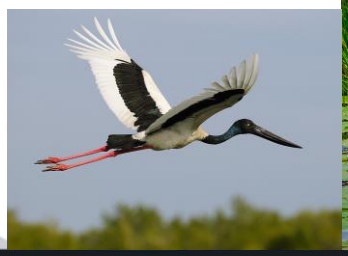
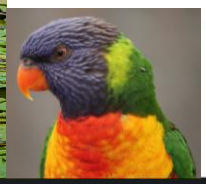
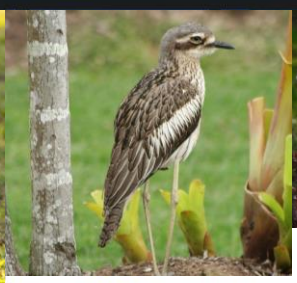
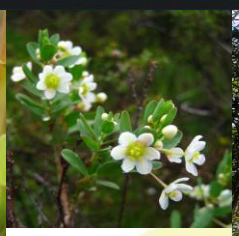
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524-530 Chambers Flat Road, Logan Reserve

Ecological Site Assessment

Client: GCDEV6 Pty Ltd
Project No: BE220612
Document No: BE220612-RP-ESA-0

July 2024

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Executive Summary

GCDEV6 Pty Ltd have engaged Burchills Engineering Solutions to prepare an Ecological Site Assessment to be considered part of a Development Application to Logan City Council for the establishment of a 31 lot residential subdivision (including balance lot). The proposed development is located across 524-530 Chambers Flat Road, Logan Reserve.

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 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 and April 2024. A total of 46 species of flora were identified within the site, comprising 21 native species and 25 non-native species including four (4) weeds declared as restricted invasive plants under the Qld *Biosecurity Act 2014*. Three (3) distinct vegetation units were identified on the site, including:

- Vegetation Unit A – Disturbed Riparian Vegetation;
- Vegetation Unit B – Anthropogenic Grassland with Isolated Canopy Trees; and
- Vegetation Community C – Mixed Woodland Regrowth.

None of the site's vegetation units met the benchmark criteria to be considered remnant vegetation. No flora species of conservation significance under the NCA or EPBC Act were detected on the subject site.

Twenty-two (2) species of fauna were observed on the subject site, including 20 bird species and two (2) mammals. Of these species detected, 20 were native and two (2) were introduced. No conservation significant fauna species were detected within the site.

The site has 2,368m^2 of mapped Primary Vegetation Management Area under the Biodiversity Overlay of the Logan Planning Scheme 2015, with only 55m^2 to be impacted, and of the 28,761m^2 mapped Secondary Vegetation Management Area mapped on the site, 4,778m^2 (and seven (7) individual trees) will be impacted by the proposed works. To ensure no net loss of vegetation, fauna habitat and biodiversity as a result of the development, the Proponent seeks to offset the clearing through a financial settlement offset provided in accordance with the Logan Planning Scheme Policy 3 – Environmental Management.

The waterway corridor present in the west of the site will be mostly protected as part of the proposed development. Some impacts are however required to facilitate the proposed design. Given the highly degraded current condition of the waterway and the fact that the waterway corridor will be rehabilitated in accordance with *Logan Planning Scheme Policy 3.3 Waterway and Wetland Enhancement Works* and *The South-East Queensland Ecological Restoration Framework* (Chenoweth EPLA and Bushland Restoration Services, 2012), it is considered sufficient to protect and enhance the ecological processes and function of this waterway.

In summary, it is not expected that the proposed development will impact on the local and regional environmental values provided that all works are undertaken in accordance with the recommendations within this report, and the relevant and applicable permits and conditions. The proposed works comply with both the Biodiversity Areas Overlay Code and Waterway Corridors and Wetlands Overlay Code.

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Appendix B – Desktop Review Search Results
Appendix C – Flora Species Identified On-Site
Appendix D – Conservation Significant Fauna Species Likelihood of Occurrence Assessment
Appendix E – Biodiversity Areas Overlay Code Response
Appendix F – Waterway Corridors and Wetlands Overlay Code Response

1. Introduction

GCDEV6 Pty Ltd have engaged Burchills Engineering Solutions to prepare an Ecological Site Assessment (ESA) to be considered part of a Development Application to Logan City Council for the establishment of a 31 lot residential subdivision (including balance lot). The proposed development is located across 524-530 Chambers Flat Road, Logan Reserve at Lot 10 RP 97736.

1.1 Objectives

The intent of this assessment is to assess 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.

1.2 Site Context

The subject site is located within Logan Reserve and occupies an area of approximately 3.33ha (Figure 1.1). The site is mostly cleared and developed for rural residential purpose (Figure 1.2) and is zoned as Emerging Communities under the *Logan Planning Scheme 2015* Version 9. Under the Logan Reserve Land Use Area Plan the majority of the site is zoned as Low Density Residential, with the western area zoned as Environmental Management and Conservation (including flooding). The site has been historically cleared with a residential dwelling, ancillary structures (e.g. sheds).

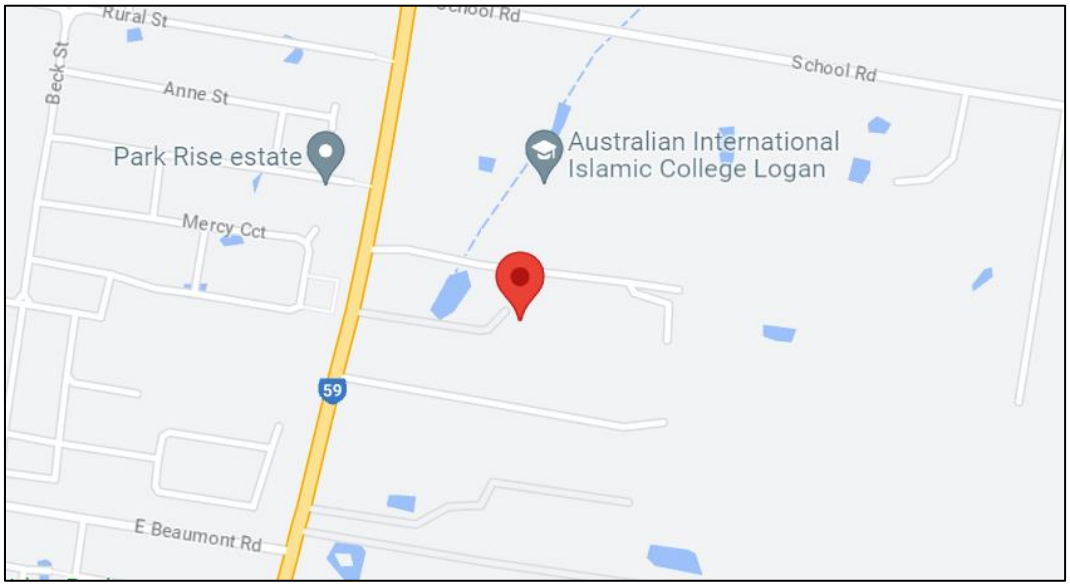


Figure 1.1 Site location (Google, 2023)



Figure 1.2 Site Aerial Photography (MetroMap 2023)

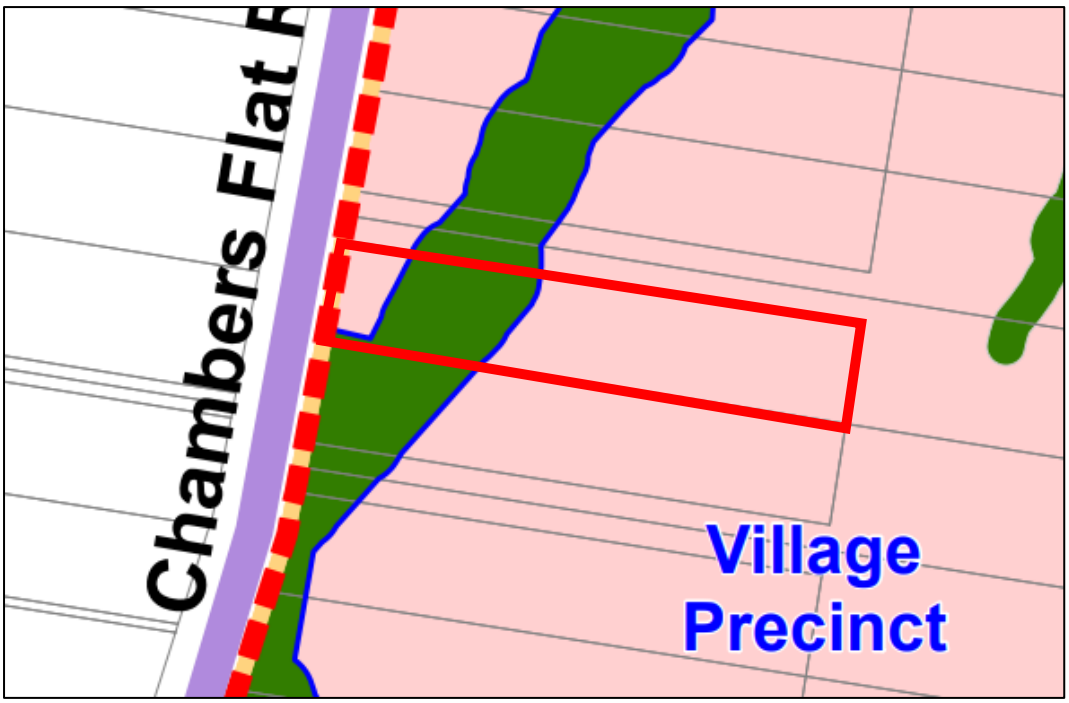


Figure 1.3 Logan Reserve Plan (Logan Planning Scheme 2015 v9)

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. The western portion of the site is mapped as contained alluvial and colluvial deposits of clay, silt, sand and gravel, being floodplain alluvium. These geological associations align with Land Zone 9-10 and Land Zone 3 under the Qld regional ecosystem (RE) framework for land classification.

The Logan Planning Scheme indicates that the majority of the site is constrained by potential acid sulfate soils.

2.2 Topography and Drainage

The subject site falls within the Logan River catchment and at a site level stormwater flows via sheetflow to a dam and a modified minor waterway in the western portion of the site. The site is mostly flat with a gentle rise from the west to east. The lowest point is at the northwestern corner at 14mAHD and the highest at the northeastern corner at 24mAHD.

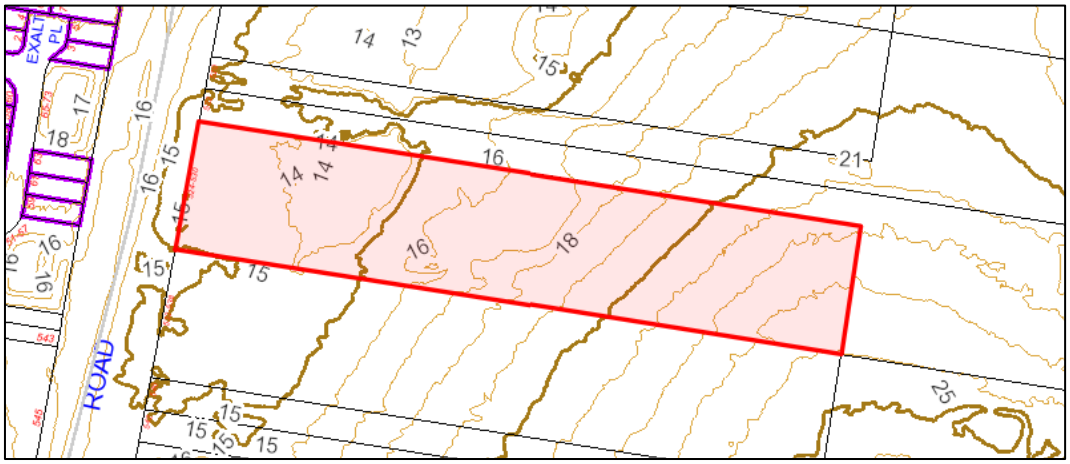


Figure 2.1 Local contours (*Logan Planning Scheme 2015* Version 9)

2.3 Proposed Development

The proposal seeks to reconfigure the site into 31 residential lots (including balance lot), along with associated internal roads and a stormwater basin (Figure 2.2 and Appendix A). The western portion of the site is proposed to be dedicated to Council as a drainage reserve containing environmental open space.

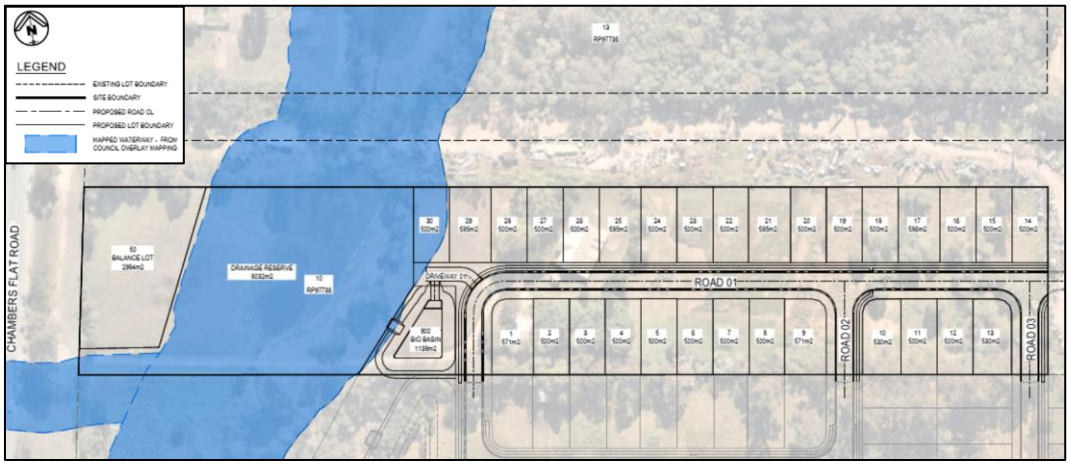


Figure 2.2 Proposed Plan of Development (Burchills Engineering Solutions, 2024)

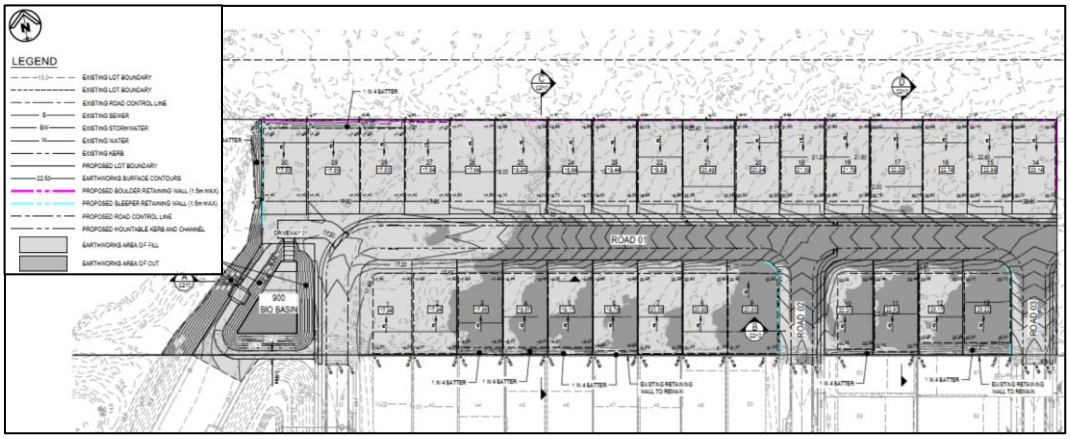


Figure 2.3 Proposed Earthworks (Burchills Engineering Solutions, 2024)

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 Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland Ecological Community (Endangered);
    - Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland (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);
- 48 threatened species may occur within the area, comprising 15 threatened flora species and 33 threatened fauna species; and
- 17 Migratory species may occur within the area.

The 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 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 4.11 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
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	V
Dichanthium setosum	Bluegrass	V
Diploglottis campbelli	Small-leaved tamarind	E
Endiandra floydii	Floyd's walnut	E
Fontainea venosa		V
Gossia gonoclada	Angle-stemmed myrtle	E
Macadamia integrifolia	Macadamia nut	V

Scientific Name	Common Name	Status*
Macadamia tetraphylla	Rough-shelled bush but	V
Notelaea lloydii	Lloyd's Olive	V
Planchonella eerwah	Shiny-leaved Condoo	E
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
Fish		
Maccullochella mariensis	Mary River cod	E
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-eastern)	V
Phascolarctos cinereus	Koala	E
Potorous tridactylus tridactylus	Long-nosed potoroo	V
Pteropus poliocephalus	Grey-headed flying-fox	V
Reptiles		
Coeranoscincus reticulatus	Three-toed snake-tooth skink	V
Delma torquata	Adorned delma	V
Furina dunmalli	Dunmall's Snake	V
Hemiaspis damelii	Grey Snake	E

Scientific Name	Common Name	Status*
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	MTS
Gallinago hardwickii	Latham's Snipe	MWS
Monarcha melanopsis	Black-faced monarch	MTS
Motacilla flava	Yellow Wagtail	MTS
Myiagra cyanoleuca	Satin flycatcher	MTS
Pandion haliaetus	Osprey	MWS
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)	No
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 (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)	**Yes**
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 and Special Least Concern wildlife - *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 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 (-27.7147, 153.0950). The search results provide an indication of wildlife that typically frequent the local area including any EVNT/SL species.

The Wildlife Online database query identified 235 species of fauna that have been recorded within a 2km radius of the site, comprising 220 native species and fifteen (15) introduced species (Appendix B). The records also included 17 EVNT/SL 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
Anthochaera phrygia	regent honeyeater	CR	CE[#]
Apus pacificus	fork-tailed swift	SL	
Bidyanus bidyanus	Silver perch		CE[#]
Calidris acuminata	sharp-tailed sandpiper	SL	
Cuculus optatus	oriental cuckoo	SL	
Fregata ariel	lesser frigatebird	SL	
Gallinago hardwickii	Latham's snipe	SL	
Hirundapus caudacutus	white-throated needletail	V	V[#]
Lathamus discolor	swift parrot	E	CE[#]
Monarcha melanopsis	black-faced monarch	SL	
Ninox strenua	powerful owl	V	
Phascolarctos cinereus	koala	E	E[#]
Plegadis falcinellus	glossy ibis	SL	
Rhipidura rufifrons	rufous fantail	SL	

Scientific Name	Common Name	NCA	EPBC
Rostratula australis	Australian painted-snipe	E	E#
Tachyglossus aculeatus	short-beaked echidna	SL	
Tringa nebularia	common greenshank	SL	

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 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 no regulated vegetation is mapped within the site, however one (1) VMS waterway is mapped in the west of the site.

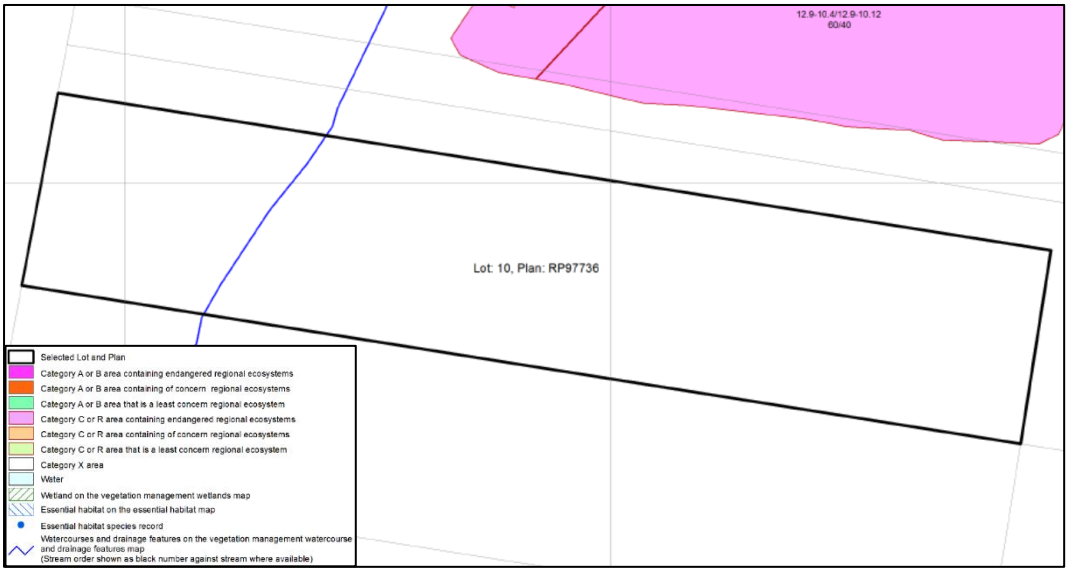


Figure 3.1 Vegetation Management Supporting Map (Department of Resources 2023)

3.2.3 Waterways for Waterway Barrier Works

Waterway barrier works are regulated under the *Fisheries Act 1994* and the *Planning Act 2016* when barriers to fish movement, including partial barriers, are installed across waterways. Barrier works include construction, raising, replacement and some maintenance works on structures such as culvert crossings, bed level and low-level crossings, weirs and dams, both permanent and temporary.

The Queensland Waterways for Waterway Barrier Works mapping classifies waterways based on their risk of impact as low, moderate, high, major and tidal. One (1) Low Risk (Green) Waterway is mapped in the west of the site.

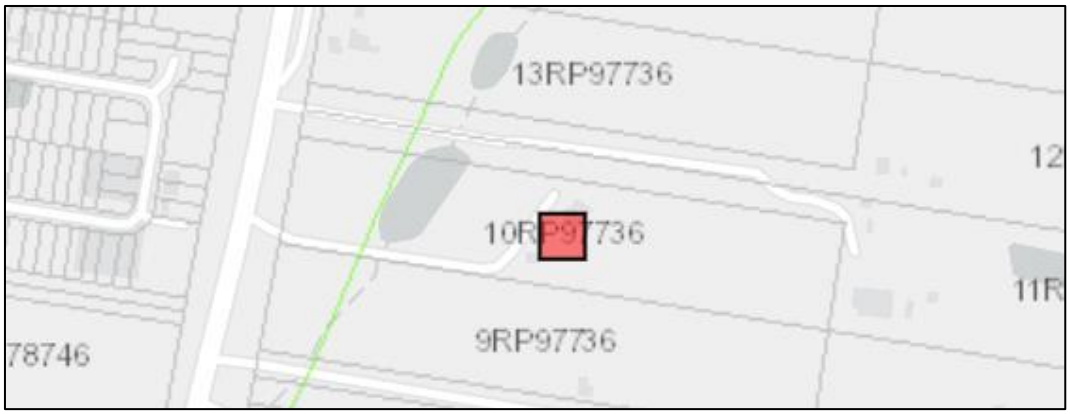


Figure 3.2 Waterways for Waterway Barrier Works (DAMS, 2023)

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-02.04 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 3.4.

Table 3.4 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 western portion of the site along the waterway corridor (Figure 3.3).

