthalma coxeni* is likely to favour alluvial areas that support figs and other trees with fleshy fruits. Other habitats this species have been recorded in include corridors of riparian vegetation in woodland; sub-littoral mixed scrub; isolated stands of fig or other trees on urban, agricultural or cleared land; and open woodland or other types of cleared or partially cleared habitat. The diet of *Cyclopsitta diophthalma coxeni* mainly consists seeds predominantly taken from fig trees, especially *Ficus macrophylla* and *F. watkinsiana*. However, it also feeds on nectar and lichens. Suitable habitat does not occur on the subject site.
Dasyurus maculatus maculatus	Spotted-tail Quoll, Tiger Quoll	V, E#	**UNLIKELY** The species occurs along the coast and western slopes from southern Queensland to Tasmania. In SEQ this species is restricted to remnant wet eucalypt forest and rainforest in relatively remote, mountainous regions. This predominantly nocturnal species rests in family groups during the day in dens. Habitat requirements include suitable den sites such as hollow logs, tree hollows, rock outcrops or caves. Individuals require an abundance of food such as birds and small mammals, and large areas of relatively intact vegetation through which to forage. Suitable habitat does not occur on the subject site.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Delma torquata	Adorned Delma	V, V#	**UNLIKELY** *Delma torquata* is endemic to Qld where it typically inhabits Poplar Box woodland on alluvial plains, Brigalow open forest on fine-grained sedimentary rocks and Spotted Gum open forest on coarse-grained sedimentary rocks in the Brigalow Belt bioregion (land zones 3,9 and 10). This species has also been recorded in the north-western parts of Brisbane (Mt Crosby and Moggill State Forest). Suitable habitat for this species is not present on the subject site.
Erythrotriorchis radiatus	Red goshawk	E, E#	**UNLIKELY** The Red Goshawk is endemic to Australia where it is sparsely dispersed across approximately 15% of coastal and sub-coastal Australia, from western Kimberley Division (north of 19°S) to northeastern NSW (north of 33°), and occasionally on continental islands. The Red Goshawk occurs in large bushland remnants of coastal and sub-coastal open forest and rainforest usually near watercourses. Such habitats typically support high bird numbers and biodiversity, especially medium to large bird species which the goshawk requires for prey. The Red Goshawk nests in large trees within 1km of permanent water. Suitable habitat for this species is not present on the subject site.
Falco hypoleucos	Grey falcon	V	**UNLIKELY** *Falco hypoleucos* inhabits arid and semi-arid zones throughout Australia, generally west of the Great Dividing Range within Southern Queensland. This species undertakes seasonal movements between the arid zone and northern areas of Australia, as well as east-west migrations within Queensland and New South Wales. Its current range is considered to be stable, although has likely lost some of its breeding distribution in the 20th century. Grazing and clearing of woodland within the semi-arid and arid zones are the main threatening actions for this species. Suitable habitat for this species is not present on the subject site.
Furina dunmalli	Dunmall's Snake	V	**UNLIKELY** *Furina dunmalli* prefers a range of different habitats that are between 200 to 500m above sea level. These habitats include forests and woodlands on black alluvial cracking clay and clay loams dominated by native Cypress (*Callitris spp.*), Brigalow (*Acacia harpophylla*), other wattles (*A. burowii, A. deanii, A. leioclyx*) or Bull-oak (*Allocasuarina luehmannii*). Additionally, this species can also be found in various Blue Spotted Gum (*Corymbia citriodora*), Ironbark (*Eucalyptus crebra* and *E. melanophloia*), White Cypress Pine (*Callitris glaucophylla*) and Bulloak open forest and woodland associations on sandstone derived soils. Records show that some *Furina dunmalli* have inhabited the hard ironstone country near Dalby, Queensland. There is insufficient knowledge on the ecological requirements of this species, although some *Furina dunmalli* have been found taking refuge under fallen timber and ground litter as well as cracks in alluvial clay soil.