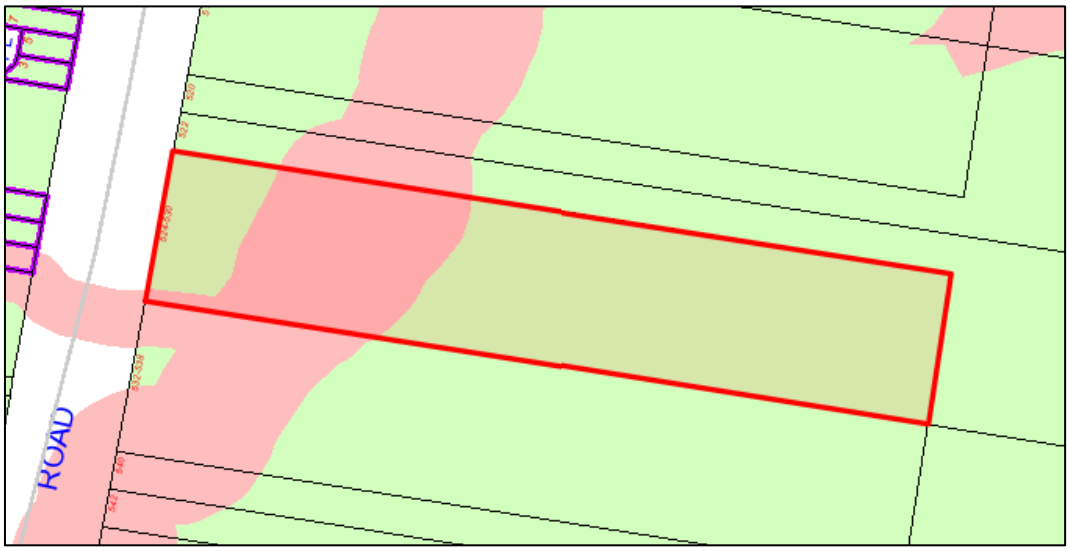


Figure 3.3 Vegetation Management Areas Overlay 7 (Logan Planning Scheme 2015 v 9)

3.3.3 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 species of city-wide significance with high conservation value by the Logan City Council.

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 Local Significance. Matters of Local and State Environmental Significance are present within the waterway in the west of the site (Figure 3.4).

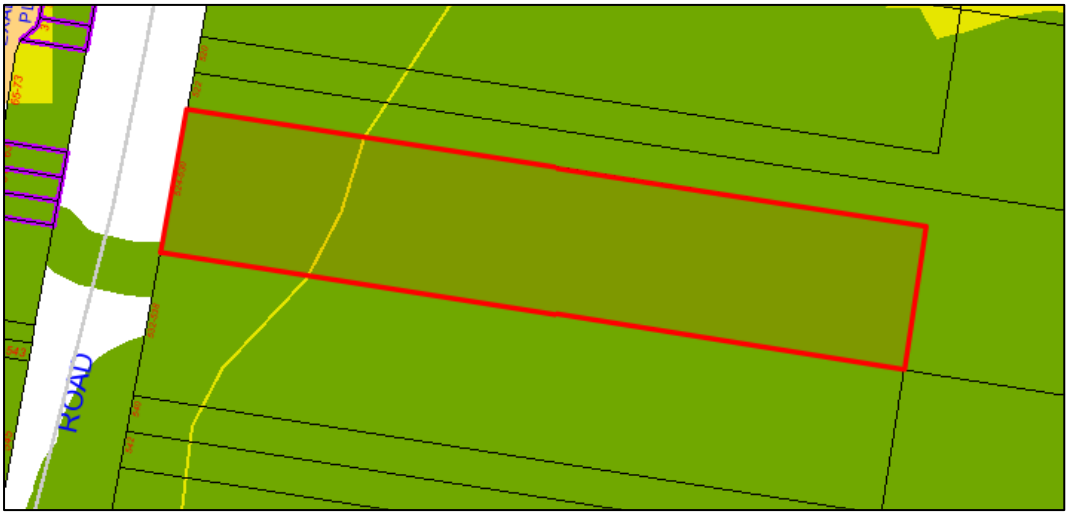


Figure 3.4 Matters of Environmental Significance Overlay OM-02.04 (Logan Planning Scheme 2015 v 9)

3.3.4 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 3.5) indicates the majority of the site has an ecological significance value >0 and ≤12, with areas classified with an ecological value as>12 and ≤22 and small portions to the west classified with an ecological value as>22 and ≤32.

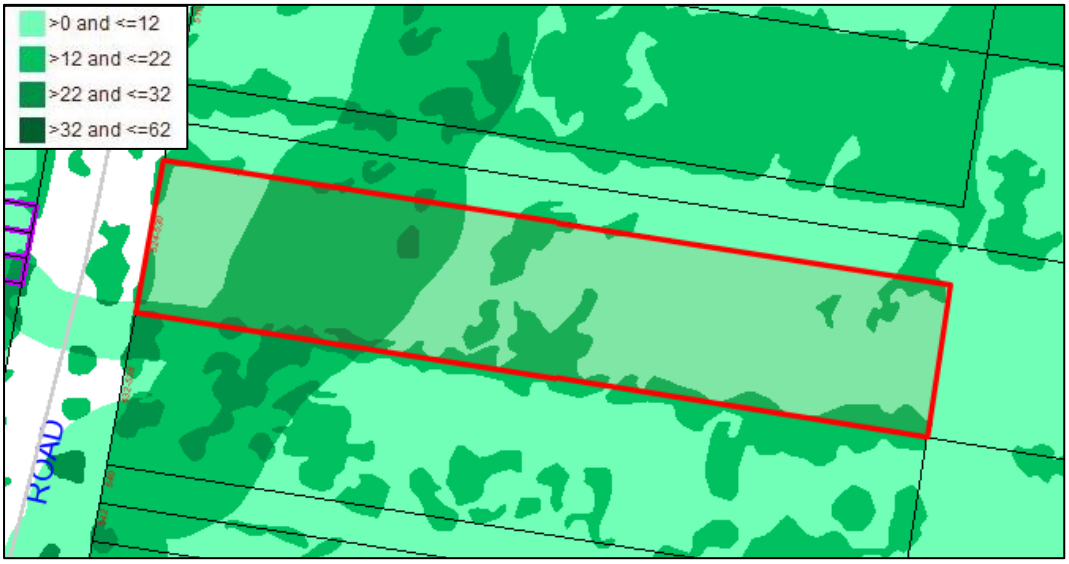


Figure 3.5 Ecological Significance Map (Logan Planning Scheme 2015 v 9)

3.3.5 Waterway Corridors and Wetlands Trigger

The Waterway Corridors and Wetlands Trigger indicates that a minor and a medium waterway are present in the west of the site, running south/north. The site does not contain any mapped wetlands or wetland buffers.

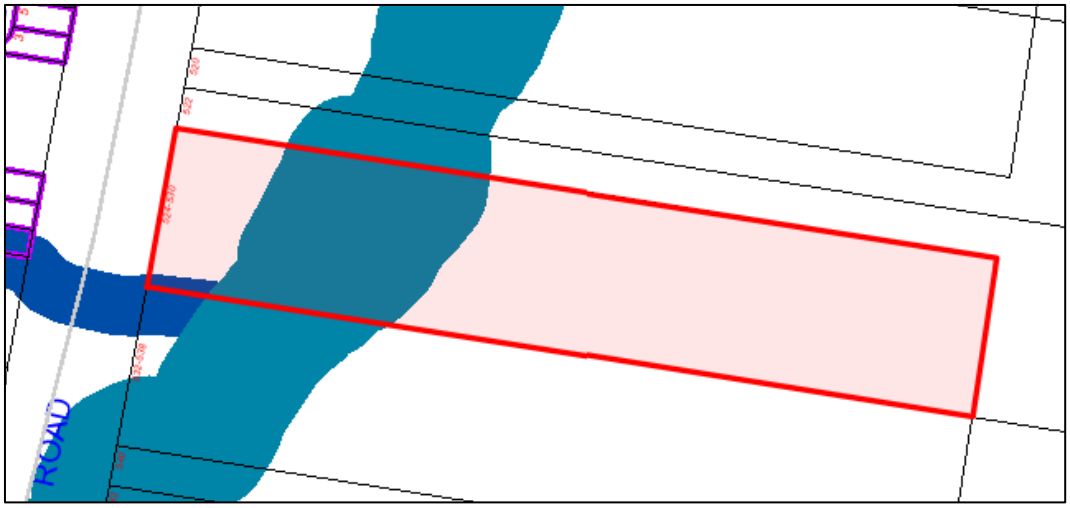


Figure 3.6 Waterway Corridor Mapping (Logan Planning Scheme 2015 v 9)

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 and April 2024. 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.7 (Neldner et al., 2023) 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);
- 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* (DESI, 2023). 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 and April 2024. A total of 46 species of flora were identified within the site, comprising 21 native species and 25 non-native species including four (4) weeds declared as restricted invasive plants 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.

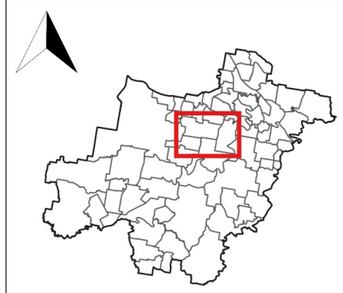
Three (3) vegetation associations were identified on the site classified as follows and as shown in Figure 4.1:

- Vegetation Unit A – Disturbed Riparian Vegetation;
- Vegetation Unit B – Anthropogenic Grassland with Isolated Canopy Trees; and
- Vegetation Community C – Mixed Woodland Regrowth.

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

530 Chambers Flat Road, Logan Reserve

Figure 4.1 Vegetation Community Plan



Area of Interest within the Logan City LGA

Legend

- Site
- Cadastre
- Protected (native) trees
- Veg Assn A
- Veg Assn B
- Veg Assn C

0 25 50 75 100 m

Project: BE220612

Date: 30-04-2024

Scale: 1:1,300 at A3

Projection: GDA 94/MGA Zone 56

Data Sources: Queensland Department of Resources (2024)

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4.2.1 Vegetation Unit A – Disturbed Riparian Vegetation

Vegetation Unit A was present in a fringe around the dam located in the west of the site. The results of the quantitative assessments and floristic formations are listed in Table 4.3 and Table 4.4 respectively.

Table 4.3 Vegetation Unit A Quantitative Assessments

Stratum†	Growth Form	Crown Cover (%)	Stratum Height Range (m)	Stratum Median Height (m)
Upper	Tree	5	14-20	17
Mid1	Tree/Shrub	20	5-14	8
Mid2	Shrub	40	1-5	1.5
Ground	Graminoid	95	0-1	0.8

†Strata that were not present have been omitted.

Table 4.4 Vegetation Unit A Floristic Formation

Stratum†	Species
Upper	*Eucalyptus tereticornis* (Qld blue gum), *Corymbia intermedia* (Pink bloodwood), *Corymbia torelliana** (Cadagi), *Corymbia citriodora* subsp. *variegata* (Spotted gum).
Mid 1	*Acacia concurrens* (Black wattle), *Eucalyptus tereticornis* (Qld blue gum), *Corymbia intermedia* (Pink bloodwood), *Corymbia torelliana** (Cadagi), *Corymbia citriodora* subsp. *variegata* (Spotted gum), *Eucalyptus siderophloia* (Grey ironbark).
Mid 2	*Acacia leiocalyx* (Early-flowering hickory), *Acacia disparrima subsp. disparrima* (Hickory wattle), *Allocasuarina littoralis* (Black she-oak), *Eucalyptus tereticornis* (Qld blue gum), *Macaranga tanarius* (Macaranga), *Heptapleurum actinophyllum** (Umbrella tree), *Corymbia torelliana** (Cadagi), *Solanum chrysotrichum** (Giant devil's fig).
Ground	*Sphagneticola trilobata** (Singapore daisy), *Ageratum houstonianum** (Blue billygoat weed), *Chloris gayana** (Rhodes grass), *Imperata cylindrica* (Blady grass) *Chloris gayana** (Rhodes grass), *Melinis minutiflora** (Molasses grass), *Solanum mauritianum** (Wild tobacco), *Lantana camara* (Lantana), *Setaria sphacelata** (South African pigeon grass).

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

Variation and Disturbance

Canopy cover and mid strata was generally sparse throughout this unit and limited to a small number of mature trees around the site's dam. There was standing water present within the dam at the time of site surveys.

This unit has suffered significant historical disturbance through clearing and weed incursion. A number of significant weed infestations were present, including *Sphagneticola trilobata* (Singapore daisy) and *Ageratum houstonianum* (Blue billygoat weed).

Conservation Significance

The structure and floristics of this unit are too modified to resemble the preclearing Regional Ecosystem 12.3.11. No flora species of conservation significance were recorded in this association.



Figure 4.2 Vegetation Unit A – typical composition



Figure 4.3 Dam present within the site

4.2.2 Vegetation Unit B – Anthropogenic Grassland with Isolated Canopy Trees

Vegetation Unit B is present over the majority of the site. The results of the quantitative assessments and floristic formations are listed in Table 4.5 and Table 4.6 respectively.

Table 4.5 Vegetation Unit B Quantitative Assessments

Stratum†	Growth Form	Crown Cover (%)	Stratum Height Range (m)	Stratum Median Height (m)
Upper	Tree	5	20-25	22
Mid 1	Tree/Shrub	5	5-15	7
Mid 2	Shrub	20	1-5	1.5
Ground	Graminoid	80	0-1	0.3

†Strata that were not present have been omitted.

Table 4.6 Vegetation Unit B Floristic Formation

Stratum†	Species
Upper	*Eucalyptus tereticornis* (Qld blue gum), *Corymbia intermedia* (Pink bloodwood), *Lophostemon suaveolens* (Swamp box), *Angophora woodsiana* (Smudge), *Angophora leiocarpa* (Rusty gum), *Archontophoenix cunninghamiana* (Bangalow palm), *Jacaranda mimosifolia** (Jacaranda).
Mid 1	*Eucalyptus tereticornis* (Qld blue gum), *Allocasuarina littoralis* (Black she-oak), *Ficus microcarpa** (Hill's weeping fig), *Grevillea robusta* (Silky oak).
Mid 2	*Acacia concurrens* (black wattle), *Acacia disparrima subsp. disparrima* (Hickory wattle), *Eucalyptus tereticornis* (Qld blue gum), *Solanum chrysotrichum** (Giant devil's fig), *Heptapleurum actinophyllum** (Umbrella tree), *Corymbia torelliana** (Cadagi), *Grevillea robusta* (Silky oak).
Ground	*Chloris gayana** (Rhodes grass), *Ageratum houstonianum** (Blue billygoat weed), *Lantana camara** (Lantana), *Parsonsia straminea* (Monkey rope vine), *Bidens pilosa** (Cobbler's pegs), *Melinis minutiflora** (Molasses grass), *Imperata cylindrica* (Blady grass), *Solanum seaforthianum** (Brazilian nightshade), *Macroptilium atropurpureum* (Siratro).

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

Variation and Disturbance

This unit comprises anthropogenic grassland with a small number of canopy trees and cultivated gardens around the dwellings. Copses of Acacia, sheoak and early Eucalypt regrowth present along the boundaries in areas that have not been maintained and regularly cleared.

The site has been historically cleared and modified to its current landform. Significant weed infestations were present in many areas throughout the property, particularly in the eastern portion of the site.

Conservation Significance

The structural criteria (height and canopy cover) and floristics of this vegetation association are too modified to meet the benchmark criteria to be considered remnant vegetation of a native community. No flora species of conservation significance were observed in this vegetation unit.



Figure 4.4 Vegetation Unit B within centre of site



Figure 4.5 Vegetation Unit B showing existing dwelling

4.2.3 Vegetation Unit C –Mixed Woodland Regrowth

Vegetation Unit B is present over the southern boundary and in the eastern portion of the site. The results of the quantitative assessments and floristic formations are listed in Table 4.7 and Table 4.8 respectively.

Table 4.7 Vegetation Unit B Quantitative Assessments

Stratum†	Growth Form	Crown Cover (%)	Stratum Height Range (m)	Stratum Median Height (m)
Mid 1	Tree/Shrub	5	5-15	7
Mid 2	Shrub	20	1-5	1.5
Ground	Graminoid	80	0-1	0.3

†Strata that were not present have been omitted.

Table 4.8 Vegetation Unit B Floristic Formation

Stratum†	Species
Mid 1	*Eucalyptus tereticornis* (Qld blue gum), *Allocasuarina littoralis* (Black she-oak), *Eucalyptus siderophloia* (grey ironbark), *Corymbia intermedia* (Pink bloodwood).
Mid 2	*Acacia concurrens* (black wattle), *Acacia disparrima subsp. disparrima* (Hickory wattle), *Eucalyptus tereticornis* (Qld blue gum), *Solanum chrysotrichum** (Giant devil's fig), *Heptapleurum actinophyllum** (Umbrella tree), *Corymbia torelliana** (Cadagi), *Grevillea robusta* (Silky oak).
Ground	*Melinis repens* (Red natal grass), *Chloris gayana** (Rhodes grass), *Ageratum houstonianum** (Blue billygoat weed), *Lantana camara** (Lantana), *Gomphocarpus physocarpus** (Balloon cotton bush), *Bidens pilosa** (Cobbler's pegs), *Melinis minutiflora** (Molasses grass), *Imperata cylindrica* (Blady grass), *Solanum chrysotrichum** (Giant devil's fig), *Asparagus africanus** (Climbing asparagus).

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

Variation and Disturbance

This unit comprises early Eucalypt regrowth present along the boundaries and in areas that have not been maintained and regularly cleared.

The site has been historically cleared and modified to its current landform. Significant weed infestations were present in the east portion of the site.

Conservation Significance

The structural criteria (height and canopy cover) and floristics of this vegetation association are too modified to meet the benchmark criteria to be considered remnant vegetation of a native community. No flora species of conservation significance were observed in this vegetation unit.



Figure 4.6 General view of Vegetation Community C - eastern portion of site presenting weed infestation and regrowth in the background



Figure 4.7 General view of community C – southeastern portion of the site

4.2.4 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.

4.2.5 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 25 invasive weeds were recorded on the subject site during surveys including four (4) species listed as Restricted Invasive Plants (RIP) under the Qld *Biosecurity Act 2014* (Table 4.9).

Table 4.9 Weeds Observed On-Site

Family	Scientific Name	Common Name	Qld Status*
Araliaceae	*Heptapleurum actinophyllum*	Umbrella tree	
Asclepiadaceae	*Gomphocarpus physocarpus*	Balloon cotton bush	
Asparagaceae	*Asparagus africanus*	Climbing asparagus	RIP
Asteraceae	*Ageratum houstonianum*	Blue billygoat weed	
Asteraceae	*Bidens pilosa*	Cobbler's pegs	
Asteraceae	*Hypochaeris radicata*	Flatweed	
Asteraceae	*Sphagneticola trilobata*	Singapore daisy	RIP
Bignoniaceae	*Jacaranda mimosifolia*	Jacaranda	
Fabaceae	*Macroptilium atropurpureum*	Siratro	
Moraceae	*Ficus microcarpa*	Hill's weeping fig	
Moraceae	*Morus sp.*	Mulberry	
Myrtaceae	*Chloris gayana*	Rhode's grass	
Myrtaceae	*Corymbia torelliana*	Cadagi	
Myrtaceae	*Psidium guajava*	Guava	
Nyctaginaceae	*Bougainvillea* sp.	Bougainvillea	
Nymphaeaceae	*Nymphaea sp.*	Waterlily	
Onagraceae	*Ludwigia peruviana*	Ludwigia	RIP
Poaceae	*Melinis minutiflora*	Molasses grass	
Poaceae	*Melinis repens*	Red natal grass	
Poaceae	*Paspalum dilatatum*	Paspalum	
Poaceae	*Setaria sphacelata*	South African pigeon grass	
Solanaceae	*Solanum chrysotrichum*	Giant devil's fig	

Family	Scientific Name	Common Name	Qld Status*
Solanaceae	*Solanum mauritianum*	Wild tobacco	
Solanaceae	*Solanum seaforthianum*	Brazilian nightshade	
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 survey;
- Ground dwelling reptile survey; 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

A diurnal bird survey was undertaken within the site for one (1) hour by one (1) observer at mid-morning. 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 Ground Dwelling Reptile Surveys

Active searches can detect many reptile species that trapping rarely does. Active searching primarily focuses on detecting reptiles and amphibians but will also detect small terrestrial mammals and signs of other somewhat cryptic species (e.g. tracks, scats, nests and feeding signs) (Eyre et. al., 2022). Active searching involves scanning for active animals as well as turning rocks and logs, raking through leaf litter, looking under bark and in crevices and other suitable microhabitat for cryptic animals. One (1) active search was undertaken proximate to the disturbed riparian vegetation in the west of the site. This search was conducted for 30 person-minutes within a 50m x 50m area.

4.3.5 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

Twenty-two (22) species of fauna were observed on the subject site, including 20 bird species and two (2) mammals. Of these species detected, 20 were native and two (2) were introduced. No conservation significant fauna species were detected within the site (Table 4.10). These results are discussed further in the following sections.

4.4.1 Birds

All 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.

4.4.2 Mammals

Two (2) mammal species identified on the site were introduced and domestic species (e.g. dog and goat).

Table 4.10 Fauna Species Identified On-Site

Scientific Name	Common Name	Family	Status	Method	Location	Survey Type
Birds						
Anas superciliosa	Pacific black duck	Anatidae	C	V	W	DBS
Ardea intermedia	Intermediate egret	Ardeidae	C	V	W	DBS
Chenonetta jubata	Australian wood duck	Anatidae	C	V	E	DBS
Cacatua galerita	Sulphur-crested cockatoo	Cacatuidae	C	V	W	DBS
Corvus orru	Torresian crow	Corvidae	C	V	W	DBS
Cracticus nigrogularis	Pied butcherbird	Artamidae	C	H	W	DBS
Cracticus tibicen	Australian magpie	Artamidae	C	V	W	DBS
Egretta garzetta	Little egret	Ardeidae	C	V	W	DBS
Hirundo neoxena	Welcome swallow	Hirundinidae	C	V	W	DBS
Malurus cyaneus	Superb fairy-wren	Maluridae	C	V	W	DBS
Manorina melanocephala	Noisy miner	Meliphagidae	C	V	W	DBS
Microcarbo melanoleucos	Little pied cormorant	Phalacrocoracidae	C	V	W	DBS
Neochmia temporalis	Red-browed finch	Estrildidae	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
Pachycephala rufiventris	Rufous whistler	Pachycephalidae	C	V	W	DBS
Phalacrocorax sulcirostris	Little black cormorant	Phalacrocoracidae	C	V	W	OO
Vanellus miles	Masked Lapwing	Charadriidae	C	V	E	DBS
Mammals						

Scientific Name	Common Name	Family	Status	Method	Location	Survey Type
Canis familiaris domesticus	Dog	Canidae	I	V	W	OO
Capra hircus	Domestic goat	Bovidae	I	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.

4.4.3 Habitat Trees

Habitat trees are defined as those trees with suitable hollows, provide a significant fruiting resource (e.g. fig tree or Glossy Black-Cockatoo feed tree). Hollow bearing trees provide nesting sites and habitat for owls and many of their potential prey species.

In the Logan City Planning Scheme Habitat Trees are defined 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.

No tree meeting this definition was observed on the site.

4.4.4 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 4.11 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. All three species commonly occur in the Logan region and are habitat /resource generalists and/or aerial feeders. The complete results for this analysis including a description of habitat requirements for each species are presented in Appendix D.

Table 4.11 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**
Bidyanus bidyanus	Silver perch	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**
Coeranoscincus reticulatus	Three-toed snake-tooth skink	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	**UNLIKELY**

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Falco hypoleucos	Grey Falcon	V	**UNLIKELY**
Fregata ariel	Lesser frigatebird	SL	**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**
Maccullochella mariensis	Mary River cod	E	**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**
Ninox strenua	Powerful owl	V	**UNLIKELY**
Numenius madagascariensis	Eastern curlew	CE, MWS	**UNLIKELY**
Pandion haliaetus	Osprey	SL, MWS	**UNLIKELY**
Petauroides volans	Greater glider	V	**UNLIKELY**
Petaurus australis australis	Yellow-bellied Glider (south-eastern)	V	**UNLIKELY**
Phascolarctos cinereus	Koala	E, E#	**UNLIKELY**
Plegadis falcinellus	Glossy ibis	SL	**POSSIBLE**
Potorous tridactylus tridactylus	Long-nosed potoroo	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**
Tachyglossus aculeatus	Short-beaked echidna	SL	**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 4.11 and Appendix D.

5.2 Impacts on Matters of State Environmental Significance

5.2.1 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 and SL fauna may occur on the site based on nearby historical records (white throated needletail, grey-headed flying fox and glossy ibis). All three (3) species commonly occur in the Logan region, are habitat /resource generalists and/or aerial feeders and generally disturbance tolerant. The site does not support an important population of these species or an ecologically significant proportion of the population and consequently the proposed development will not significantly impact these species. 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 4.11 and Appendix D.

5.3 Impacts on Matters of Local Environmental Significance

5.3.1 Vegetation Management Areas

The site has 2,368m^2 of mapped Primary Vegetation Management Area under the Biodiversity Overlay of the Logan Planning Scheme 2015, with only 55m^2 to be impacted by the proposed works. Of the 28,761m^2 of mapped Secondary Vegetation Management Area mapped on the site, 4,778m^2 and seven (7) native trees will be impacted by the proposed works.

To ensure no net loss of vegetation or biodiversity, and ensure the development complies with the Biodiversity areas overlay code, clearing will be offset by a combined restoration / financial settlement offset in accordance with the Environmental Offset Standards outlined in Logan City Council Planning Scheme Policy 3 – Environmental Management. Further details on the offset delivery are provided in Section 6 of this report. A response to the Biodiversity areas overlay code is provided in Appendix E.

5.3.2 Waterway Corridors and Wetlands

The proposed design retains and protects the majority of the waterway corridor in the west of the site. Given the highly degraded current condition of the waterway the waterway corridor will be rehabilitated as per recommendations in Section 5.4.3, to protect and enhance the ecological processes and function of the waterway and buffers areas.

A response to the Waterway Corridors and Wetlands Overlay Code is provided in Appendix F.

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 majority of the site will be required to be cleared to facilitate the proposed development. To ensure no net loss of vegetation or biodiversity, clearing will be offset in accordance with the Environmental Offset Standards outlined in Logan City Council Planning Scheme Policy 3 – Environmental Management. Further details on the offsets for vegetation clearing are presented in Section 6 of this report.

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 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 Waterway Corridor Rehabilitation

The proposed design retains and protects the majority of the waterway corridor in the west of the site. The waterway corridor will be restored including weeding and revegetation using species from the preclearing regional ecosystems. The rehabilitation will be in accordance with:

- *Logan Planning Scheme Policy 3.3 Waterway and Wetland Enhancement Works*; and
- *The South-East Queensland Ecological Restoration Framework* (Chenoweth EPLA and Bushland Restoration Services, 2012).

Rehabilitation works will remove environmental weeds present within the waterway corridor and revegetate with species representative of the preclearing Regional Ecosystem RE 12.3.11 at densities to achieve the benchmarks for the preclearing ecosystem. All native vegetation within the waterway corridor will be retained where feasible. Non-natural infrastructure will be removed from the rehabilitation area and habitat values will be enhanced by supplementing with natural and/or artificial fauna hollows (e.g. nest boxes).

Given the heavily degraded current condition of the waterway corridor, rehabilitation works will result in a net gain of fauna habitat and riparian values. After rehabilitation works are complete, the restored area will be dedicated to Council as public open space.

5.4.4 Water Quality

The construction phase of the development has the potential to impact on the water quality of downstream environments, particularly where earthworks are being undertaken proximate to the waterway in the west of the site. To mitigate these impacts, it is recommended sediment, erosion and other pollutants are properly managed throughout the construction phase of development. The following devices and measures should be considered:

- Sediment fences should be erected at the base of batters to prevent sediment laden stormwater from flowing onto road surfaces;
- Progressive revegetation of filled and disturbed areas should occur;
- Sediment fences should be erected around any soil stockpiles;
- Regular inspections should be undertaken soon as practicable after storm events to check and maintain controls;
- Sediment should be removed from fences when controls are 40% full and at the completion of construction. All material should be reused or stored on-site in a controlled manner, or taken off-site for re-use or disposal at a licensed waste disposal facility;
- Monitoring of water quality should occur to determine the effectiveness of the sediment and erosion control measures and guide reactive management where required;
- During construction all areas of exposed soils allowing dust generation should be suitably treated by mulching of soils and watering; and
- Erosion and sediment controls should remain installed and maintained throughout the construction phase of the development.

5.4.5 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.

Fifty-five square meters (55m^2) of Primary Vegetation Management Area and 4,778m^2 of Secondary Vegetation Management Area (and seven (7) individual native trees) will be impacted by the development. To ensure a net gain in biodiversity values and compliance with the planning scheme, an environmental offset is proposed to mitigate this impact.

The *Planning Scheme Policy 3 – Environmental Management*, identifies three (3) types of environmental offsets:

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

Clearing of existing vegetation to facilitate the proposed development is unavoidable and clearing has avoided and minimised impacts on the waterway corridor and primary vegetation area. In order to facilitate the development while no-net loss in in biodiversity, a financial settlement offset is proposed.

An Offset Infrastructure Agreement will be entered into with Logan City Council and the offset paid prior to approval of operational works.

Based on the results of the site surveys, the cleared areas have been varied to differentiate between areas where stem density is less than 1 tree per 10m^2 and where stem density is greater than 1 tree per 10m^2 (i.e. part of Vegetation Unit A). Where the density is less than 1 tree per 10m^2, individual native trees and individual native habitat trees are included at the current LCC offset costs ($262.98 for habitat tree and $131.49 for native tree).

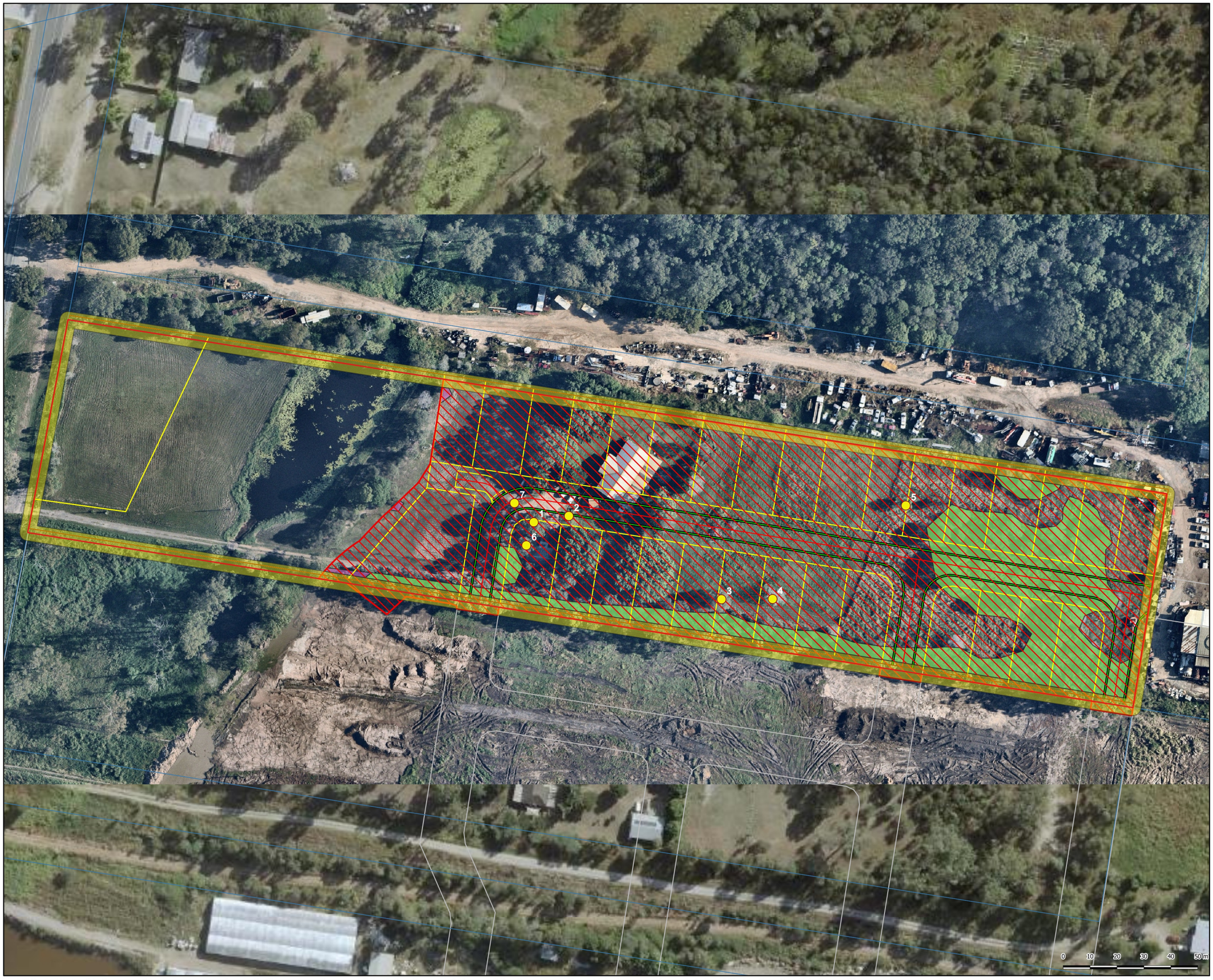
Additionally, clearing vegetation within 3m of a property boundary is exempt clearing under the Logan Planning Scheme 2015, and therefore this exempt clearing area has been removed from the estimate of impact. The offset estimate results are provided in Table 6.1 and Figure 6.1.

Table 6.1 Estimate of impact

Impact Matter	Area (m²) or Quantity	Offset Amount
MLES - Primary Vegetation Management Areas	55	TBC by LCC
MLES - Secondary Vegetation Management Areas	4,778	TBC by LCC
Native Trees	7	TBC by LCC
Native Habitat Trees	0	NA
TOTAL	**4,833** **7 Native Trees**	TBC by LCC

530 Chambers Flat Road, Logan Reserve

Figure 6.1 Impact and Offset Assessment





Area of Interest within the Logan City LGA

Legend

- Design layout
- Exempt clearing - 3m Boundary Setback
- Impact footprint
- Impacted protected tree in SVMA (7)
- Primary Vegetation MA Impacted (55m2)
- Secondary Vegetation MA Impacted (4,778m2)

Project: BE220612
Date: 22-07-2024
Scale: 1:1,300 at A3
Projection: GDA 94/MGA Zone 56
Data Sources: Department of Resources (2024)

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7. Conclusions

GCDEV6 Pty Ltd have engaged Burchills Engineering Solutions to prepare an Ecological Site Assessment to be considered part of a Development Application to Logan City Council for the establishment of a 31 lot residential subdivision (including balance lot). The proposed development is located across 524-530 Chambers Flat Road, Logan Reserve.

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 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 and April 2024. A total of 46 species of flora were identified within the site, comprising 21 native species and 25 non-native species including four (4) weeds declared as restricted invasive plants under the Qld *Biosecurity Act 2014*. Three (3) distinct vegetation units were identified on the site, including:

- Vegetation Unit A – Disturbed Riparian Vegetation;
- Vegetation Unit B – Anthropogenic Grassland with Isolated Canopy Trees; and
- Vegetation Community C – Mixed Woodland Regrowth.

None of the site's vegetation units met the benchmark criteria to be considered remnant vegetation. No flora species of conservation significance under the NCA or EPBC Act were detected on the subject site.

Twenty-two (2) species of fauna were observed on the subject site, including 20 bird species and two (2) mammals. Of these species detected, 20 were native and two (2) were introduced. No conservation significant fauna species were detected within the site.

The site has 2,368m^2 of mapped Primary Vegetation Management Area under the Biodiversity Overlay of the Logan Planning Scheme 2015, with only 55m^2 to be impacted by the proposed works. Of the 28,761m^2 of mapped Secondary Vegetation Management Area mapped on the site, 4,778m^2 will be impacted by the proposed works (and seven (7) individual native trees). To ensure no net loss of vegetation, fauna habitat and biodiversity as a result of the development, the Proponent seeks to offset the clearing through a financial settlement offset provided in accordance with the Logan Planning Scheme Policy 3 – Environmental Management.

The waterway corridor present in the west of the site will be mostly protected as part of the proposed development. Some impacts are however required to facilitate the proposed design. Given the highly degraded current condition of the waterway and the fact that the waterway corridor will be rehabilitated in accordance with *Logan Planning Scheme Policy 3.3 Waterway and Wetland Enhancement Works* and *The South-East Queensland Ecological Restoration Framework* (Chenoweth EPLA and Bushland Restoration Services, 2012), it is considered sufficient to protect and enhance the ecological processes and function of this waterway.

In summary, it is not expected that the proposed development will impact on the local and regional environmental values provided that all works are undertaken in accordance with the recommendations within this report, and the relevant and applicable permits and conditions. The proposed works comply with both the Biodiversity Areas Overlay Code and Waterway Corridors and Wetlands Overlay Code.

8. Definitions

DBH	Diameter at Breast Height
DESI	Queensland Department of Environment, Science and Innovation
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

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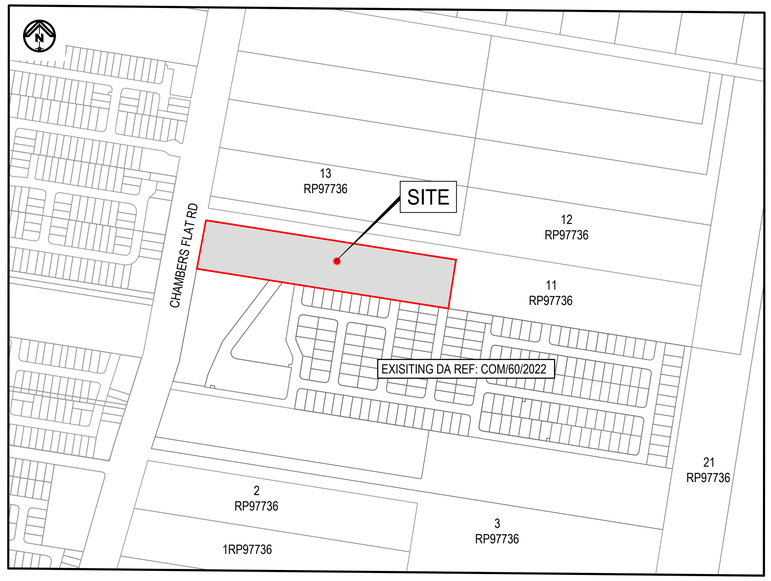
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Appendix A – Proposed Plan of Development

PROPOSED SUBDIVISION DEVELOPMENT
AT 524-530 CHAMBERS FLAT ROAD
LOGAN RESERVE, QUEENSLAND

PRELIMINARY CIVIL ENGINEERING DESIGN

LOT 10 RP97736



LOCALITY PLAN

N.T.S.

DRAWING INDEX	
DRG. NO.	DESCRIPTION
C000	COVER SHEET AND DRAWING SCHEDULE
C100	SITE LAYOUT AND ROAD STRUCTURE PLAN
C101	TYPICAL CROSS SECTION NOTES AND DETAILS
C200	PRELIMINARY EARTHWORKS LAYOUT PLAN
C210	PRELIMINARY EARTHWORKS SECTIONS
C220	EARTHWORKS NOTES AND DETAILS
C300	PRELIMINARY ROADWORKS LAYOUT PLAN
C301	ROAD 1 LONGITUDINAL SECTION
C302	ROAD 2 & 3 LONGITUDINAL SECTIONS
C400	PRELIMINARY STORMWATER LAYOUT PLAN
C450	PRELIMINARY BIO-DETENTION BASIN LAYOUT PLAN
C451	PRELIMINARY BIO BASIN SECTIONS
C452	TYPICAL BIO-RETENTION BASIN DETAILS
C500	PRELIMINARY SEWER & WATER LAYOUT PLAN

PREPARED FOR

GC DEV 6
PTY LTD

PREPARED BY

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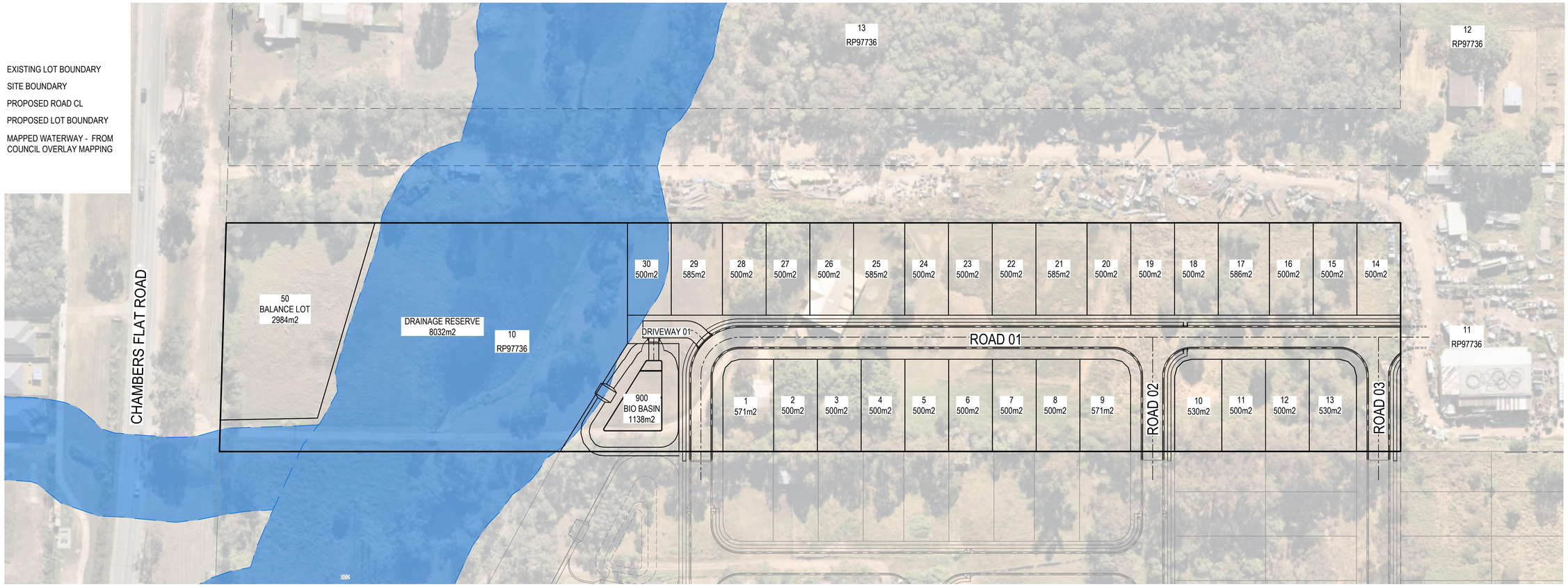
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ABN 76 166 942 365

DATE : 17-07-24

PROJECT No.:	DRAWING No. :	VERSION:
BE220612	C000	B

LEGEND

- EXISTING LOT BOUNDARY
- SITE BOUNDARY
- PROPOSED ROAD CL
- PROPOSED LOT BOUNDARY
- MAPPED WATERWAY - FROM COUNCIL OVERLAY MAPPING



SITE LAYOUT AND ROAD STRUCTURE PLAN

SCALE 10 0 5 10 15 20 25 30 35 (metres)
1 : 750 (FULL SIZE)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24

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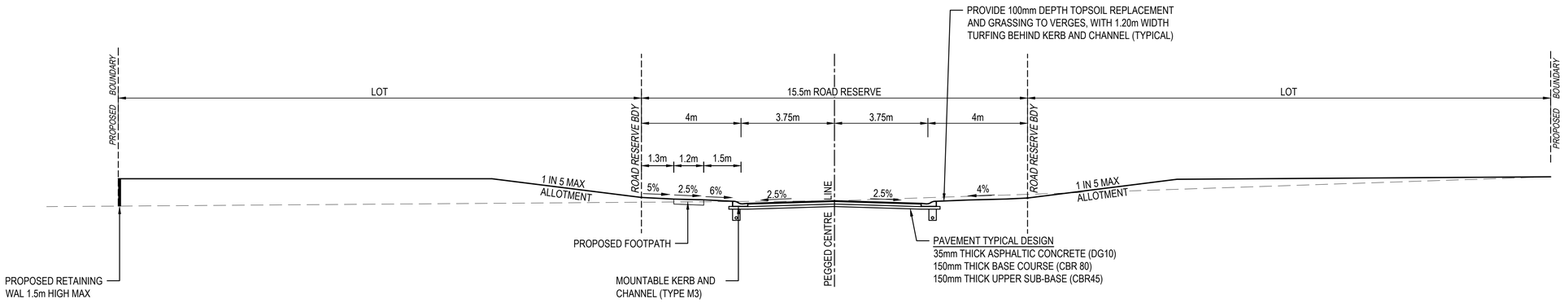
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Email: admin@burchills.com.au
Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

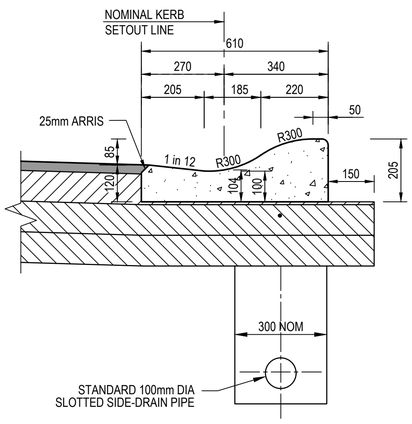
DRAWING TITLE :
SITE LAYOUT AND ROAD STRUCTURE PLAN

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C100	VERSION: B



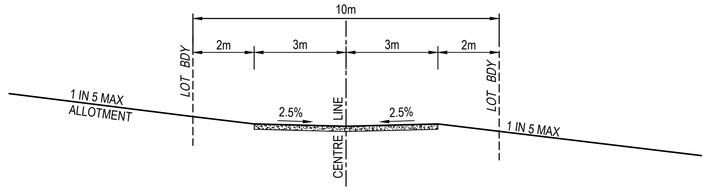
ROADS 01-02-03 TYPICAL CROSS SECTION
7.5m K-K ACCESS STREET