Gallinago hardwickii	Latham's Snipe	MWS	**UNLIKELY** *Gallinago hardwickii* prefers permanent and ephemeral wetlands up to 2,000 m above sea-level. Usually the species inhabits open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around water bodies). However, they can also occur in modified or artificial habitats, and in habitats located close to humans or human activity. Latham's snipe feeds mostly on seeds, other plant material primarily from Cyperaceae, Poaceae, Juncaceae, Polygonaceae, Ranunculaceae and Fabaceae and insects. Suitable habitat for this species is not present on the subject site.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Geophaps scripta scripta	Squatter Pigeon (southern)	V	**UNLIKELY** The known distribution of *Geophaps scripta scripta* extends south from the southern region of Cape York Peninsula to the Border Rivers region of northern NSW, and from the east coast to Hughenden, Longreach and Charleville, Queensland. This species' habitat is defined as open-forests to sparse, open-woodlands and scrub that are dominated in the overstorey by *Eucalyptus*, *Corymbia*, *Acacia* or *Callitris* species with remnant, regrowth or partly modified vegetation communities, and within 3 km of water bodies or courses. In Qld, Squatter Pigeon (southern) foraging and breeding habitat is known to occur on well-draining, sandy or loamy soils on low, gently sloping, flat to undulating plains and foothills (Land Zone 5), and lateritic (duplex) soils on low 'jump-ups' and escarpments (Land Zone 7). Suitable habitat for this species is not present on the subject site.
Grantiella picta	Painted Honeyeater	V	**UNLIKELY** *Grantiella picta* inhabits the eastern states of Australia, generally west of the Great Dividing Range within Queensland. This species is generally associated with arid and semi-arid habits, as well as the western slopes of the Great Dividing Range. It is a specialist feeder on Mistletoes, with insects and / or nectar sometimes eaten. Suitable habitat for this species is not present on the subject site.
Hemiaspis damelii	Grey Snake	E, E#	**UNLIKELY** The Grey Snake occurs in Brigalow Acacia harpophylla and Belah Casuarina cristata woodlands on heavy, cracking clay soils, particularly in association with water bodies, areas with small gullies and ditches, and floodplain environments where it shelters beneath logs, rocks and soil cracks (Queensland Government, 2020). The species has a broader dispersed distribution, but records indicate it is still closely associated with floodplain habitat, especially along the Macintyre River and Condamine River. Specific areas the species is found include the Goondiwindi area and the adjacent Darling-Riverine Plain, from the Darling Downs and from the Lockyer Valley with an isolated sub-population near Rockhampton. The core area for the Grey Snake in the Brigalow Belt is south of the Great Dividing Range between Dalby and Glenmorgan (Hobson 2012, Queensland Government, 2020).
Hirundapus caudacutus	White-throated Needletail	SL, MT	**POSSIBLE** *Hirundapus caudacutus* migrates to Australia in Summer where it is recorded in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains. This species is almost exclusively aerial, most often seen at heights of less than 1 m up to more than 1000 m above the ground. Foraging in flight above a wide variety of more often wooded habitats but including, farmland, heathland, mudflats, open habitats, recently disturbed areas, updraughts near ridges or cliffs or sand-dunes. This species roosts in tree hollows or the canopy of open forests and woodlands. *Hirundapus caudacutus* was not seen during surveys, but the site may provide habitat for this species.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Lathamus discolor	Swift Parrot	E, CE[#]	**UNLIKELY** *Lathamus discolor* breeds in Tasmania during spring and summer, migrating in the autumn and winter months to south-eastern Australia from Victoria and the eastern parts of South Australia to south-east Queensland. On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such as Swamp Mahogany, Spotted Gum, Red Bloodwood, Qld Blue gum / Forest Red Gum, Mugga Ironbark, and White Box. Suitable habitat for this species is not present on the subject site.
Macroderma gigas	Ghost bat	E, V[#]	**UNLIKELY** *Macroderma gigas* have been recorded in both arid regions (Pilbara region) and rainforest areas (North Queensland). The species roost in caves, old mine tunnels and in deep cracks in rocks. They usually roost in colonies but, because many of their roosting sites are being destroyed, it is rare to find large colonies. Ghost bats are distributed widely but patchily across the northern half of Australia and are found in a variety of tropical habitats (Nowak 1991, Ride 1970, Strahan 1983) During the daytime they roost in caves, rock crevices and old mines. Roost sites used permanently are generally deep natural caves or disused mines with a relatively stable temperature of 23°−28°C and a moderate to high relative humidity of 50−100 percent (Pettigrew et al., 1986; Churchill & Helman 1990; Churchill 1991; Armstrong & Anstee 2000; J. Toop unpublished data). Suitable habitat for this species does not occur on the subject site.