SCALE 1 0 1 2 3 4 5 (metres)
1 : 100 (FULL SIZE)



MOUNTABLE KERB AND CHANNEL TYPE M3

SCALE 0.1 0 0.1 0.2 0.3 0.4 0.5 (metres)
1 : 10 (FULL SIZE)



DRIVEWAY 01 TYPICAL CROSS SECTION

SCALE 1 0 1 2 3 4 5 (metres)
1 : 100 (FULL SIZE)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24

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Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

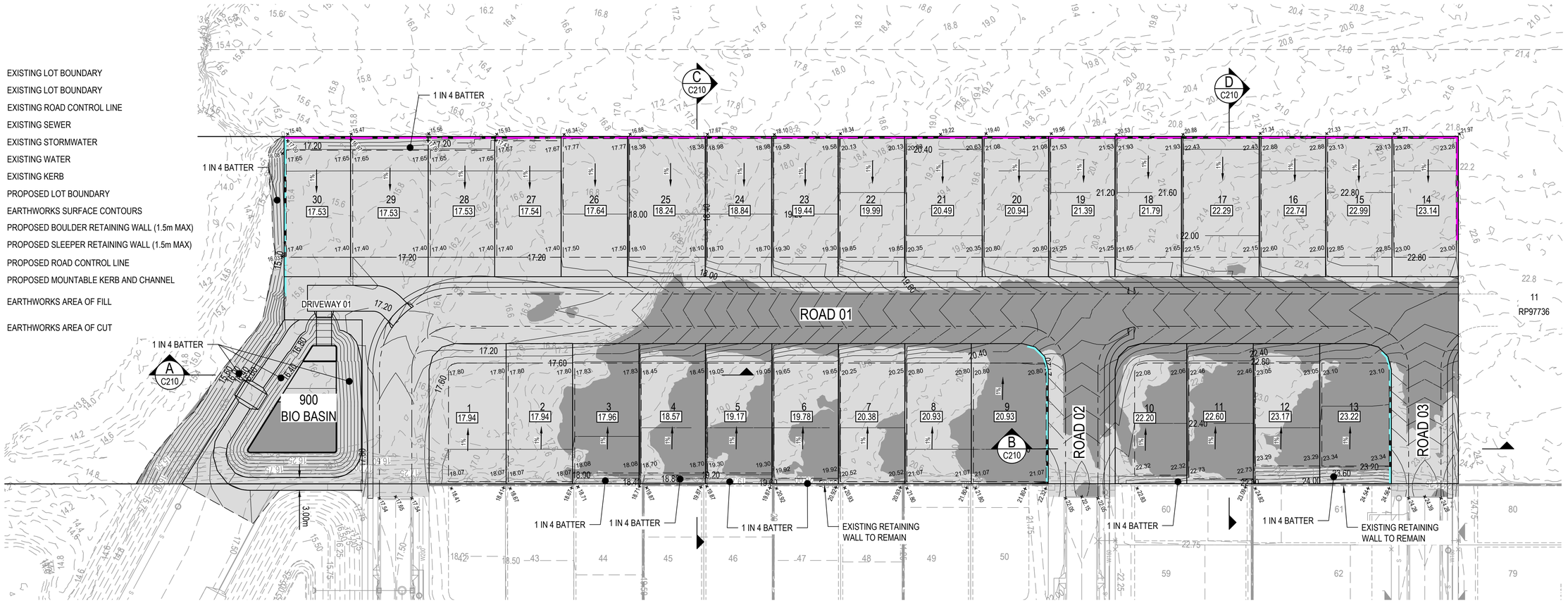
PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

DRAWING TITLE :
TYPICAL CROSS SECTION NOTES AND DETAILS

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C101	VERSION: B

LEGEND

- EXISTING LOT BOUNDARY
- EXISTING LOT BOUNDARY
- EXISTING ROAD CONTROL LINE
- S — EXISTING SEWER
- SW — EXISTING STORMWATER
- W — EXISTING WATER
- EXISTING KERB
- PROPOSED LOT BOUNDARY
- 22.50 — EARTHWORKS SURFACE CONTOURS
- PROPOSED BOULDER RETAINING WALL (1.5m MAX)
- PROPOSED SLEEPER RETAINING WALL (1.5m MAX)
- PROPOSED ROAD CONTROL LINE
- PROPOSED MOUNTABLE KERB AND CHANNEL
- EARTHWORKS AREA OF FILL
- EARTHWORKS AREA OF CUT



PRELIMINARY EARTHWORKS LAYOUT PLAN

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

BULK EARTHWORKS SUMMARY

STRUCTURAL FILLING

AREA	NETT SOLID FILL
OVERALL FILLING	
(ALLOTMENTS, BATTERS)	
	13,349 cu.m.
TOTAL FILL REQUIRED	13,349 cu.m.

EXCAVATION

AREA	NETT CUT
OVERALL EXCAVATION	1,980 cu.m.
TOTAL CUT	1,980 cu.m.

SUMMARY:
TOTAL MATERIAL ON LEADS (NETT FILL) = 11,369cu.m.
i.e.13,349cu.m. - 1,980u.m. = 11,369 cu.m. EXCESS MATERIAL TO BE IMPORTED.
ALLOWANCE FOR 200mm TOPSOIL STRIP
ALLOWANCE FOR 325mm ROAD BOX DEPTH
ALLOWANCE FOR 800mm BIO SPOIL
ALLOWANCE FOR 200mm TOPSOIL RESPREAD TO LOTS, VERGES AND DRAINAGE RESERVE

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
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A	ISSUE FOR INFORMATION	25-04-24

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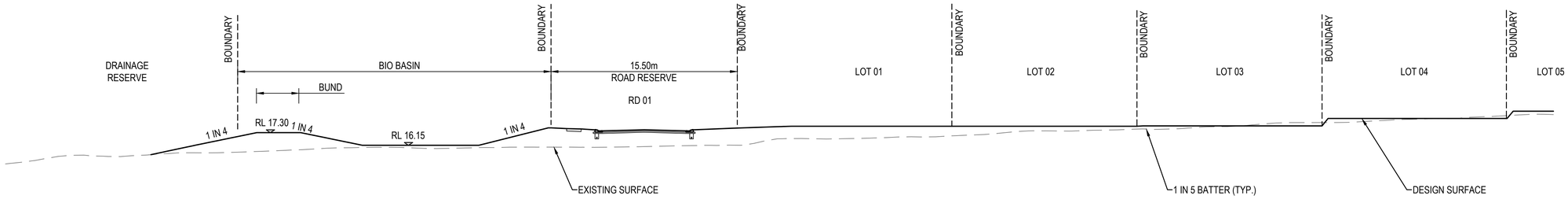
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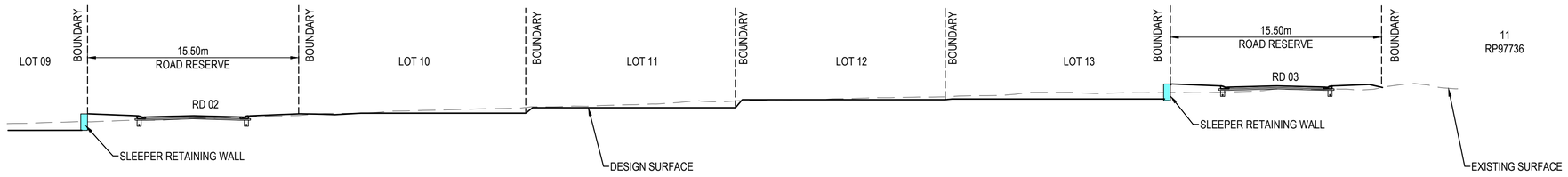
PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

DRAWING TITLE :
PRELIMINARY EARTHWORKS LAYOUT PLAN

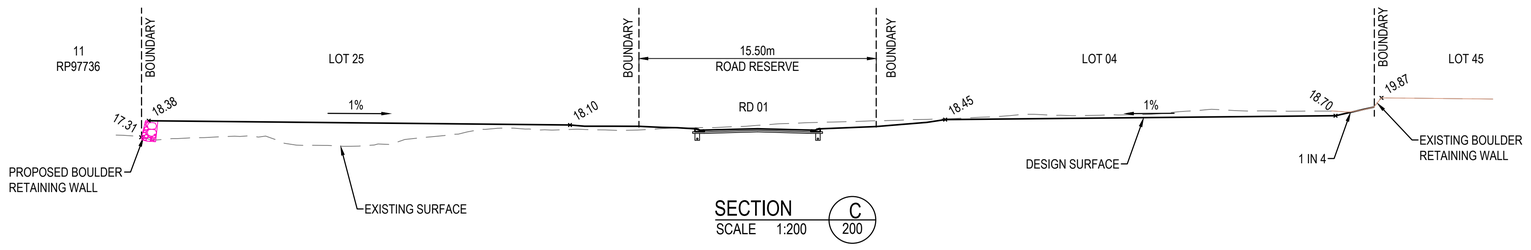
DEVEL. APPLIC. No. :	DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ:	
SCALE :	DATUM : AHD / FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C200 / VERSION: B



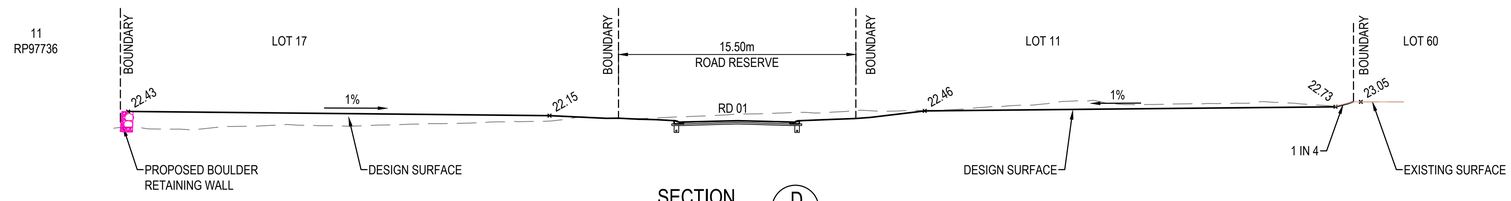
SECTION A
SCALE 1:200 (A 200)



SECTION B
SCALE 1:200 (A 200)



SECTION C
SCALE 1:200 (A 200)



SECTION D
SCALE 1:200 (A 200)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24

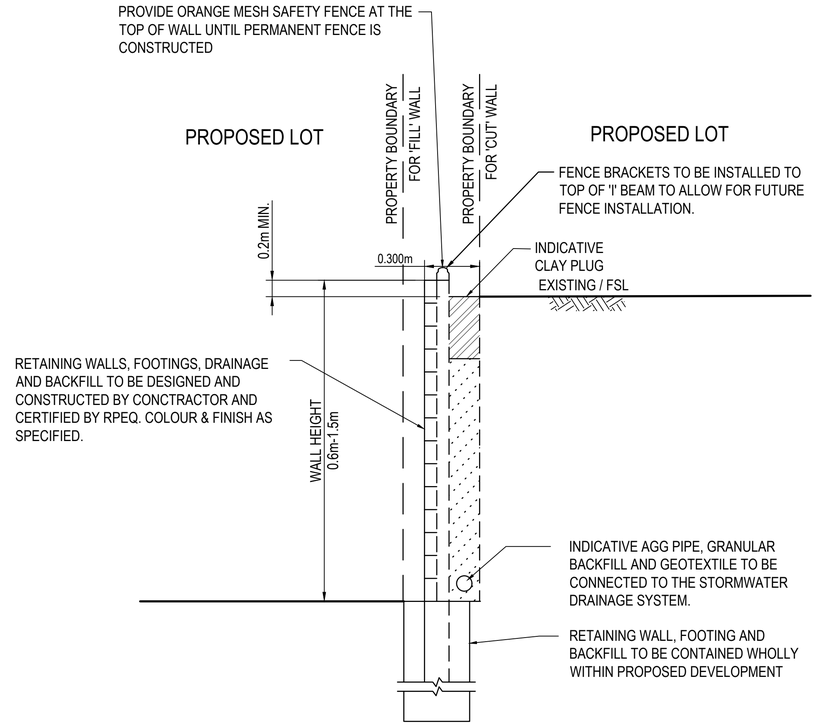
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PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

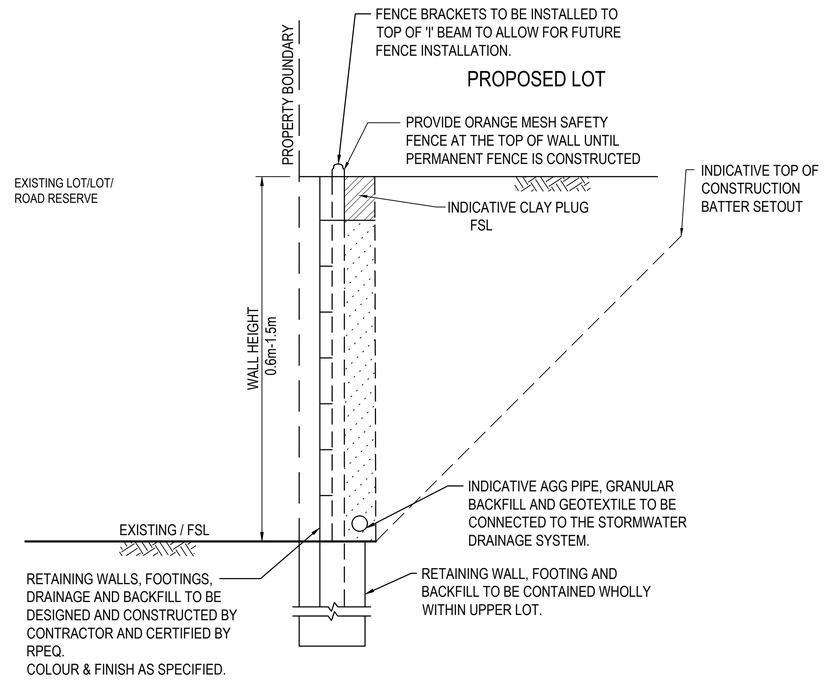
DRAWING TITLE :
PRELIMINARY EARTHWORKS SECTIONS

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PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C210	VERSION: B



RETAINING WALL CONFIGURATION - BETWEEN PROPOSED LOT AND ADJACENT PRIVATE PROPERTY

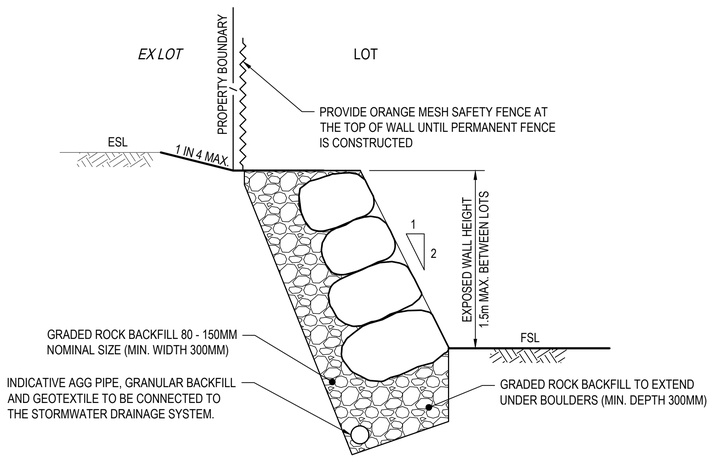
NTS



RETAINING WALL CONFIGURATION - BETWEEN PROPOSED LOTS

NTS

NOTE:
RETAINING WALL DESIGN, CONSTRUCTION, SUPERVISION AND CERTIFICATION TO BE PROVIDED BY SPECIALIST SUB-CONTRACTOR.



BOULDER RETAINING WALL CONFIGURATION BETWEEN LOTS & EXISTING LOTS (1.5m MAX.)

GENERAL EARTHWORKS NOTES:

1. ALL EARTHWORKS CONSTRUCTION UNDER THIS CONTRACT IS TO BE PERFORMED STRICTLY IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED BY THE PRINCIPAL'S GEOTECHNICAL CONSULTANT.
2. ALL COMPACTION TESTING UNDER THIS CONTRACT IS TO BE CARRIED OUT TO AS3798 LEVEL 1 STANDARD BY A NATA-ACCREDITED TESTING AUTHORITY. CERTIFICATION FOR ALL EARTHWORKS CONSTRUCTION AND TESTING IS TO BE PROVIDED BY A REGISTERED PROFESSIONAL ENGINEER QUEENSLAND (RPEQ) ENGAGED BY THE CONTRACTOR.
3. ALL DESIGN LEVELS SHOWN ON THE CONTRACT DRAWINGS ARE FINISHED SURFACE LEVELS FOLLOWING TOPSOIL REPLACEMENT.
4. ALL STRUCTURAL FILL MATERIAL PLACED SHALL BE COMPACTED TO THE FOLLOWING MINIMUM DENSITY IN ACCORDANCE WITH THE SPECIFICATION AND THE GEOTECHNICAL REPORT:
   a) 95% DENSITY RATIO FOR GENERAL STRUCTURAL FILL (COHESIVE MATERIAL)
   b) 98% DENSITY RATIO FOR THE TOP 300mm DEPTH BELOW PAVEMENT SUBGRADE LEVEL (COHESIVE MATERIAL)
5. FILL MATERIAL USED IN WETLAND BATTERS IS TO BE STIFF TO HARD CLAYS OR OTHER SUITABLE MATERIAL AS DIRECTED BY GEOTECHNICAL ENGINEER.
6. ALL EARTHWORKS BATTERS STEEPER THAN 1 IN 4 ARE TO BE LANDSCAPED IN ACCORDANCE WITH LANDSCAPE ARCHITECTS PLANS.
7. EXISTING DAMS ARE TO BE DE-WATERED AND CLEANED-OUT. ALL UNSUITABLE OR SATURATED MATERIAL IS TO BE REMOVED AND REPLACED WITH SELECTED ON-SITE STRUCTURAL FILL MATERIAL AND COMPACTED AS SPECIFIED.
8. PROVIDE CONDITION SURVEY OF ADJACENT RESIDENTIAL BUILDINGS FOR ALL PROPERTIES LOCATED WITHIN NOMINAL 100m OF EARTHWORKS OPERATIONS. CONDITION SURVEY TO BE UNDERTAKEN BY QUALIFIED PERSONNEL WITH BUILDING EXPERIENCE.

RETAINING WALL NOTES:

1. RETAINING WALLS, FOOTINGS, DRAINAGE, BACKFILL AND CONNECTION OF AGGREGATE DRAINS TO STORMWATER DRAINAGE SYSTEM TO BE DESIGNED AND CONSTRUCTED BY THE CONTRACTOR AND CERTIFIED BY AN SUITABLY QUALIFIED RPEQ
2. THESE DRAWINGS IDENTIFY SURFACE PROFILES, RETAINING WALL LOCATIONS, AND SETOUT INFORMATION ONLY. REFER TO CONTRACTOR SUPPLIED DRAWINGS FOR RPEQ STRUCTURAL DETAILS, WALL MATERIALS AND COMPACTION SPECIFICATIONS AND CONSTRUCTIBILITY INFORMATION.
3. RETAINING WALL DESIGN ENGINEER TO PROVIDE RPEQ FORM 15 STRUCTURAL CERTIFICATE INCLUDING GEOTECHNICAL GLOBAL STABILITY CERTIFICATION BY GEOTECHNICAL ENGINEER. WALL DESIGN TO ASSUME SURCHARGE LOADING BEHIND WALL. DESIGN TO BE IN ACCORDANCE WITH AS4678 INCLUDING ALL REQUIRED DESIGN LOAD CASES AND COMBINATIONS.
4. RETAINING WALLS TO BE DESIGNED TO CONSIDER ALL LOADS INCLUDING CONSTRUCTION LOADS AND OPERATIONAL LOADS.
5. ANY GEOTECHINCAL INFORMATION PROVIDED BY THE PRINCIPAL OR THE SUPERINTENDENT SHALL BE FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR AND THE RETAINING WALL DESIGN ENGINEER SHOULD SATISFY THEMSELVES OF THE DESIGN SOIL PARAMETERS AND UNDERTAKE AND ADDITIONAL GEOTECHNICAL INVESTIGATION DEEMED NECESSARY BY THE DESIGN ENGINEER.
6. THE CONTRACTOR SHALL ENSURE THAT ANY CONFLICT BETWEEN THESE PROJECT DRAWINGS AND THE RETAINING WALL DRAWINGS PREPARED BY THE RETAINING WALL DESIGN ENGINEER IS RESOLVED WITH THE SUPERINTENDENT PRIOR TO CONSTRUCTION COMMENCING.
7. A COPY OF THE RETAINING WALL DESIGN DRAWINGS, INCLUDING CONNECTION OF AGGREGATE DRAINS TO THE STORMWATER DRAINAGE SYSTEM, DESIGN PARAMETERS AND CERTIFICATION BE PROVIDED TO THE SUPERINTENDENT AT THE PRE-START MEETING PRIOR TO CONSTRUCTION COMMENCING.
8. ANY RETAINING WALL AND BATTER EXCEEDING THE HEIGHT OF 1.5m, THE CONTRACTOR SHALL UNDERTAKE A THIRD PARTY RPEQ REVIEW OF THE PROPOSED DESIGN.