Mixophyes fleayi	Fleay's frog	E	**UNLIKELY** *Mixophyes fleayi* inhabits stream habitats from first to third order streams and is not found in ponds or ephemeral pools. The majority of *Mixophyes fleayi* inhabit areas at altitudes above 400m, however it is known to inhabit lowland forest at altitudes of 200m, 150m and 90m. Adults may be found in leaf litter near the watercourse, with females traveling distances of up to 35m from the stream and males traveling up to 58 meters from the stream. Tadpoles occur with several species of native fish but not introduced fish species. This species occurs in montane rainforest, open forest communities adjoining rainforest, rainforest and adjoining wet sclerophyll forests and marginal habitat where riparian habitat has been replaced by weeds. Suitable habitat for this species does not occur on the subject site.
Monarcha melanopsis	Black-faced Monarch	SL, MT	**UNLIKELY** *Monarcha melanopsis* (Black-faced Monarch) is a widespread and common summer breeding migrant from PNG found in eastern Australia from September to March where it habits rainforest, eucalypt forest and woodlands. The Black-faced Monarch builds a deep cup nest of casuarina needles, bark, roots, moss and spider web in the fork of a tree, about 3 m to 6 m above the ground. Suitable habitat for this species is not present on the subject site.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Myiagra cyanoleuca	Satin Flycatcher	SL, MT	**UNLIKELY** *Monarcha trivirgatus* are widespread in eastern Australia and are migratory, moving north in autumn to spend winter in northern Australia and New Guinea. Satin Flycatchers inhabit heavily vegetated gullies in eucalypt-dominated forests and taller woodlands, and on migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests. Suitable habitat for this species is not present on the subject site.
Motacilla flava	Yellow Wagtail	MTS	**UNLIKELY** *Motacilla flava* inhabits marshes, damp paddocks and airfields. The yellow wagtail prefers habitat that are damp with low vegetation cover. This migratory species breeds from April to August. Spending winter in sub-Saharan Africa, Africa and South Asia. The yellow wagtail feeds on invertebrates, seeds and other plant material. Suitable habitat for this species is not present on the subject site.
Numenius madagascariensis	Eastern curlew	CE	**UNLIKELY** *Numenius madagascariensis* is a large migratory shorebird. It is most commonly associated with sheltered coasts especially estuaries, bays, harbours and coastal lagoons, with large intertidal mudflats or sandflats, often with seagrass beds. The species is less frequently encountered on ocean beaches, coral reefs, rock platforms, and rocky islets. *Numenius madagascariensis* predominantly forages on sheltered intertidal sandflats or mudflats which are open except for seagrass, often near mangroves, in saltmarsh, rockpools, and beaches near the tide line. This species roosts during high tides on sandy spits and islets, especially on dry beach sand near the high-water mark, and among coastal vegetation including low saltmarsh or mangroves. Suitable habitat for this species is not present on-site.
Petauroides volans	Greater Glider	V, V#	**UNLIKELY** *Petauroides volans* is found in a variety of eucalypt forest and woodlands preferring taller, montane, moist eucalypt forests with relatively old trees and abundant hollows. This species is nocturnal, sheltering in tree hollows during the day, and requires areas of undisturbed and unfragmented native forest of at least 160km2 to maintain viable populations. Suitable habitat for this species is not present on the subject site.
Petaurus australis australis	Yellow-bellied Glider (south-eastern)	V	**UNLIKELY** *Petauroides australis* inhabits the eastern coast of Australia, with *P. a. australis'* distribution roughly from Rockhampton to South Australia and generally east of the Great Dividing Range. It inhabits wet and dry Eucalypt forest, mostly in areas of high rainfall. Breeding generally occurs in Spring. It is unlikely that this species utilises the subject site.
Petrogale penicillata	Brush-tailed Rock-wallaby	V	**UNLIKELY** *Petrogale penicillata* prefers to inhabit rocky habitats, including rocky outcrops, steep rocky slopes, loose boulder-piles, gorges, cliffs and isolated rock stacks (Murray et al. 2008; Short 1982). This species is also associated with wet sclerophyll forest, dense rainforest, dry sclerophyll forest, vine thicket and open forest (Murray et al. 2008). Additionally, *Petrogale penicillata* relies on dense arboreal cover, such as fig trees, for food and shelter (NSW NPWS 2003a). The

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
			diet of *Petrogale penicillata* comprises grasses preferring *Themeda triandra* (Kangaroo Grass) more than other grass species (Jarman & Phillips 1989). It also forages on forbs, and browses shrubs, trees and climbers which it browses. It is unlikely that this species utilises the subject site.
Phascolarctos cinereus	Koala	E, E#	**POSSIBLE** *Phascolarctos cinereus* inhabits dry open sclerophyll forests and woodlands occurring on fertile soils. Communities containing denser vegetation and larger trees are generally preferred; however *Phascolarctos cinereus* can also inhabit less optimal habitat such as young forests, highly fragmented vegetation communities, and small remnants. This species prefers to forage on leaves of *Eucalyptus* species but will also feed leaves of *Corymbia*, *Angophora*, *Lophostemon* and *Melaleuca* species. Although no evidence of this species was observed on the subject site, it is possible it utilises the site.
Potorous tridactylus tridactylus	Long-nosed Potoroo	V, V#	**UNLIKELY** *Potorous tridactylus tridactylus* are found in a variety of habitats from wet eucalypt forests to coastal heaths and scrubs along the eastern coast of Australia. Primary factors that determine habitat suitability include access to some form of dense vegetation for shelter and the presence of an abundant supply of fungi for food. Suitable habitat for this species is not present on the subject site.
Pseudomys novaehollandiae	New Holland Mouse	V	**UNLIKELY** *Pseudomys novaehollandiae* has a fragmented distribution across Tasmania, Victoria, NSW and Queensland. The species is now largely restricted to the coast of central and northern NSW (ACT ESDD 2013). The New Holland mouse prefers open heathlands, open woodlands with a heathland understorey and vegetated sand dunes with high floristic diversity, especially for leguminous perennials (Haering & Fox 1997; Kemper & Wilson 2008). The species typically lives in shared burrows with other individuals (Kemper 1980a; Lazenby et al. 2008). Thus, prefers deeper top soils and softer substrates for digging burrows (Wilson & Laidlaw 2003). Suitable habitat for this species is not present on the subject site.
Pteropus poliocephalus	Grey-headed flying-fox	C, V#	**POSSIBLE** The grey-headed flying-fox occurs in the coastal belt from Rockhampton to Melbourne. It requires foraging resources (typically flowering gums and paperbark) 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. None of the vegetation communities used by the Grey-headed Flying-fox produce continuous foraging resources throughout the year, so the species selectively forages where food is available. As a result, patterns of occurrence and relative abundance within its distribution vary widely between seasons and between years. At a local scale, the species is generally present intermittently and irregularly. The Grey-headed Flying-fox roosts in camps – often mixed species (black and little red flying foxes) and of various sizes. They most frequently travel around 15km from a roost site to feed although are capable of traveling up to 50km as food resources change. While no roost sites were found on-site, grey-headed flying-fox may periodically forage on the site when suitable food resources are available.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Rhipidura rufifrons	Rufous Fantail	SL, MW	**UNLIKELY** *Rhipidura rufifrons* is a north south migrant (and possibly altitudinal), inhabiting the dense undergrowth of rainforests, wet sclerophyll forests, swamp woodlands and mangroves. Whilst suitable foraging opportunities are available on the subject site, there is limited connectivity to dense, wet vegetation and preferred habitat for *Rhipidura rufifrons* within, and adjacent to, the site.
Rostratula australis	Australian painted snipe	V, E#	**UNLIKELY** *Rostratula australis* is a cryptic species that is generally encountered singly or in pairs, and less frequently in small groups. This species is most common in eastern Australia where it is usually found in shallow inland permanent or temporary wetlands. This species is piscivorous and nests on sheltered beaches above the high tide mark. Suitable habitat for this species is not present on the site.
Stagonopleura guttata	Diamond Firetail	V, V#	**UNLIKELY** The Diamond Firetail is endemic to south-eastern Australia, extending from central Queensland to the Eyre Peninsula in South Australia. The bird is mostly sedentary and lives in open grassy eucalypt forest and woodland, heath, mallee country, farmland and grassland with scattered trees. It is also often found in riparian areas (rivers and creeks). It is unlikely that this species utilises the subject site. It is unlikely that this species utilises the subject site.
Symposiachrus trivirgatus	Spectacled Monarch	SL, MT	**UNLIKELY** *Symposiachrus trivirgatus* is found in coastal north-eastern and eastern Australia, including coastal islands, from Cape York, Queensland to Port Stephens, New South Wales. Though migratory further south, this species is mostly resident in Qld where it typically inhabits thick understorey in rainforests, wet gullies, riparian vegetation and sometimes mangroves. Suitable habitat for this species is not present on the subject site.
Tringa nebularia	Common Greenshank	MWS	**UNLIKELY** *Tringa nebularia* occurs in all types of wetlands including inland wetlands (e.g. swamps, lakes, dams, rivers, creeks, inundated floodplains) and sheltered coastal habitats of varying salinity (e.g. tidal pools, harbours, river estuaries, lagoons). The species prefer wetlands with mud or clay edges with bare, emergent or fringing vegetation including short sedges and saltmarsh, mangroves, thickets of rushes and dead or live trees. The Common Greenshank does not breed in Australia, however a population of 18,000–19,000 spend the non-breeding season in Australia. It is typically seen singly or in small to large flocks, foraging at the edges of wetland, mudflats, channels or among mangrove pneumatophores, occasionally feeding on exposed seagrass beds. Its diet consists of molluscs, crustaceans, insects and occasionally fish and frogs. Suitable habitat for this species is not present on the subject site.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Turnix melanogaster	Black-breasted Button-quail	V, V#	**UNLIKELY** *Turnix melanogaster* is restricted to rainforests and forests, mostly in areas with 770-1200 mm rainfall per annum. This species prefers semi-evergreen vine thicket, low microphyll vine forest, araucarian microphyll vine forest and araucarian notophyll vine forest. It also occurs in dense acacia thickets and, littoral area, lantana which is used for diurnal foraging and nocturnal roosting and pasture grass adjacent to habitat areas. Extensive leaf-litter is required for foraging, fallen logs and a dense, heterogeneously distributed shrub layers are also considered to be important habitat characteristics for shelter and breeding. Suitable habitat for this species is not present on the subject site.