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24

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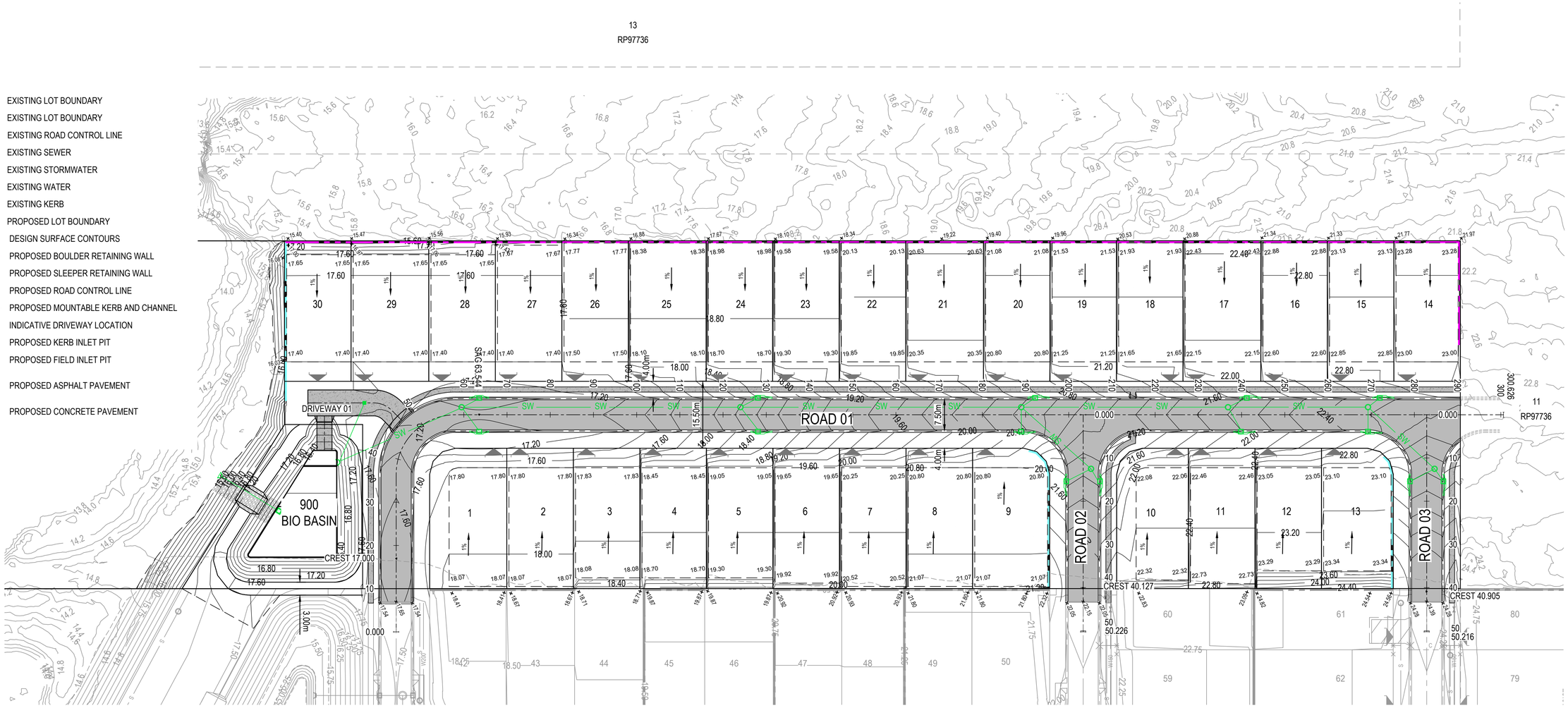
PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

DRAWING TITLE :
EARTHWORKS NOTES AND DETAILS

DEVEL. APPLIC. No. :	DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365	
RPEQ:	
SCALE :	DATUM : AHD / FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C220 / VERSION: A

LEGEND

- EXISTING LOT BOUNDARY
- EXISTING LOT BOUNDARY
- EXISTING ROAD CONTROL LINE
- S — EXISTING SEWER
- SW — EXISTING STORMWATER
- W — EXISTING WATER
- EXISTING KERB
- PROPOSED LOT BOUNDARY
- 22.50 — DESIGN SURFACE CONTOURS
- PROPOSED BOULDER RETAINING WALL
- PROPOSED SLEEPER RETAINING WALL
- PROPOSED ROAD CONTROL LINE
- PROPOSED MOUNTABLE KERB AND CHANNEL
- INDICATIVE DRIVEWAY LOCATION
- PROPOSED KERB INLET PIT
- PROPOSED FIELD INLET PIT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT



PRELIMINARY ROADWORKS LAYOUT PLAN

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24

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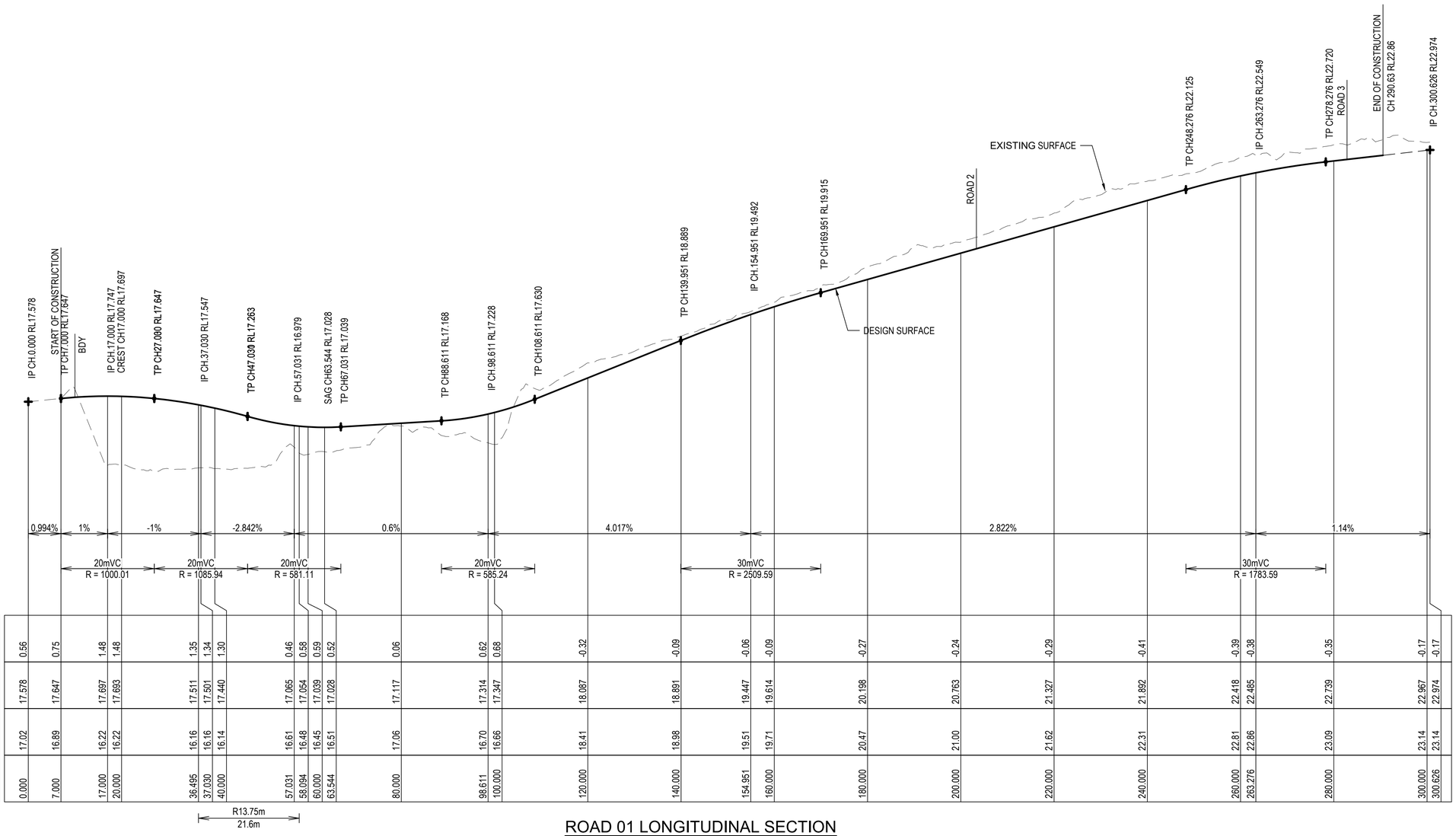
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PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

DRAWING TITLE :
PRELIMINARY ROADWORKS LAYOUT PLAN

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C300	VERSION: B



ROAD 01 LONGITUDINAL SECTION

SCALES

5 0 5 10 15 20 25 — 1 : 500 HORIZ.

0.5 0 0.5 1.0 1.5 2.0 2.5 (metres) — 1 : 50 VERT. (FULL SIZE)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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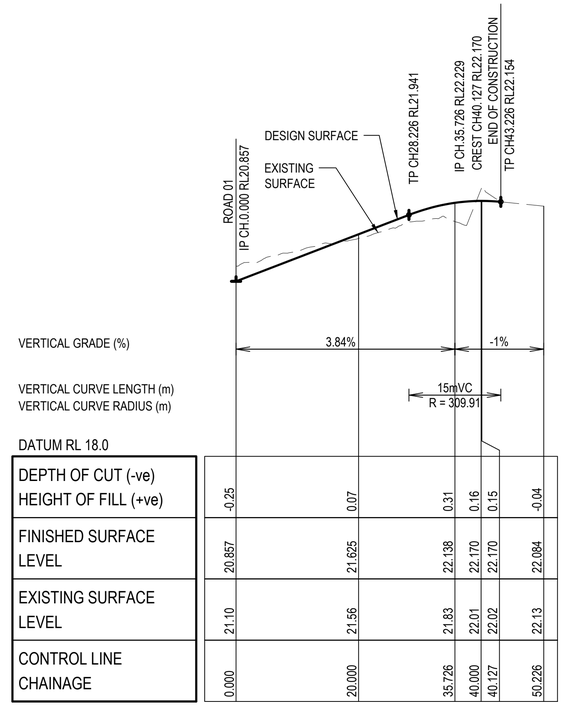
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PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

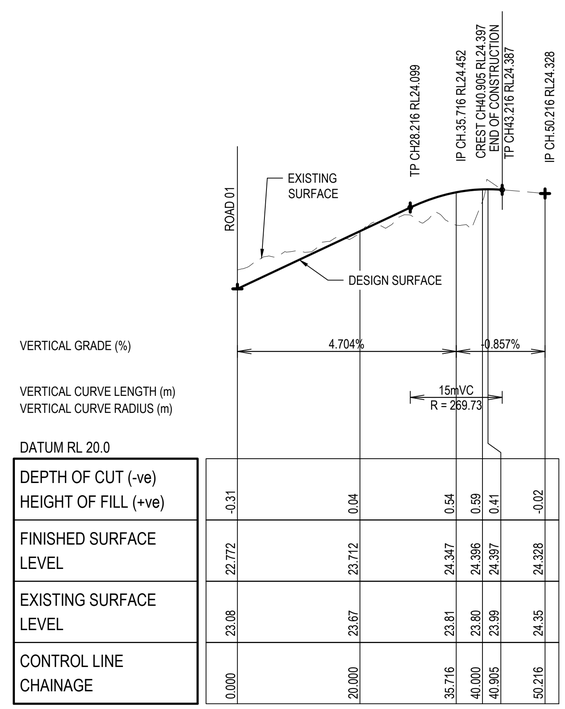
DRAWING TITLE :
ROAD 1 LONGITUDINAL SECTION

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C301	VERSION: A



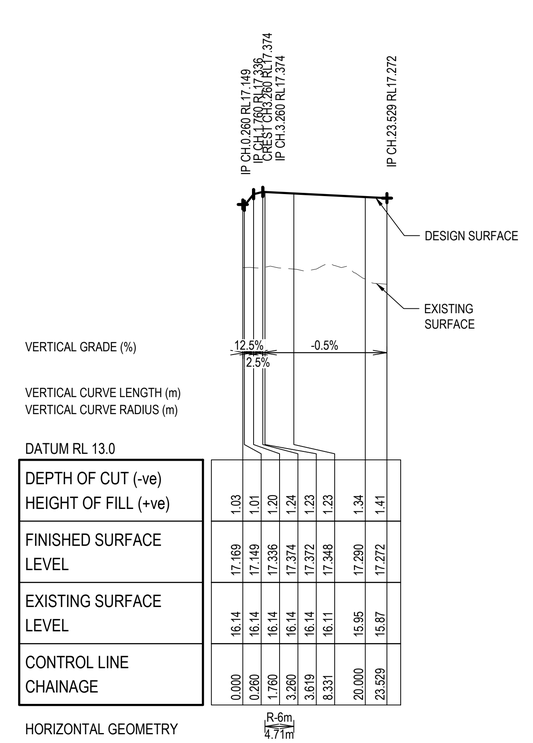
ROAD 02 LONGITUDINAL SECTION

SCALES
5 0 5 10 15 20 25 — 1 : 500 HORIZ.
0.5 0 0.5 1.0 1.5 2.0 2.5 — 1 : 50 VERT. (FULL SIZE)
(metres)



ROAD 03 LONGITUDINAL SECTION

SCALES
5 0 5 10 15 20 25 — 1 : 500 HORIZ.
0.5 0 0.5 1.0 1.5 2.0 2.5 — 1 : 50 VERT. (FULL SIZE)
(metres)



DRIVEWAY 1 LONGITUDINAL SECTION

SCALES
5 0 5 10 15 20 25 — 1 : 500 HORIZ.
0.5 0 0.5 1.0 1.5 2.0 2.5 — 1 : 50 VERT. (FULL SIZE)
(metres)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
B	LOT LAYOUT AMENDED	17-07-24
A	ISSUE FOR INFORMATION	25-04-24

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Coote Burchills Engineering Pty Ltd
ABN 76 166 942 365

PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

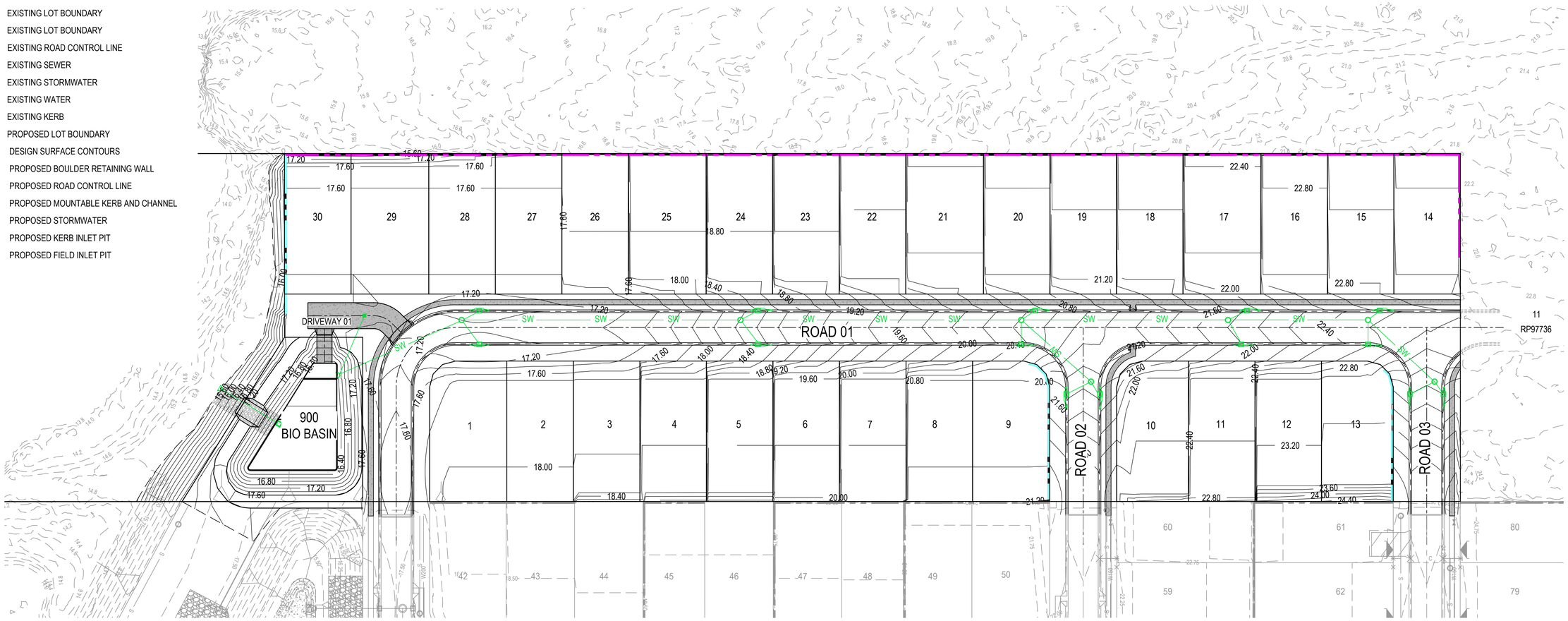
DRAWING TITLE :
ROAD 2 & 3 LONGITUDINAL SECTIONS

DEVEL. APPLIC. No. :
DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS
DESIGNER : TG
DRAFTSPERSON : MT
CHECKED : FRASER LUCAS
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365
RPEQ:
SCALE :
DATUM : AHD
FULL SIZE : A1
PROJECT No.: BE220612
DRAWING No. : C302
VERSION: A

13
RP97736

LEGEND

- EXISTING LOT BOUNDARY
- EXISTING LOT BOUNDARY
- EXISTING ROAD CONTROL LINE
- S — EXISTING SEWER
- SW — EXISTING STORMWATER
- W — EXISTING WATER
- EXISTING KERB
- PROPOSED LOT BOUNDARY
- 22.50 — DESIGN SURFACE CONTOURS
- PROPOSED BOULDER RETAINING WALL
- PROPOSED ROAD CONTROL LINE
- PROPOSED MOUNTABLE KERB AND CHANNEL
- SW — PROPOSED STORMWATER
- PROPOSED KERB INLET PIT
- PROPOSED FIELD INLET PIT



PRELIMINARY STORMWATER LAYOUT PLAN

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
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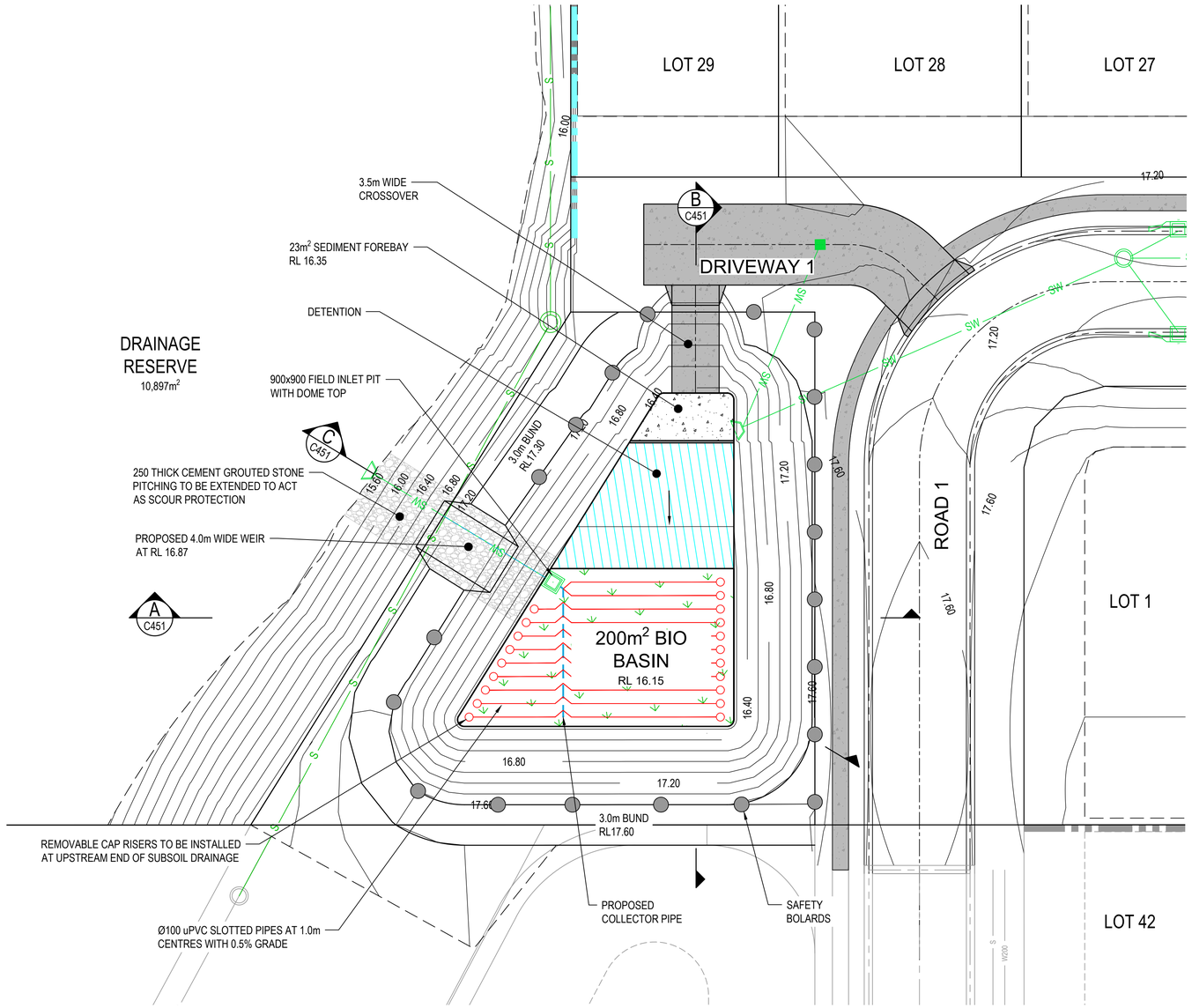
PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

DRAWING TITLE :
PRELIMINARY STORMWATER LAYOUT PLAN

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C400	VERSION: B

LEGEND

- EXISTING LOT BOUNDARY
- EXISTING LOT BOUNDARY
- EXISTING ROAD CONTROL LINE
- EXISTING KERB
- PROPOSED LOT BOUNDARY
- DESIGN SURFACE CONTOURS
- PROPOSED ROAD CONTROL LINE
- PROPOSED MOUNTABLE KERB AND CHANNEL
- PROPOSED SLEEPER RETAINING WALL



PRELIMINARY BIO-DETENTION BASIN LAYOUT PLAN

SCALE 2 0 2 4 6 8 10 (metres)
1 : 200 (FULL SIZE)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

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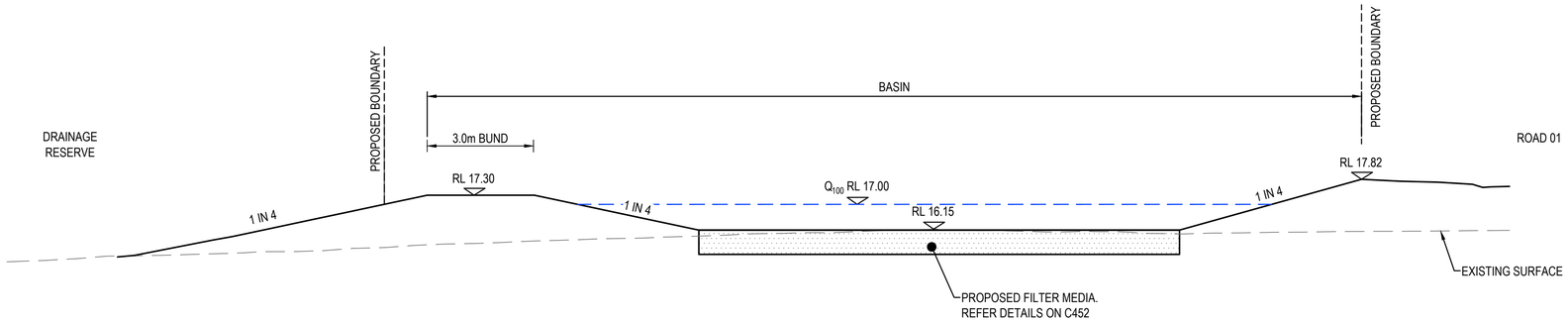
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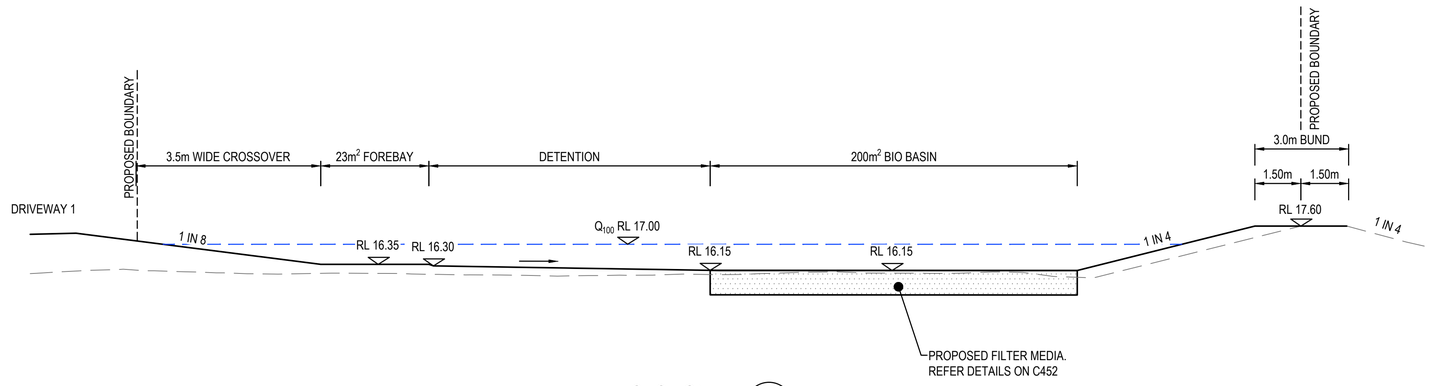
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524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

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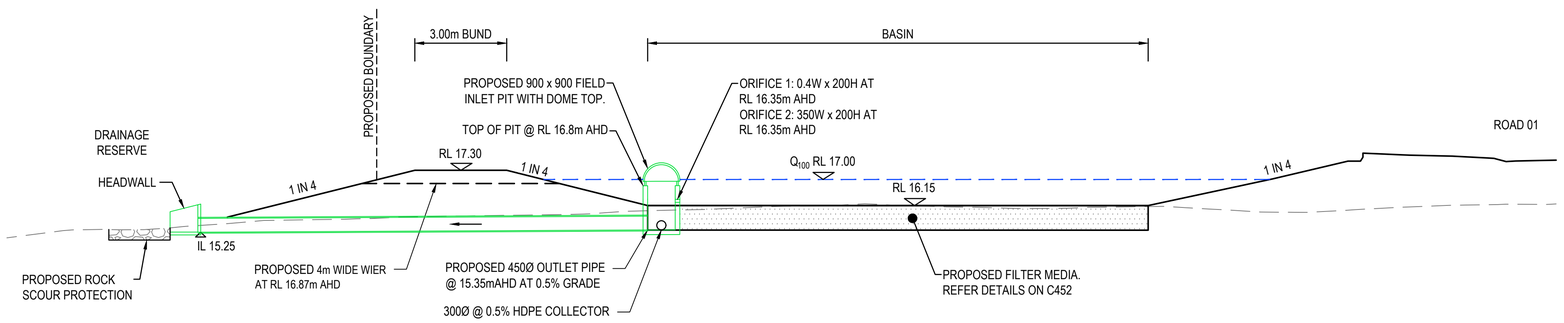
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DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
APPROVED FOR AND ON BEHALF OF BURCHILLS ENGINEERING SOLUTIONS ABN 76 166 942 365		
RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C450	VERSION: A



SECTION A
SCALE 1:100 450



SECTION B
SCALE 1:100 450



SECTION C
SCALE 1:100 450

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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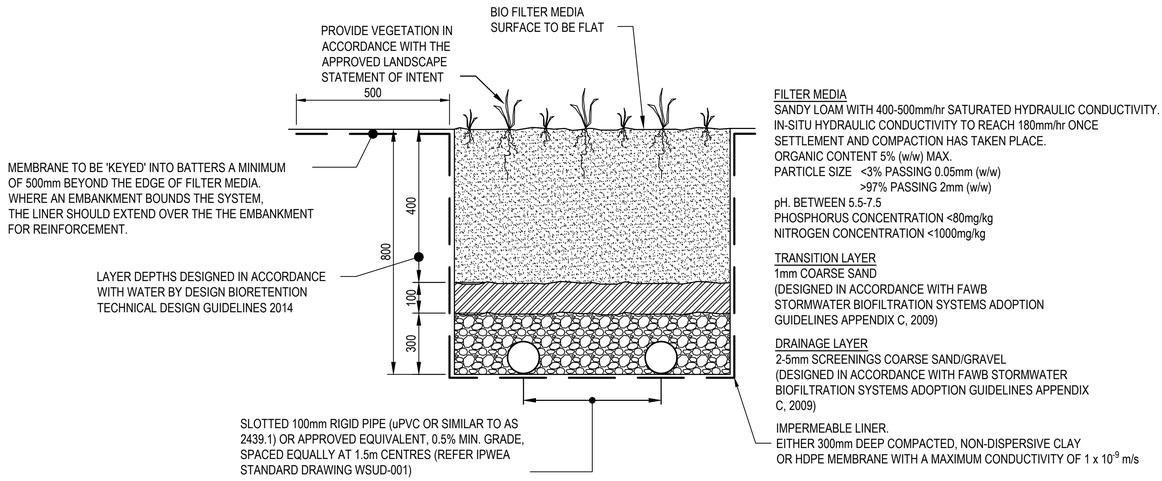
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PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

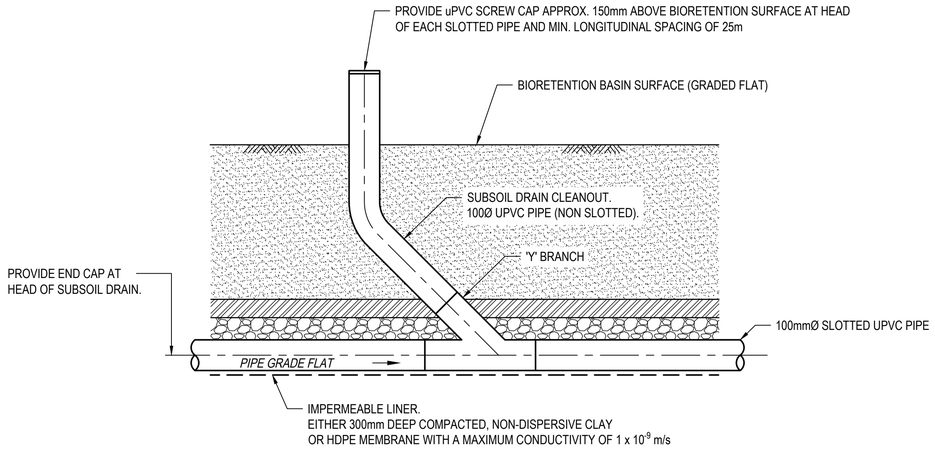
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PRELIMINARY BIO BASIN SECTIONS

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS	
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RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C451	VERSION: A



TYPICAL BIO-RETENTION MEDIA CROSS SECTION

SCALE 0.1 0 0.1 0.2 0.3 0.4 0.5 (metres)
1 : 10 (FULL SIZE)



TYPICAL BIO-RETENTION BASIN SUBSOIL DRAIN CLEANOUT

N.T.S.

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

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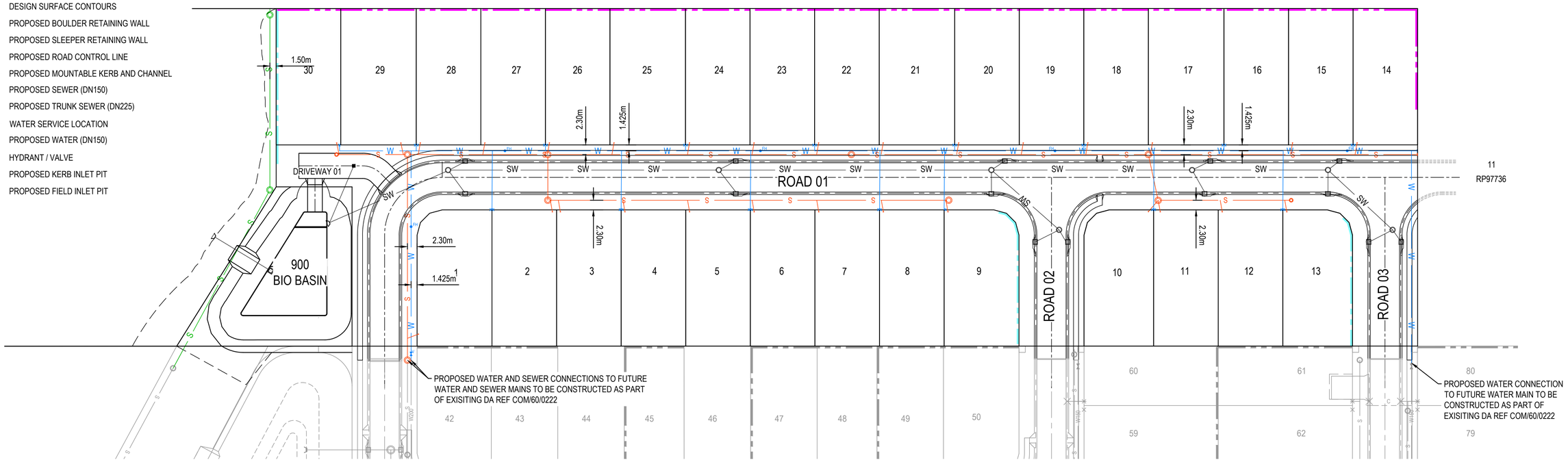
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TYPICAL BIO-RETENTION BASIN DETAILS

DEVEL. APPLIC. No. :		DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG	
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RPEQ:		
SCALE :	DATUM : AHD	FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C452	VERSION: A

13
RP97736

LEGEND

- EXISTING LOT BOUNDARY
- EXISTING LOT BOUNDARY
- EXISTING ROAD CONTROL LINE
- EXISTING SEWER
- EXISTING STORMWATER
- EXISTING WATER
- EXISTING KERB
- PROPOSED LOT BOUNDARY
- DESIGN SURFACE CONTOURS
- PROPOSED BOULDER RETAINING WALL
- PROPOSED SLEEPER RETAINING WALL
- PROPOSED ROAD CONTROL LINE
- PROPOSED MOUNTABLE KERB AND CHANNEL
- PROPOSED SEWER (DN150)
- PROPOSED TRUNK SEWER (DN225)
- WATER SERVICE LOCATION
- PROPOSED WATER (DN150)
- HYDRANT / VALVE
- PROPOSED KERB INLET PIT
- PROPOSED FIELD INLET PIT



PRELIMINARY SEWER & WATER LAYOUT PLAN

SCALE 5 0 5 10 15 20 25 (metres)
1 : 500 (FULL SIZE)

PRELIMINARY

524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE
RPD: LOT 10 ON RP 97736
FOR
GC DEV 6 PTY LTD

A1 ORIGINAL SIZE BEFORE REDUCTION

VER.	DESCRIPTION	DATE
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ABN 76 166 942 365

PROJECT:
524-530 CHAMBERS FLAT ROAD, LOGAN RESERVE

DRAWING TITLE :
PRELIMINARY SEWER & WATER LAYOUT PLAN

DEVEL. APPLIC. No. :	DATE : 17-07-24
PROJECT LEADER : FRASER LUCAS	DESIGNER : TG
DRAFTSPERSON : MT	CHECKED : FRASER LUCAS
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RPEQ:	
SCALE :	DATUM : AHD / FULL SIZE : A1
PROJECT No.: BE220612	DRAWING No. : C500 / VERSION: A

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: 07-Jul-2023

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements

Summary

Matters of National Environment Significance

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

World Heritage Properties:	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:	48
Listed Migratory Species:	17

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:	24
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:	7
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	10 - 20km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities [Resource Information]

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

Community Name	Threatened Category	Presence Text	Buffer Status
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community likely to occur within area	In feature area
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 may 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	Species or species habitat known to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris 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 feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
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
FISH			
Maccullochella mariensis			
Mary River Cod [83806]	Endangered	Translocated population known to occur within area	In buffer area only
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area	In feature area
Macroderma gigas			
Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Petauroides volans			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
Petaurus australis australis			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat known to occur within area	In feature area
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
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 may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diploglottis campbellii Small-leaved Tamarind [21484]	Endangered	Species or species habitat may occur within area	In buffer area only
Endiandra floydii Floyd's Walnut, Crystal Creek Walnut [52955]	Endangered	Species or species habitat may occur within area	In buffer area only
Fontainea venosa [24040]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Gossia gonoclada Angle-stemmed Myrtle [78866]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Macadamia tetraphylla Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut [6581]	Vulnerable	Species or species habitat may occur within area	In feature area
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat may occur within area	In feature area
Planchonella eerwah Shiny-leaved Condoo, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat may occur within area	In feature area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area
REPTILE			
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat likely to occur within area	In feature area
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
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
[Rhipidura rufifrons](#) Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area
[Symposiachrus trivirgatus as Monarcha trivirgatus](#) Spectacled Monarch [83946]		Species or species habitat likely to occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat likely to occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
[Charadrius leschenaultii](#) Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]		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
[Pandion haliaetus](#) Osprey [952]		Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	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 likely to 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 likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area

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 feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In buffer area only
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known 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
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In buffer area only
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 known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat 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
Land clearing for proposed industrial development	2022/09427		Completed	In buffer area only
Controlled action				

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Park Ridge residential, mixed use and medium impact industry precinct, Park Ridge, Queensland	2017/8090	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
GCCC Northern Wastewater Strategy and associated Reclaimed Water Scheme - Stage	2001/282	Not Controlled Action	Completed	In feature area
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Loganlea to Jimboomba 110kV network upgrade, SE Qld	2013/7035	Not Controlled Action	Completed	In buffer area only
Residential Development including Drainage Swale as Stormwater Infrastructure	2009/4910	Not Controlled Action	Completed	In buffer area only
Residential subdivision Lots 15 & 16 and associated access roads	2011/5804	Not Controlled Action	Completed	In buffer area only

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.

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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: -27.7147
Longitude: 153.0950
Distance: 2
Email: gabriela.castan@burchills.com.au
Date submitted: Friday 07 Jul 2023 13:14:59
Date extracted: Friday 07 Jul 2023 13:20:03

The number of records retrieved = 327

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

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Bufonidae	*Rhinella marina*	cane toad	Y			2
animals	amphibians	Hylidae	*Litoria balatus*	slender bleating treefrog		C		1
animals	amphibians	Hylidae	*Litoria caerulea*	common green treefrog		C		1
animals	amphibians	Hylidae	*Litoria fallax*	eastern sedgefrog		C		3
animals	amphibians	Hylidae	*Litoria latopalmata*	broad palmed rocketfrog		C		1
animals	amphibians	Hylidae	*Litoria nasuta*	striped rocketfrog		C		1
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		3
animals	amphibians	Limnodynastidae	*Limnodynastes peronii*	striped marshfrog		C		2
animals	amphibians	Limnodynastidae	*Limnodynastes terraereginae*	scarlet sided pobblebonk		C		2
animals	amphibians	Limnodynastidae	*Platyplectrum ornatum*	ornate burrowing frog		C		1
animals	amphibians	Myobatrachidae	*Crinia parinsignifera*	beeping froglet		C		1
animals	amphibians	Myobatrachidae	*Crinia signifera*	clicking froglet		C		1
animals	birds	Acanthizidae	*Acanthiza chrysorrhoa*	yellow-rumped thornbill		C		4
animals	birds	Acanthizidae	*Acanthiza nana*	yellow thornbill		C		1
animals	birds	Acanthizidae	*Acanthiza pusilla*	brown thornbill		C		3
animals	birds	Acanthizidae	*Acanthiza reguloides*	buff-rumped thornbill		C		3
animals	birds	Acanthizidae	*Gerygone olivacea*	white-throated gerygone		C		4
animals	birds	Acanthizidae	*Pyrrholaemus sagittatus*	speckled warbler		C		3
animals	birds	Acanthizidae	*Sericornis frontalis*	white-browed scrubwren		C		1
animals	birds	Acanthizidae	*Smicrornis brevirostris*	weebill		C		4
animals	birds	Accipitridae	*Accipiter fasciatus*	brown goshawk		C		1
animals	birds	Accipitridae	*Aviceda subcristata*	Pacific baza		C		2
animals	birds	Accipitridae	*Circus approximans*	swamp harrier		C		1
animals	birds	Accipitridae	*Circus assimilis*	spotted harrier		C		2
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		1
animals	birds	Accipitridae	*Haliastur sphenurus*	whistling kite		C		3
animals	birds	Accipitridae	*Hieraaetus morphnoides*	little eagle		C		1
animals	birds	Acrocephalidae	*Acrocephalus australis*	Australian reed-warbler		C		2
animals	birds	Aegothelidae	*Aegotheles cristatus*	Australian owlet-nightjar		C		2
animals	birds	Alaudidae	*Mirafra javanica*	Horsfield's bushlark		C		1
animals	birds	Alcedinidae	*Ceyx azureus*	azure kingfisher		C		1
animals	birds	Alcedinidae	*Dacelo novaeguineae*	laughing kookaburra		C		14
animals	birds	Alcedinidae	*Todiramphus macleayii*	forest kingfisher		C		5
animals	birds	Alcedinidae	*Todiramphus pyrrhopygius*	red-backed kingfisher		C		1
animals	birds	Alcedinidae	*Todiramphus sanctus*	sacred kingfisher		C		6
animals	birds	Anatidae	*Anas gracilis*	grey teal		C		3
animals	birds	Anatidae	*Anas platyrhynchos*	northern mallard	Y			2
animals	birds	Anatidae	*Anas superciliosa*	Pacific black duck		C		16
animals	birds	Anatidae	*Aythya australis*	hardhead		C		1
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		15
animals	birds	Anatidae	*Cygnus atratus*	black swan		C		10
animals	birds	Anhingidae	*Anhinga novaehollandiae*	Australasian darter		C		3
animals	birds	Anseranatidae	*Anseranas semipalmata*	magpie goose		C		2
animals	birds	Apodidae	*Apus pacificus*	fork-tailed swift		SL		1
animals	birds	Apodidae	*Hirundapus caudacutus*	white-throated needletail		V	V	2
animals	birds	Ardeidae	*Ardea alba modesta*	eastern great egret		C		5