**Status: As listed within the Queensland Nature Conservation Act 1992: CR = Critically Endangered, E = Endangered, V = Vulnerable, NT = Near Threatened, SL = Special Least Concern, C = Least Concern. As listed in the Commonwealth Environment Protection and Biodiversity Conservation Act 1999: CE# = Critically Endangered, E# = Endangered, V# = Vulnerable, CD# = Conservation Dependent, I# = Introduced Species, MTS = Migratory Terrestrial Species, MWS = Migratory Wetland Species, M = Marine*

Appendix E – Biodiversity Areas Overlay Code Response

8.2.2 Biodiversity areas overlay code

8.2.2.1 Application

1. This code applies to accepted development (subject to requirements), compliance assessable and assessable development for which the Biodiversity areas overlay code is identified in the 'assessment benchmarks for assessable development and requirements for accepted development' column in Table 5.10.2.1 - Biodiversity areas overlay map OM-02.00 in Part 5 - Tables of assessment.
2. When using this code, reference should be made to section 5.3.2 - Determining the category of development and category of assessment and, where applicable, section 5.3.3. - Determining the requirements for accepted development and assessment benchmarks and other matters for assessable development located in Part 5 - Tables of assessment.

8.2.2.2 Purpose

1. The purpose of the code is to:
    a. connect biodiversity corridors;
    b. protect and enhance habitat values and ecosystem functions;
    c. protect scenic amenity values.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. Development protects and enhances:
        i. habitat values and biodiversity corridors;
        ii. native vegetation in the primary vegetation management area;
        iii. native trees and native habitat trees in the secondary vegetation management area;
        iv. wildlife habitat and movement;
        v. landscape values.

8.2.2.3 Requirements for assessment

Part A - Requirements for accepted development (subject to requirements) and assessment benchmarks for assessable development

Table 8.2.2.3.1 - Biodiversity areas overlay code: accepted development (subject to requirements) and assessable development

Performance outcomes	Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development		
Biodiversity corridors		
PO1 Development in a Biodiversity corridor identified on Biodiversity areas overlay map OM-02.02 is designed and located to: a. provide for habitat links; b. facilitate safe wildlife movement; c. facilitate wildlife refuge; d. enhance habitat values; e. rehabilitate degraded areas with native vegetation. Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	**AO1** Development is located outside a Biodiversity corridor identified on Biodiversity areas overlay map OM-02.02.	**Complies with AO1** Development is located outside a Biodiversity Corridor.
Primary vegetation management area		
PO2 Development in the Primary vegetation management area identified on Biodiversity areas overlay map OM-02.01 is designed and located: a. to: i. protect the current extent of native vegetation; or ii. achieve a net gain of native vegetation;	**AO2.1** Development is located to avoid the need to clear any native vegetation in the Primary vegetation management area identified on Biodiversity areas overlay map OM-02.01, unless: a. if identified as a Matter of local environmental significance and not Both matters of local and state environmental significance on Biodiversity areas overlay	**Complies with PO2** No Primary Vegetation Management Areas will be impacted by the works.

b. to rehabilitate degraded areas with native vegetation. Note - The Primary vegetation management area includes the locally significant vegetation identified on Biodiversity areas overlay map OM-02.03. Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report [for section (a)(i)] and an environmental offset report [for section (a)(ii)] prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	map OM-02.04, an offset is provided in accordance with section 3.1 - Environmental offset standards in Planning scheme policy 3 - Environmental management; or b. if identified as Both matters of local and state environmental significance or Matter of state environmental significance on Biodiversity areas overlay map OM-02.04, an offset is provided in accordance with the Queensland Environmental Offset Policy and the *Environmental Offsets Act 2014* Note - Compliance with AO2.1(a) is to be demonstrated by an environmental offset report prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management. Note - For purposes of AO2.1(b) the Queensland Government has separate regulatory requirements for matters of state environmental significance. This is regulated by the State Department Assessment Provisions. Note - Where the native vegetation is identified as Both matters of Local and State environmental significance and no offset is required by the Queensland Government for the native vegetation identified as a matter of state environmental significance, development is located to avoid the need to clear the native vegetation. **AO2.2** Development rehabilitates degraded areas in accordance with the South East Queensland Ecological Restoration Framework.	
Secondary vegetation management area		

PO3 Development in the Secondary vegetation management area identified on Biodiversity areas overlay map OM-02.01 is designed and located to either: a. protect the current extent of native trees and native habitat trees; or b. achieve a net gain of native trees and native habitat trees. Note - Compliance with this performance outcome is to be demonstrated by a basic ecological assessment report [for paragraph (a)] and environmental offset report [for section (b)] prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	**AO3** Development is located to avoid the need to clear any native trees and native habitat trees in the Secondary vegetation management area identified on Biodiversity areas overlay map OM-02.01, unless: a. if clearing less than 10 native trees, compensatory planting is provided of: i. two trees of the same species for every native tree cleared in a secondary vegetation management area; ii. four trees of the same species for every native habitat tree cleared in a secondary vegetation management area; b. if identified as a Matter of local environmental significance and not Both matters of local and state environmental significance on Biodiversity areas overlay map OM-02.04, an offset is provided in accordance with section 3.1 - Environmental offset standards in Planning scheme policy 3 - Environmental management; or c. if identified as Both Matters of local and state environmental significance or Matters of State environmental significance on Biodiversity areas overlay map OM-02.04, an offset is provided in accordance with the Queensland Environmental Offset Policy and the *Environmental Offsets Act* Note - Compliance with AO3(b) is to be demonstrated by an environmental offset report prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	**Complies with AO3** The works will impact 687m² of mapped Secondary Vegetation Management Area. This impact includes clearing required to facilitate the compound, tower, carpark and earth mount, along with a 10m bushfire buffer around the compound. An existing access track is in-place along the site's boundary, and it is anticipated that any works require to formalise this track will be within existing exempt clearing areas (e.g. within 5m of the site's boundary; discussed further in paragraphs below). Of the 687m² of mapped Secondary Vegetation Management area impacted by the works, 231m² is within areas along the boundary that have been previously cleared, with the remaining 456m² having Ecological Significance under the Planning Scheme Policy 3 – Environmental Management. Additionally, a total of 104m² is within 5m of the site's boundary, with clearing of this area comprising Accepted Development per *Logan Planning Scheme 2015 Part 5 Table 5.10.2.1.4*, given that the site is greater than 5ha in size. This leaves a balance impact of 352m² on Secondary Vegetation Management Areas. A KML file of this 352m² impact area, projected in GDA2020/MGA Zone 56, was uploaded to the Logan City Council Online Offset Estimator Tool.

	Note - For the purpose of AO3(c) the Queensland Government has separate regulatory requirements for matters of state environmental significance. This is regulated by the State Development Assessment Provisions. Note - Where the native vegetation is identified as a matter of state environmental significance and no offset is required by the Queensland Government for the native vegetation identified as a matter of state environmental significance, development is located to avoid the need to clear the native vegetation.	This tool found that there was a total of 267.3m² of MLES mapped within the impact area, with an associated estimated financial settlement offset at $2,624.32 (refer to the Ecological Site Assessment, Burchills 2023).
Koala corridor		
PO4 Development in a Koala corridor identified on Biodiversity areas overlay map OM-02.02 is designed and located to protect and enhance koala habitat. Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report	**AO4** Development: a. is located to avoid the need to clear any native vegetation in a Koala corridor identified on Biodiversity areas overlay map OM-02.02;	**Complies with AO4** Development is not within Koala corridor.

prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	b. in a Koala corridor identified on Biodiversity areas overlay map OM-02.02 rehabilitates degraded koala habitat values within the Koala corridor, in accordance with the South East Queensland Ecological Restoration Framework.	
Locally significant vegetation area		
PO5 Development in a Locally significant vegetation area identified on the Biodiversity areas overlay map OM-02.03 protects Melaleuca irbyana, vine forest, Gossia gonoclada and significant remnant vegetation areas from: a. encroachment; b. edge effects. Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	**AO5** Development is located outside of a Locally significant vegetation area as identified on Biodiversity areas overlay map OM-02.03.	**Complies with AO5** Development is located outside of Locally significant vegetation areas.
For assessable development		
Wildlife movement		
Locally significant Melaleuca irbyana buffer area		
PO6 Development in a Biodiversity corridor or koala corridor identified on Biodiversity areas overlay map OM-02.02 provides for the safe movement of native fauna by:	**AO6** Development in a Biodiversity corridor or koala corridor identified on Biodiversity areas overlay map OM-02.02 provides for the safe movement of native fauna through the implementation of:	N/A Development is not within a Biodiversity corridor or Koala corridor.

a. generating minimal additional night time traffic; b. minimising the risk of injury or death to wildlife by vehicular traffic; c. incorporating practices or measures to minimise disruption, injury or death during construction; d. providing that a road or accessway has a low design speed; e. providing fauna-friendly fencing. Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	a. the Queensland Government Fauna Sensitive Road Design Manual Volume 2: Preferred Practices; b. the Queensland Government Koala-sensitive Design Guideline.	
PO7 Development within the Locally significant Melaleuca irbyana buffer area identified on Biodiversity areas overlay map OM-02.03 protects the Locally significant Melaleuca irbyana area identified on Biodiversity areas overlay map OM-02.03 from: a. edge effects; b. adverse changes to the local hydrology. Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	**AO7** Development within the Locally significant Melaleuca irbyana buffer area identified on Biodiversity areas overlay map OM-02.03 provides for a vegetated buffer within 50 metres of the Locally significant Melaleuca irbyana area identified on Biodiversity areas overlay map OM-02.03.	N/A Development Is not within the Locally significant *Melaleuca irbyana* buffer area.
Landscape values		
PO8 Development is designed and located to protect and enhance the landscape values of: a. a ridgeline;	**AO8** No acceptable outcome provided.	N/A No ridgelines present on-site.

b. native vegetation.		
Lighting		
PO9 Development in a Biodiversity corridor or Koala corridor identified on Biodiversity areas overlay map OM-02.02 is designed to minimise adverse light impacts on native fauna.	**AO9** Lighting associated with development in a Biodiversity corridor or Koala corridor identified on Biodiversity areas overlay map OM-02.02: a. complies with the dark surrounds lighting levels in AS4282-1997 - Control of the obtrusive effects of outdoor lighting; b. is directed away from areas identified on Biodiversity areas overlay map OM-02.00.	N/A Development is not within a Biodiversity corridor or Koala corridor.

Appendix F – Initial Offset Estimate (LCC)

Your Environmental Offset Estimate Report

IMPORTANT NOTICE

If you are proposing development that requires the clearing of vegetation, please contact Council to obtain further advice on (07) 3412 3412 or via email: Council@logan.qld.gov.au. Do not rely solely on the offset estimation report below.

City of Logan - Planning and Development

Environmental Offset Estimate Report

Proposed Clearing Site: The area(s) you submitted online using the Logan PD Hub is shown in the Proposed Clearing Site Map below.

Request Received: 14/08/2023 02:54 PM

City of Logan - Planning and Development

Environmental Offset Estimate Report

Environmental Offsets

Financial settlement offsets are calculated under the Logan Planning Scheme 2015 to offset the unavoidable clearing of protected native vegetation required as a result of development.

An environmental offset is an action such as planting trees or a payment made by the property owner to compensate for the environmental impacts of their development – usually associated with clearing protected vegetation.

The Logan Planning Scheme 2015 (in Planning Scheme Policy 3 - Environmental management) identifies three types of environmental offsets:

- restoration offsets;
- proponent driven offsets;
- financial settlement offsets.

This report only addresses the costs of a financial settlement offset. You may also like to consider a restoration offset or a proponent driven offset. To find out more please visit logan.qld.gov.au/vegetationprotection.

Financial settlement offsets paid to Council are used exclusively to purchase and rehabilitate degraded land in strategic locations to achieve benefits such as:

✓ replacing environmental values lost during development (e.g. protected vegetation and wildlife habitat areas);

✓ increasing and improving habitat;

✓ connecting isolated areas of vegetation within biodiversity corridors;

✓ supporting environmental initiatives to restore the health of our rivers and wetlands;

✓ increasing our City's greenspaces and eco-friendly recreation areas.

Important Information about this Estimate Report

This report:

- is a tool to assist with your planning and development enquiries and does not form part of the Logan Planning Scheme 2015;
- provides an estimate only and does not represent a formal quotation or an invoice for payment;
- is current only at the date of generation, and is subject to change - a new estimate should be obtained prior to making decisions or lodging development applications;
- provides general information only, of which Council does not warrant the accuracy, completeness or currency. Council accepts no responsibility for, or in connection with, any loss or damage suffered as a result of any inaccuracies, errors or omissions, or your reliance on this information.

City of Logan - Planning and Development

Environmental Offset Estimate Report

Your Environmental Offset Map

The proposed clearing site submitted to Council is shown and numbered in red. The areas subject to environmental offsets are shown in blue diagonal lines.

Further information about the areas identified as being subject to environmental offsets is enclosed in the *Proposed Clearing Site – Ecological Significance and Values Map*, which contains detailed maps from Figure 3.1.10.1 - Ecological Significance of the Logan Planning Scheme 2015. This information is used to determine the ecological value of the areas that are a Matter of Local Environmental Significance (MLES) which are subject to an environmental offset (shown in blue on the map above).

City of Logan - Planning and Development

Environmental Offset Estimate Report

Financial Settlement Offset

The estimated financial settlement offset amount, shown in Table 1 below, is determined from the ecological values of the proposed clearing site, and is calculated according to section 3.1.9.3 of Planning Scheme Policy 3 – Environmental management.

Table 1: Estimate of financial settlement offset amount.
(Ref:LCC_LOGAN_PD_HUB_EOE_20230814_045424535_SMGY)

Area (square metres)	Ecological Index*	Estimated Offset Amount
267.3	10.858900	$2,624.32

*The "Ecological Index" is an average value representing the ecological significance of the area. The higher the ecological index, the higher the ecological significance of the area - therefore attracting a higher financial settlement offset amount. Council seeks to encourage development in areas with a lower ecological significance to minimise environmental impacts.

Primary and Secondary Vegetation Management Areas

The Vegetation Management Area includes Primary and Secondary Vegetation Management Areas. If the area identified as being subject to an environment offset contains single or scattered trees in the Secondary Vegetation Management Area and the density of the trees is less than one tree per $10m^2$, Council may accept an offset based on a count of native trees and native habitat trees (see Table 2 below). This may be less expensive than the estimate of the financial settlement offset amount presented in this report.

Table 2: Estimated cost of individual trees as part of a financial settlement offset (where appropriate).

Tree	**Cost per tree**
Native Tree	$134.78
Native Habitat Tree	$269.56

For more information about these trees and applicable fees go to:
logan.qld.gov.au/vegetationprotection

More Information

You can learn more about environmental offsets on our Vegetation Protection webpage, or by contacting Council on the details below.

Phone:	(07) 3412 3412
Email:	environment@logan.qld.gov.au
Online:	logan.qld.gov.au/vegetationprotection
In person:	Logan City Council - City Administration Centre 150 Wembley Road Logan Central QLD 4114

Properties affected

The proposed clearing site(s) drawn in the Logan PD Hub affects the following property(ies):

9 Trewin Road MUNDOOLUN QLD 4285, RP880863/5, 286064
Little Hawk Road (Alt) MUNDOOLUN QLD 4285, RP880863/5, 286064
Harrison Road (Alt) MUNDOOLUN QLD 4285, RP880863/5, 286064

Note: "(Alt)" indicates an alternative street address for a listed property, noting the plan/lot number and property key will be the same.

City of Logan - Planning and Development
Proposed Clearing Site Ecological Significance Map

LEGEND

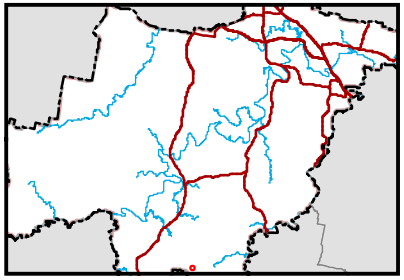
Ecological Significance

- >0 and <=12
- >12 and <=22
- >22 and <=32
- >32 and <=62

DISCLAIMER:
While every care is taken to ensure the accuracy of this product, neither the Logan City Council nor the State of Queensland makes any representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs that may occur as a result of the product being inaccurate or incomplete in any way or for any reason.

Map Projection : Universal Transverse Mercator
Horizontal Datum : Geocentric Datum of Australia 1994
Grid : Map Grid of Australia, Zone 56

MAP SHEET REFERENCE:



Date: 8/14/2023

BURCHILLS
ENGINEERING SOLUTIONS

The experience **you deserve**

GOLD COAST OFFICE
P 07 5509 6400
Level 2, 26 Marine Parade, Southport Qld 4215
PO Box 3766, Australia Fair, Southport Qld 4215

BRISBANE OFFICE
P 07 3607 6332
Level 14, 167 Eagle Street, Brisbane Qld 4000
PO Box 83, Brisbane Qld 4000

admin@burchills.com.au **www.burchills.com.au**