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Ardeidae	*Ardea intermedia*	intermediate egret		C		7
animals	birds	Ardeidae	*Ardea pacifica*	white-necked heron		C		3
animals	birds	Ardeidae	*Bubulcus ibis*	cattle egret		C		17
animals	birds	Ardeidae	*Egretta garzetta*	little egret		C		2
animals	birds	Ardeidae	*Egretta novaehollandiae*	white-faced heron		C		9
animals	birds	Ardeidae	*Ixobrychus flavicollis*	black bittern		C		3
animals	birds	Ardeidae	*Nycticorax caledonicus*	nankeen night-heron		C		1
animals	birds	Artamidae	*Artamus cyanopterus*	dusky woodswallow		C		1
animals	birds	Artamidae	*Artamus leucorynchus*	white-breasted woodswallow		C		1
animals	birds	Artamidae	*Cracticus nigrogularis*	pied butcherbird		C		16
animals	birds	Artamidae	*Cracticus torquatus*	grey butcherbird		C		5
animals	birds	Artamidae	*Gymnorhina tibicen*	Australian magpie		C		13
animals	birds	Artamidae	*Strepera graculina*	pied currawong		C		2
animals	birds	Burhinidae	*Burhinus grallarius*	bush stone-curlew		C		1
animals	birds	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo		C		6
animals	birds	Cacatuidae	*Eolophus roseicapilla*	galah		C		10
animals	birds	Campephagidae	*Coracina maxima*	ground cuckoo-shrike		C		3
animals	birds	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike		C		11
animals	birds	Campephagidae	*Edolisoma tenuirostre*	common cicadabird		C		1
animals	birds	Campephagidae	*Lalage leucomela*	varied triller		C		1
animals	birds	Campephagidae	*Lalage tricolor*	white-winged triller		C		1
animals	birds	Casuariidae	*Dromaius novaehollandiae*	emu		C		1
animals	birds	Charadriidae	*Elseyornis melanops*	black-fronted dotterel		C		5
animals	birds	Charadriidae	*Erythrogonys cinctus*	red-kneed dotterel		C		2
animals	birds	Charadriidae	*Vanellus miles novaehollandiae*	masked lapwing (southern subspecies)		C		17
animals	birds	Charadriidae	*Vanellus tricolor*	banded lapwing		C		1
animals	birds	Ciconiidae	*Ephippiorhynchus asiaticus*	black-necked stork		C		7
animals	birds	Cinclosomatidae	*Cinclosoma punctatum*	spotted quail-thrush		C		1
animals	birds	Cisticolidae	*Cisticola exilis*	golden-headed cisticola		C		5
animals	birds	Climacteridae	*Climacteris picumnus*	brown treecreeper		C		1
animals	birds	Climacteridae	*Cormobates leucophaea metastasis*	white-throated treecreeper (southern)		C		1
animals	birds	Columbidae	*Chalcophaps longirostris*	Pacific emerald dove		C		1
animals	birds	Columbidae	*Columba livia*	rock dove	Y			1
animals	birds	Columbidae	*Geopelia humeralis*	bar-shouldered dove		C		5
animals	birds	Columbidae	*Geopelia placida*	peaceful dove		C		5
animals	birds	Columbidae	*Macropygia phasianella*	brown cuckoo-dove		C		1
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		14
animals	birds	Columbidae	*Phaps chalcoptera*	common bronzewing		C		5
animals	birds	Columbidae	*Spilopelia chinensis*	spotted dove	Y			2
animals	birds	Coraciidae	*Eurystomus orientalis*	dollarbird		C		4
animals	birds	Corvidae	*Corvus orru*	Torresian crow		C		19
animals	birds	Cuculidae	*Cacomantis flabelliformis*	fan-tailed cuckoo		C		2
animals	birds	Cuculidae	*Cacomantis pallidus*	pallid cuckoo		C		2
animals	birds	Cuculidae	*Cacomantis variolosus*	brush cuckoo		C		1
animals	birds	Cuculidae	*Centropus phasianinus*	pheasant coucal		C		5
animals	birds	Cuculidae	*Chalcites basalis*	Horsfield's bronze-cuckoo		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo		C		1
animals	birds	Cuculidae	*Chalcites minutillus barnardi*	Eastern little bronze-cuckoo		C		1
animals	birds	Cuculidae	*Cuculus optatus*	oriental cuckoo		SL		1
animals	birds	Cuculidae	*Eudynamys orientalis*	eastern koel		C		2
animals	birds	Dicaeidae	*Dicaeum hirundinaceum*	mistletoebird		C		3
animals	birds	Dicruridae	*Dicrurus bracteatus*	spangled drongo		C		1
animals	birds	Estrildidae	*Lonchura castaneothorax*	chestnut-breasted mannikin		C		1
animals	birds	Estrildidae	*Neochmia temporalis*	red-browed finch		C		4
animals	birds	Estrildidae	*Taeniopygia bichenovii*	double-barred finch		C		5
animals	birds	Estrildidae	*Taeniopygia guttata*	zebra finch		C		2
animals	birds	Eurostopodidae	*Eurostopodus mystacalis*	white-throated nightjar		C		1
animals	birds	Falconidae	*Falco berigora*	brown falcon		C		1
animals	birds	Falconidae	*Falco cenchroides*	nankeen kestrel		C		8
animals	birds	Falconidae	*Falco longipennis*	Australian hobby		C		1
animals	birds	Fregatidae	*Fregata ariel*	lesser frigatebird		SL		1
animals	birds	Fringillidae	*Carduelis carduelis*	European goldfinch	Y			1
animals	birds	Hirundinidae	*Cheramoeca leucosterna*	white-backed swallow		C		2
animals	birds	Hirundinidae	*Hirundo neoxena*	welcome swallow		C		15
animals	birds	Hirundinidae	*Petrochelidon ariel*	fairy martin		C		7
animals	birds	Hirundinidae	*Petrochelidon nigricans*	tree martin		C		6
animals	birds	Jacanidae	*Irediparra gallinacea*	comb-crested jacana		C		6
animals	birds	Laridae	*Chlidonias hybrida*	whiskered tern		C		2
animals	birds	Laridae	*Chroicocephalus novaehollandiae*	silver gull		C		1
animals	birds	Locustellidae	*Cincloramphus cruralis*	brown songlark		C		1
animals	birds	Locustellidae	*Cincloramphus timoriensis*	tawny grassbird		C		2
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		4
animals	birds	Maluridae	*Malurus lamberti*	variegated fairy-wren		C		3
animals	birds	Maluridae	*Malurus melanocephalus*	red-backed fairy-wren		C		5
animals	birds	Meliphagidae	*Acanthagenys rufogularis*	spiny-cheeked honeyeater		C		1
animals	birds	Meliphagidae	*Acanthorhynchus tenuirostris*	eastern spinebill		C		1
animals	birds	Meliphagidae	*Anthochaera chrysoptera*	little wattlebird		C		4
animals	birds	Meliphagidae	*Anthochaera phrygia*	regent honeyeater		CR	CE	3
animals	birds	Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater		C		5
animals	birds	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater		C		7
animals	birds	Meliphagidae	*Gavicalis fasciogularis*	mangrove honeyeater		C		1
animals	birds	Meliphagidae	*Lichmera indistincta*	brown honeyeater		C		6
animals	birds	Meliphagidae	*Manorina melanocephala*	noisy miner		C		7
animals	birds	Meliphagidae	*Meliphaga lewinii*	Lewin's honeyeater		C		1
animals	birds	Meliphagidae	*Melithreptus albogularis*	white-throated honeyeater		C		6
animals	birds	Meliphagidae	*Myzomela sanguinolenta*	scarlet honeyeater		C		5
animals	birds	Meliphagidae	*Philemon citreogularis*	little friarbird		C		6
animals	birds	Meliphagidae	*Philemon corniculatus*	noisy friarbird		C		7
animals	birds	Meliphagidae	*Phylidonyris niger*	white-cheeked honeyeater		C		1
animals	birds	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater		C		3
animals	birds	Meropidae	*Merops ornatus*	rainbow bee-eater		C		5
animals	birds	Monarchidae	*Carterornis leucotis*	white-eared monarch		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Monarchidae	*Grallina cyanoleuca*	magpie-lark		C		14
animals	birds	Monarchidae	*Monarcha melanopsis*	black-faced monarch		SL		1
animals	birds	Monarchidae	*Myiagra inquieta*	restless flycatcher		C		2
animals	birds	Monarchidae	*Myiagra rubecula*	leaden flycatcher		C		5
animals	birds	Motacillidae	*Anthus novaeseelandiae*	Australasian pipit		C		5
animals	birds	Neosittidae	*Daphoenositta chrysoptera*	varied sittella		C		1
animals	birds	Oriolidae	*Oriolus sagittatus*	olive-backed oriole		C		4
animals	birds	Oriolidae	*Sphecotheres vieilloti*	Australasian figbird		C		4
animals	birds	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush		C		5
animals	birds	Pachycephalidae	*Pachycephala pectoralis*	golden whistler		C		4
animals	birds	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler		C		4
animals	birds	Pandionidae	*Pandion haliaetus cristatus*	eastern osprey		SL		1
animals	birds	Pardalotidae	*Pardalotus striatus*	striated pardalote		C		6
animals	birds	Passeridae	*Passer domesticus*	house sparrow	Y			8
animals	birds	Pelecanidae	*Pelecanus conspicillatus*	Australian pelican		C		3
animals	birds	Petroicidae	*Eopsaltria australis*	eastern yellow robin		C		1
animals	birds	Petroicidae	*Petroica rosea*	rose robin		C		3
animals	birds	Phalacrocoracidae	*Microcarbo melanoleucos*	little pied cormorant		C		9
animals	birds	Phalacrocoracidae	*Phalacrocorax carbo*	great cormorant		C		1
animals	birds	Phalacrocoracidae	*Phalacrocorax sulcirostris*	little black cormorant		C		4
animals	birds	Phalacrocoracidae	*Phalacrocorax varius*	pied cormorant		C		2
animals	birds	Phasianidae	*Synoicus chinensis*	king quail		C		2
animals	birds	Phasianidae	*Synoicus ypsilophorus*	brown quail		C		1
animals	birds	Pittidae	*Pitta versicolor*	noisy pitta		C		2
animals	birds	Podargidae	*Podargus strigoides*	tawny frogmouth		C		5
animals	birds	Podicipedidae	*Tachybaptus novaehollandiae*	Australasian grebe		C		6
animals	birds	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler		C		4
animals	birds	Psittaculidae	*Aprosmictus erythropterus*	red-winged parrot		C		1
animals	birds	Psittaculidae	*Lathamus discolor*	swift parrot		E	CE	1
animals	birds	Psittaculidae	*Parvipsitta pusilla*	little lorikeet		C		4
animals	birds	Psittaculidae	*Platycercus adscitus*	pale-headed rosella		C		13
animals	birds	Psittaculidae	*Platycercus adscitus palliceps*	pale-headed rosella (southern form)		C		1
animals	birds	Psittaculidae	*Platycercus elegans*	crimson rosella		C		2
animals	birds	Psittaculidae	*Platycercus eximius*	eastern rosella		C		2
animals	birds	Psittaculidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet		C		8
animals	birds	Psittaculidae	*Trichoglossus moluccanus*	rainbow lorikeet		C		13
animals	birds	Ptilonorhynchidae	*Sericulus chrysocephalus*	regent bowerbird		C		1
animals	birds	Rallidae	*Fulica atra*	Eurasian coot		C		1
animals	birds	Rallidae	*Gallinula tenebrosa*	dusky moorhen		C		8
animals	birds	Rallidae	*Gallirallus philippensis*	buff-banded rail		C		2
animals	birds	Rallidae	*Porphyrio melanotus*	purple swamphen		C		14
animals	birds	Rallidae	*Zapornia tabuensis*	spotless crake		C		1
animals	birds	Recurvirostridae	*Himantopus leucocephalus*	pied stilt		C		7
animals	birds	Rhipiduridae	*Rhipidura albiscapa*	grey fantail		C		5
animals	birds	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail		C		12
animals	birds	Rhipiduridae	*Rhipidura rufifrons*	rufous fantail		SL		3

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Rostratulidae	*Rostratula australis*	Australian painted-snipe		E	E	1
animals	birds	Scolopacidae	*Calidris acuminata*	sharp-tailed sandpiper		SL		2
animals	birds	Scolopacidae	*Gallinago hardwickii*	Latham's snipe		SL		1
animals	birds	Scolopacidae	*Tringa nebularia*	common greenshank		SL		2
animals	birds	Strigidae	*Ninox boobook*	southern boobook		C		3
animals	birds	Strigidae	*Ninox strenua*	powerful owl		V		2
animals	birds	Sturnidae	*Acridotheres tristis*	common myna	Y			2
animals	birds	Sturnidae	*Sturnus vulgaris*	common starling	Y			10
animals	birds	Threskiornithidae	*Platalea flavipes*	yellow-billed spoonbill		C		7
animals	birds	Threskiornithidae	*Platalea regia*	royal spoonbill		C		4
animals	birds	Threskiornithidae	*Plegadis falcinellus*	glossy ibis		SL		5
animals	birds	Threskiornithidae	*Threskiornis molucca*	Australian white ibis		C		8
animals	birds	Threskiornithidae	*Threskiornis spinicollis*	straw-necked ibis		C		14
animals	birds	Tytonidae	*Tyto javanica*	eastern barn owl		C		2
animals	birds	Zosteropidae	*Zosterops lateralis*	silvereye		C		6
animals	mammals	Canidae	*Canis familiaris*	dog	Y			1
animals	mammals	Canidae	*Vulpes vulpes*	red fox	Y			1
animals	mammals	Felidae	*Felis catus*	cat	Y			1
animals	mammals	Leporidae	*Lepus europaeus*	European brown hare	Y			1
animals	mammals	Muridae	*Mus musculus*	house mouse	Y			1
animals	mammals	Muridae	*Rattus fuscipes*	bush rat		C		1
animals	mammals	Muridae	*Rattus rattus*	black rat	Y			1
animals	mammals	Peramelidae	*Isoodon macrourus*	northern brown bandicoot		C		1
animals	mammals	Petauridae	*Petaurus breviceps*	sugar glider		C		1
animals	mammals	Petauridae	*Petaurus breviceps sensu lato*	sugar glider		C		3
animals	mammals	Petauridae	*Petaurus norfolcensis*	squirrel glider		C		1
animals	mammals	Phalangeridae	*Trichosurus vulpecula*	common brushtail possum		C		6
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		E	E	31
animals	mammals	Pseudocheiridae	*Pseudocheirus peregrinus*	common ringtail possum		C		5
animals	mammals	Pteropodidae	*Pteropus alecto*	black flying-fox		C		1
animals	mammals	Tachyglossidae	*Tachyglossus aculeatus*	short-beaked echidna		SL		1
animals	mammals	Vespertilionidae	*Chalinolobus nigrogriseus*	hoary wattled bat		C		1
animals	ray-finned fishes	Anguillidae	*Anguilla australis*	southern shortfin eel				2
animals	ray-finned fishes	Anguillidae	*Anguilla reinhardtii*	longfin eel				1
animals	ray-finned fishes	Cichlidae	*Oreochromis mossambica*	Mozambique mouthbrooder	Y			1
animals	ray-finned fishes	Eleotridae	*Hypseleotris galii*	firetail gudgeon				1
animals	ray-finned fishes	Terapontidae	*Bidyanus bidyanus*	silver perch			CE	2
animals	reptiles	Agamidae	*Intellagama lesueurii*	eastern water dragon		C		1
animals	reptiles	Agamidae	*Pogona barbata*	bearded dragon		C		4
animals	reptiles	Boidae	*Morelia spilota*	carpet python		C		1
animals	reptiles	Chelidae	*Chelodina expansa*	broad-shelled river turtle		C		1
animals	reptiles	Chelidae	*Chelodina longicollis*	eastern snake-necked turtle		C		1
animals	reptiles	Chelidae	*Emydura macquarii macquarii*	Murray turtle		C		3
animals	reptiles	Chelidae	*Wollumbinia latisternum*	saw-shelled turtle		C		1
animals	reptiles	Colubridae	*Dendrelaphis punctulatus*	green tree snake		C		2
animals	reptiles	Colubridae	*Tropidonophis mairii*	freshwater snake		C		1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	reptiles	Elapidae	*Pseudechis porphyriacus*	red-bellied black snake		C		1
animals	reptiles	Elapidae	*Pseudonaja textilis*	eastern brown snake		C		2
animals	reptiles	Scincidae	*Cryptoblepharus pulcher pulcher*	elegant snake-eyed skink		C		3
animals	reptiles	Scincidae	*Lampropholis delicata*	dark-flecked garden sunskink		C		1
animals	reptiles	Scincidae	*Tiliqua scincoides scincoides*	eastern bluetongue		C		1
plants	land plants	Apiaceae	*Centella asiatica*			C		1
plants	land plants	Apocynaceae	*Gomphocarpus physocarpus*	balloon cottonbush	Y			1
plants	land plants	Apocynaceae	*Parsonsia straminea*	monkey rope		C		3
plants	land plants	Arecaceae	*Archontophoenix cunninghamiana*	piccabeen palm		C		1
plants	land plants	Arecaceae	*Syagrus romanzoffiana*	Queen palm	Y			1
plants	land plants	Asparagaceae	*Asparagus africanus*	ornamental asparagus	Y			1
plants	land plants	Asteraceae	*Ageratina adenophora*	crofton weed	Y			1
plants	land plants	Asteraceae	*Ageratina riparia*	mistflower	Y			1
plants	land plants	Asteraceae	*Ageratum conyzoides*	billygoat weed	Y			1
plants	land plants	Asteraceae	*Ageratum houstonianum*	blue billygoat weed	Y			1
plants	land plants	Asteraceae	*Arctotheca calendula*	Cape weed	Y			1
plants	land plants	Asteraceae	*Bidens pilosa*		Y			2
plants	land plants	Asteraceae	*Chrysocephalum apiculatum*	yellow buttons		C		1
plants	land plants	Asteraceae	*Chrysocephalum apiculatum subsp. exile*			C		1
plants	land plants	Asteraceae	*Ozothamnus diosmifolius*	white dogwood		C		1
plants	land plants	Asteraceae	*Podolepis neglecta*			C		1/1
plants	land plants	Bignoniaceae	*Tecoma stans*	tecoma	Y			1
plants	land plants	Campanulaceae	*Lobelia purpurascens*	white root		SL		2
plants	land plants	Cannabaceae	*Celtis sinensis*	Chinese elm	Y			1
plants	land plants	Casuarinaceae	*Allocasuarina littoralis*			C		1
plants	land plants	Casuarinaceae	*Allocasuarina torulosa*			C		1
plants	land plants	Casuarinaceae	*Casuarina glauca*	swamp she-oak		C		1
plants	land plants	Colchicaceae	*Wurmbea dioica subsp. dioica*			C		1/1
plants	land plants	Convolvulaceae	*Ipomoea cairica*		Y			1
plants	land plants	Cyperaceae	*Cyperus polystachyos*			C		2
plants	land plants	Cyperaceae	*Lepidosperma laterale*			C		1
plants	land plants	Cyperaceae	*Machaerina articulata*			C		2
plants	land plants	Cyperaceae	*Ptilothrix deusta*			C		2
plants	land plants	Dennstaedtiaceae	*Pteridium esculentum*	common bracken		C		2
plants	land plants	Dicksoniaceae	*Calochlaena dubia*			C		1
plants	land plants	Dilleniaceae	*Hibbertia vestita*			C		1
plants	land plants	Juncaceae	*Juncus*					1
plants	land plants	Lauraceae	*Cinnamomum camphora*	camphor laurel	Y			1
plants	land plants	Laxmanniaceae	*Lomandra hystrix*			C		2
plants	land plants	Laxmanniaceae	*Lomandra longifolia*			C		3
plants	land plants	Laxmanniaceae	*Lomandra multiflora subsp. multiflora*			C		1
plants	land plants	Leguminosae	*Acacia*					1
plants	land plants	Leguminosae	*Acacia concurrens*			C		3
plants	land plants	Leguminosae	*Acacia disparrima subsp. disparrima*			C		2
plants	land plants	Leguminosae	*Acacia fimbriata*	Brisbane golden wattle		C		1
plants	land plants	Leguminosae	*Acacia leiocalyx subsp. leiocalyx*			C		2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	land plants	Leguminosae	*Leucaena leucocephala*		Y			1
plants	land plants	Leguminosae	*Senna pendula var. glabrata*	Easter cassia	Y			1
plants	land plants	Moraceae	*Maclura cochinchinensis*	cockspur thorn		C		1
plants	land plants	Myrtaceae	*Angophora leiocarpa*	rusty gum		C		4
plants	land plants	Myrtaceae	*Angophora woodsiana*	smudgee		C		2
plants	land plants	Myrtaceae	*Corymbia intermedia*	pink bloodwood		C		2
plants	land plants	Myrtaceae	*Corymbia torelliana*	cadaghi		C		2
plants	land plants	Myrtaceae	*Eucalyptus microcorys*			C		2
plants	land plants	Myrtaceae	*Eucalyptus propinqua*	small-fruited grey gum		C		1
plants	land plants	Myrtaceae	*Eucalyptus racemosa subsp. racemosa*	scribbly gum		C		2
plants	land plants	Myrtaceae	*Eucalyptus seeana*	narrow-leaved red gum		C		1
plants	land plants	Myrtaceae	*Eucalyptus seeana var. constricta*			C		1
plants	land plants	Myrtaceae	*Eucalyptus siderophloia*			C		1
plants	land plants	Myrtaceae	*Eucalyptus tereticornis*			C		1
plants	land plants	Myrtaceae	*Leptospermum*					1
plants	land plants	Myrtaceae	*Leptospermum polygalifolium*	tantoon		C		1
plants	land plants	Myrtaceae	*Lophostemon confertus*	brush box		C		1
plants	land plants	Myrtaceae	*Lophostemon suaveolens*	swamp box		C		3
plants	land plants	Myrtaceae	*Melaleuca linariifolia*	snow-in summer		C		1
plants	land plants	Myrtaceae	*Melaleuca nodosa*			C		1
plants	land plants	Myrtaceae	*Melaleuca pachyphylla*			C		1
plants	land plants	Myrtaceae	*Melaleuca quinquenervia*	swamp paperbark		C		2
plants	land plants	Myrtaceae	*Melaleuca salicina*			C		1
plants	land plants	Myrtaceae	*Melaleuca sieberi*			C		2
plants	land plants	Myrtaceae	*Melaleuca thymifolia*	thyme honeymyrtle		C		1
plants	land plants	Nephrolepidaceae	*Nephrolepis cordifolia*	fishbone fern		C		1
plants	land plants	Oleaceae	*Ligustrum lucidum*	large-leaved privet	Y			1
plants	land plants	Phyllanthaceae	*Glochidion ferdinandi*			C		1
plants	land plants	Pinaceae	*Pinus elliottii*	slash pine	Y			1
plants	land plants	Poaceae	*Andropogon virginicus*	whiskey grass	Y			1
plants	land plants	Poaceae	*Cenchrus clandestinus*		Y			1
plants	land plants	Poaceae	*Cymbopogon refractus*	barbed-wire grass		C		1
plants	land plants	Poaceae	*Imperata cylindrica*	blady grass		C		3
plants	land plants	Poaceae	*Leersia hexandra*	swamp rice grass		C		1
plants	land plants	Poaceae	*Megathyrsus maximus*		Y			1
plants	land plants	Poaceae	*Oplismenus aemulus var. lasiorhachis*			C		1
plants	land plants	Poaceae	*Paspalum*					1
plants	land plants	Poaceae	*Paspalum mandiocanum*		Y			1
plants	land plants	Poaceae	*Setaria*					1
plants	land plants	Poaceae	*Themeda triandra*	kangaroo grass		C		2
plants	land plants	Proteaceae	*Banksia integrifolia*			C		2
plants	land plants	Proteaceae	*Grevillea robusta*			C		2
plants	land plants	Proteaceae	*Lomatia silaifolia*	crinkle bush		C		1
plants	land plants	Proteaceae	*Macadamia integrifolia*	macadamia nut		V	V	1
plants	land plants	Proteaceae	*Persoonia cornifolia*	broad-leaved geebung		C		1
plants	land plants	Rhamnaceae	*Alphitonia excelsa*	soap tree		C		3

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	land plants	Sapindaceae	*Dodonaea triquetra*	large-leaved hop bush		C		1
plants	land plants	Thelypteridaceae	*Christella dentata*	creek fern		SL		1
plants	land plants	Typhaceae	*Typha orientalis*	broad-leaved cumbungi		C		1
plants	land plants	Verbenaceae	*Lantana camara*	lantana	Y			1
plants	land plants	Verbenaceae	*Verbena bonariensis*	purpletop	Y			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.

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Vegetation management report

For Lot: 10 Plan: RP97736

07/07/2023

Queensland Government

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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.

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1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 10 Plan: RP97736, 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)
10	RP97736	Freehold	33,360

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: 10 Plan: RP97736, 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: 10 Plan: RP97736

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: 3.34ha

Vegetation category	Area (ha)
Category X	3.3

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
non-rem	None	X	3.34	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

No records

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: 10 Plan: RP97736.

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.

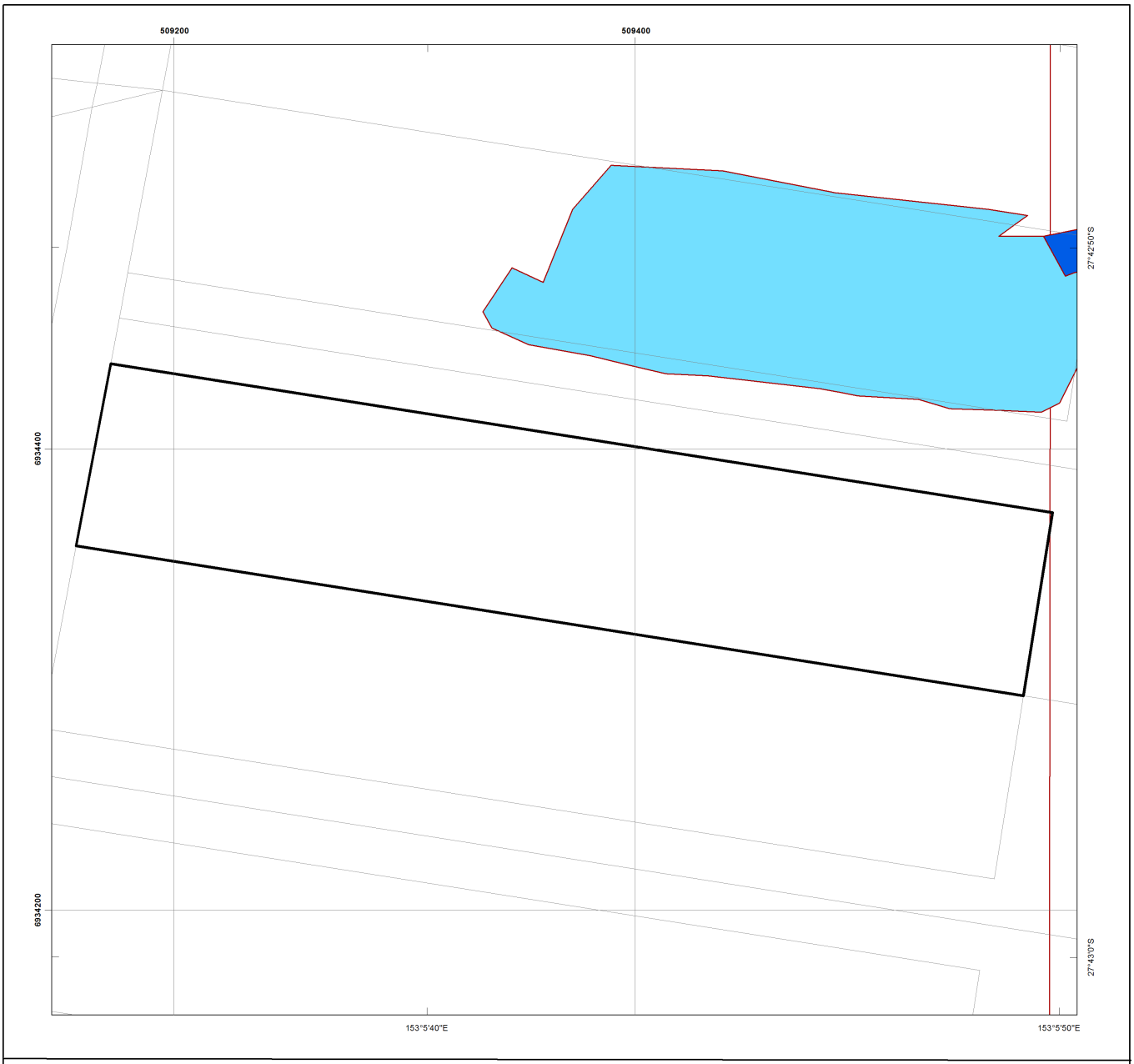
Coastal/non-coastal map

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

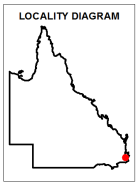


Regulated Vegetation Management Map

Legend

- Selected Lot and Plan
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
- Water
- Other land parcel boundaries

LOCALITY DIAGRAM



N

0 20 40 60 80 100 m

This product is projected into:
GDA 1994 MGA Zone 56

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Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.resources.qld.gov.au or contact the Department of Resources.

Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

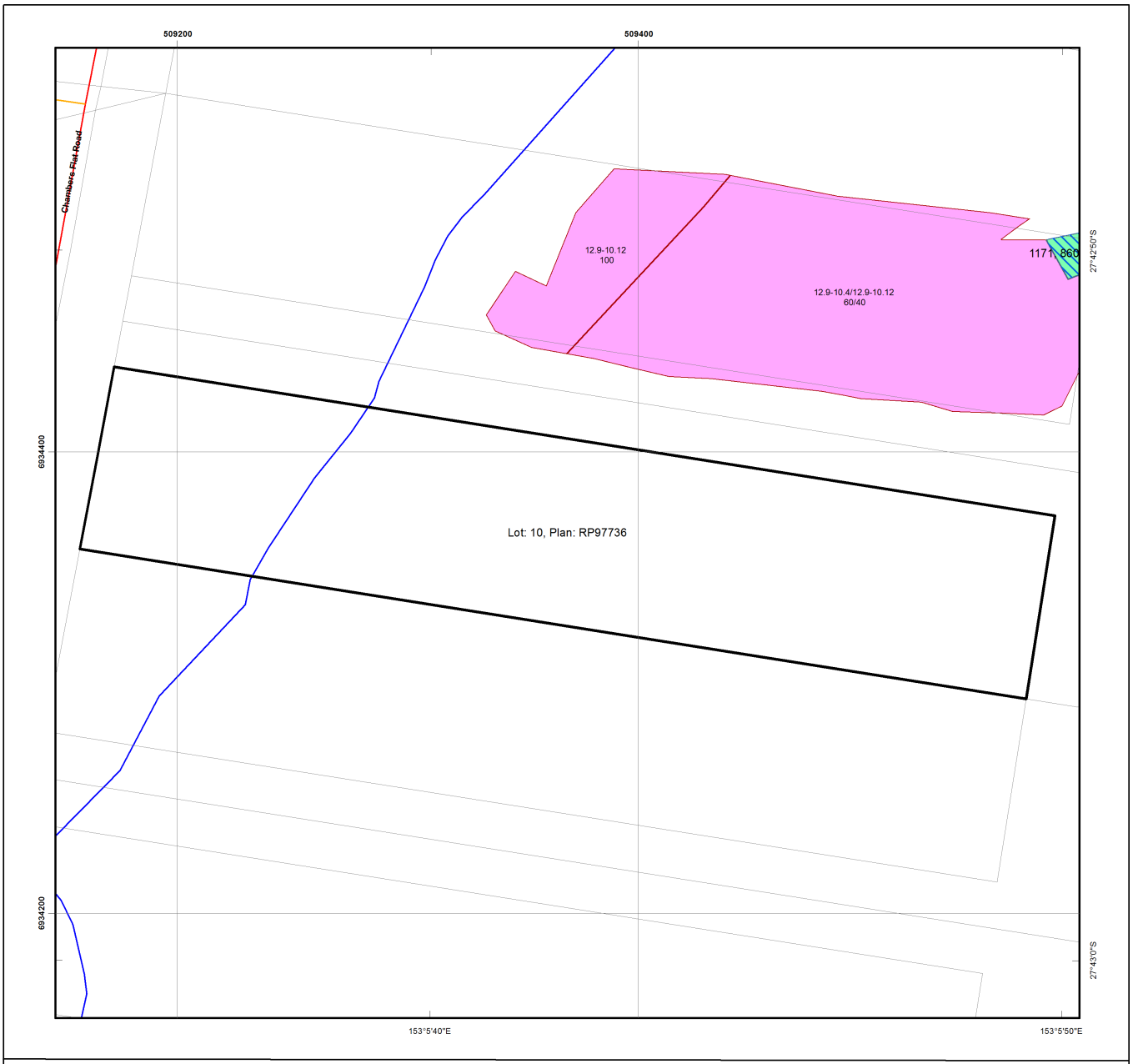
Land parcel boundaries are provided as locational aid only.

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

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4.2 Vegetation management supporting map



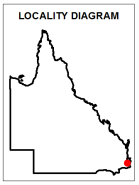
Vegetation Management Supporting Map

Legend

- Selected Lot and Plan
- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category C or R area containing endangered regional ecosystems
- Category C or R area containing of concern regional ecosystems
- Category C or R area that is a least concern regional ecosystem
- Category X area
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map (Stream order shown as black number against stream where available)
- Highway
- Connector
- Street/Local Road
- National Parks, State Forest and other reserves
- Other land parcel boundaries

Queensland Government

LOCALITY DIAGRAM



N

0 10 20 30 40 50 m

This product is projected into: GDA 1994 MGA Zone 56

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

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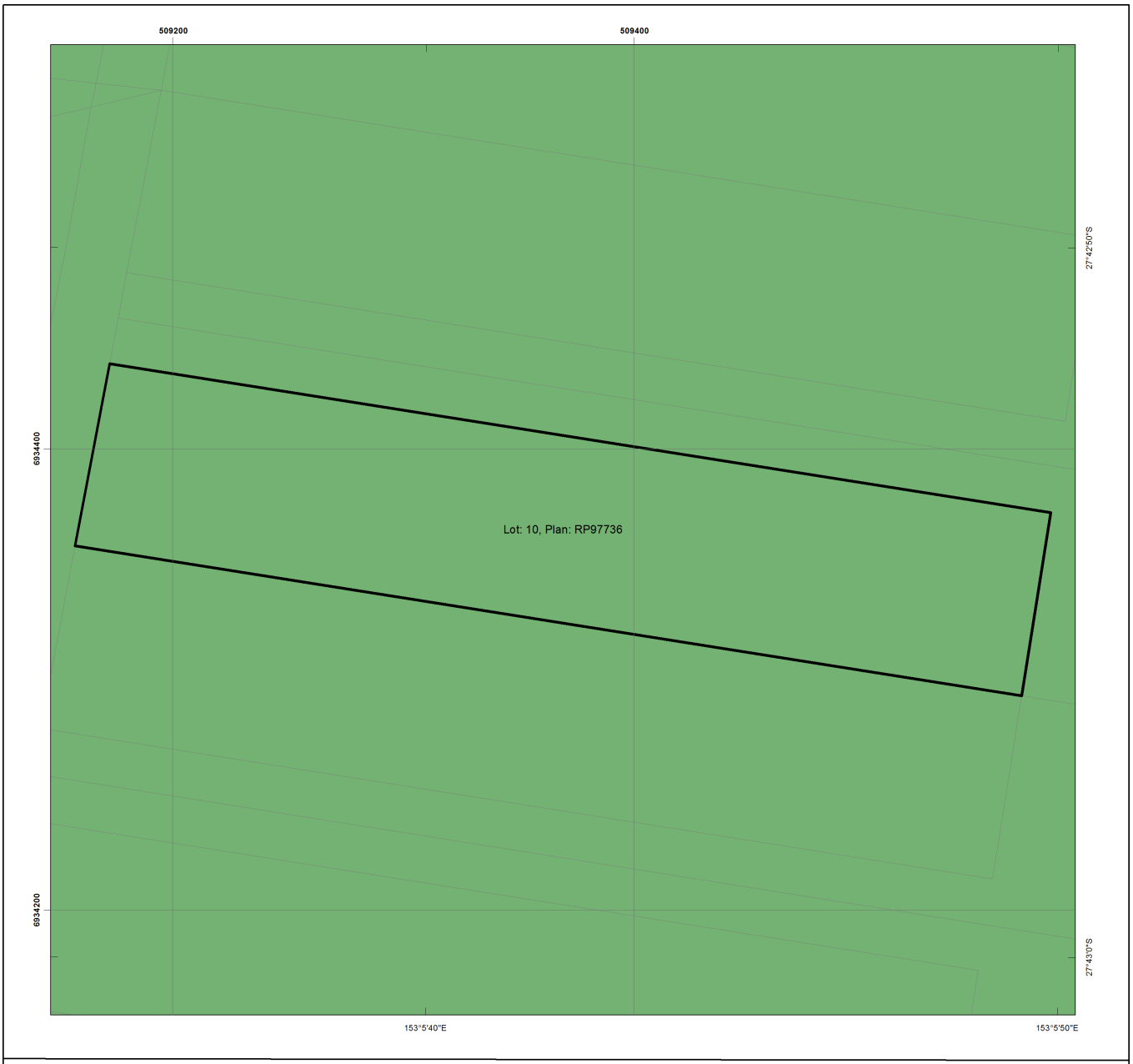
Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.resources.qld.gov.au or contact the Department of Resources.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

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4.3 Coastal/non-coastal map

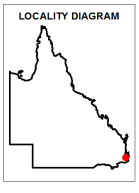


Coastal/Non Coastal Map

Legend

- Selected Lot and Plan
- Coastal
- Non Coastal
- Other land parcel boundaries

LOCALITY DIAGRAM



N

0 20 40 60 80 100 m

This product is projected into:
GDA 1994 MGA Zone 56

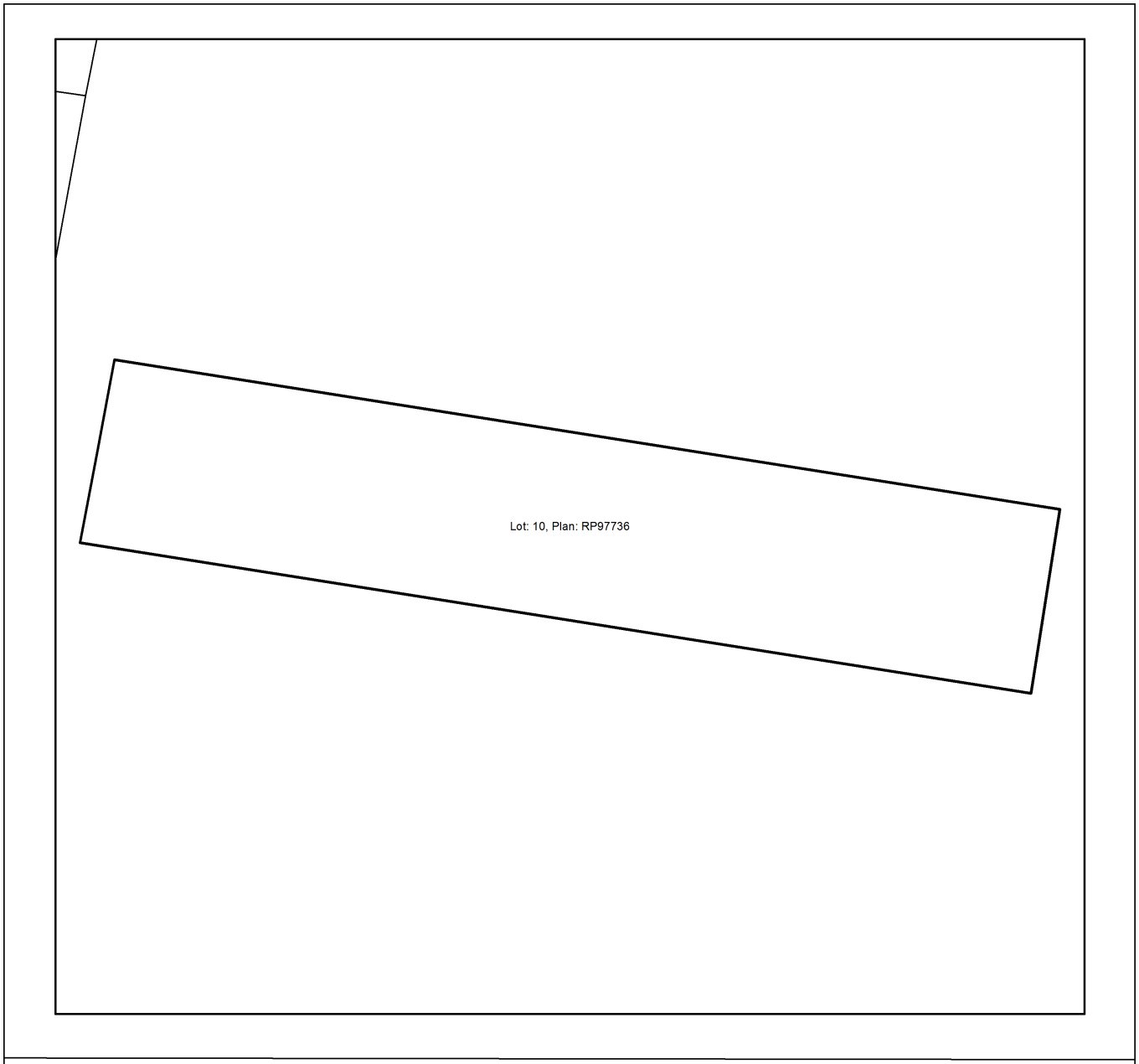
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4.4 Agricultural Land Class A or B as per State Planning Policy: State Interest for Agriculture



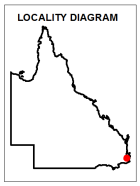
Agricultural Land Class A or B
as per State Planning Policy: State Interest for Agriculture

Legend

- Selected Lot and Plan
- Towns
- Rivers and creeks
- Freeways / motorways; Highways
- Secondary roads; Streets

Agricultural land class A or B

- A
- B
- Not class A or B



N

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0 20 40 60 80 100 m

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This product is projected into GDA 1994 MGA Zone 56

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

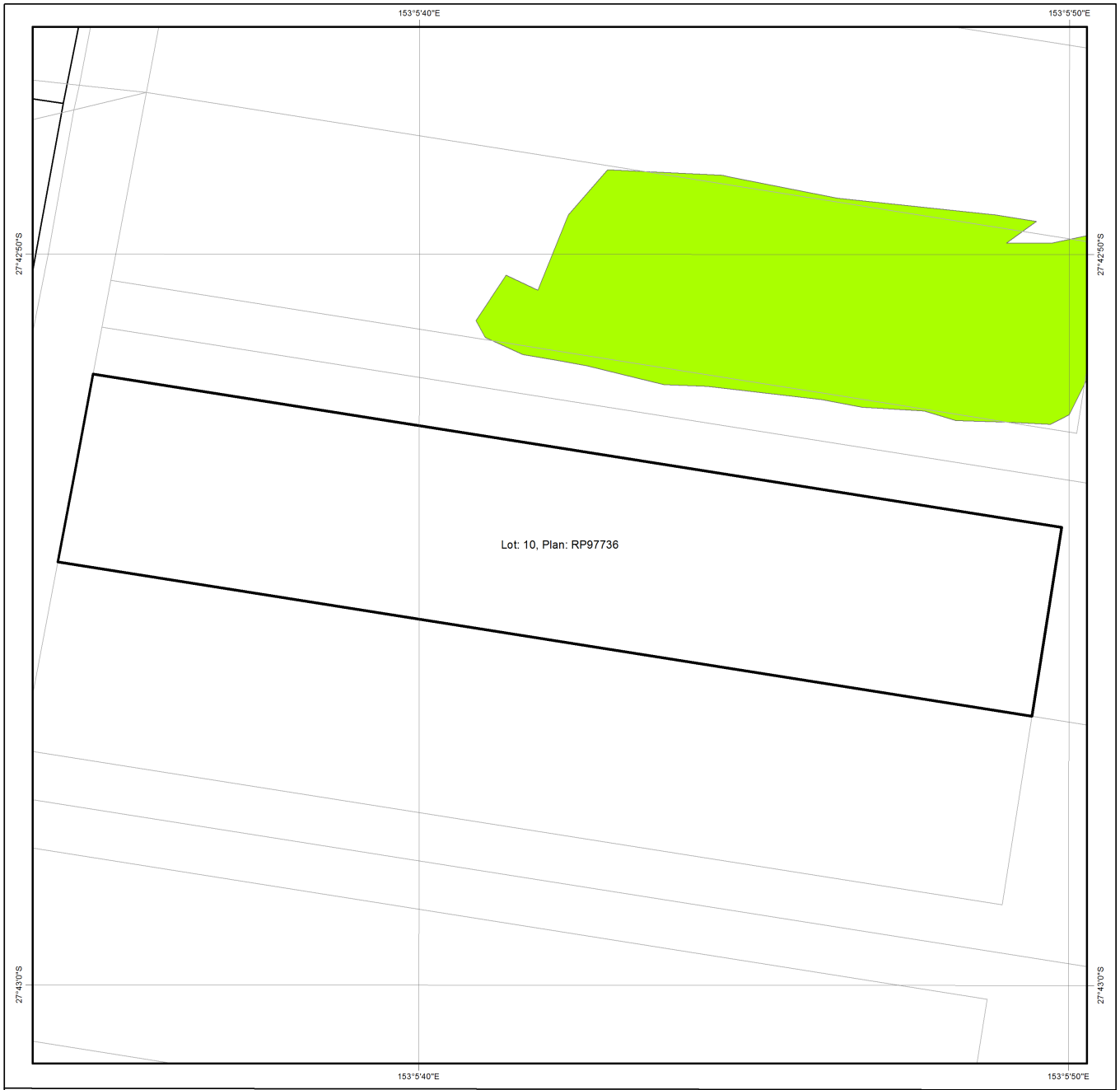
This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

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.

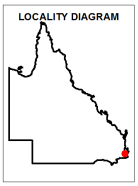


Protected Plants Flora Survey Trigger Map

Legend

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

LOCALITY DIAGRAM



N

0 10 20 30 40 50 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

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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

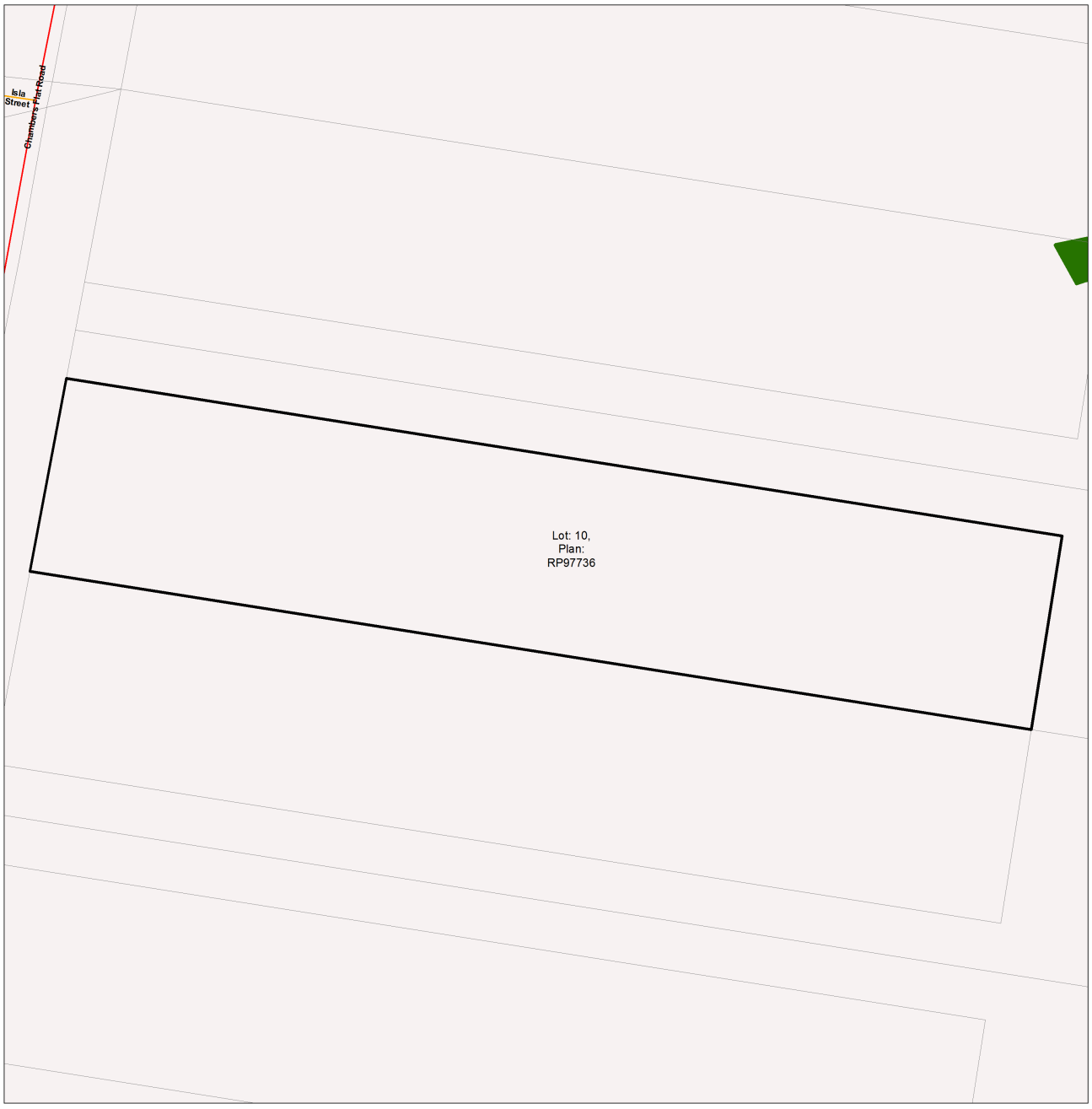
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@des.qld.gov.au
Visit https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 10 Plan: RP97736

7.1 Koala districts

Koala District A

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



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

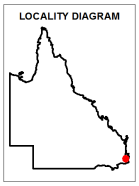
Legend

- Selected Lot and Plan
- Koala habitat area (core)
- Koala habitat area (locally refined)
- Koala priority area
- Identified koala broad-hectare area
- Cadastral Boundaries
- Towns
- Highway
- Connector
- Street/Local Road
- Major rivers/creeks
- Queensland

The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

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LOCALITY DIAGRAM



N

0 20 40 60 80 100 m

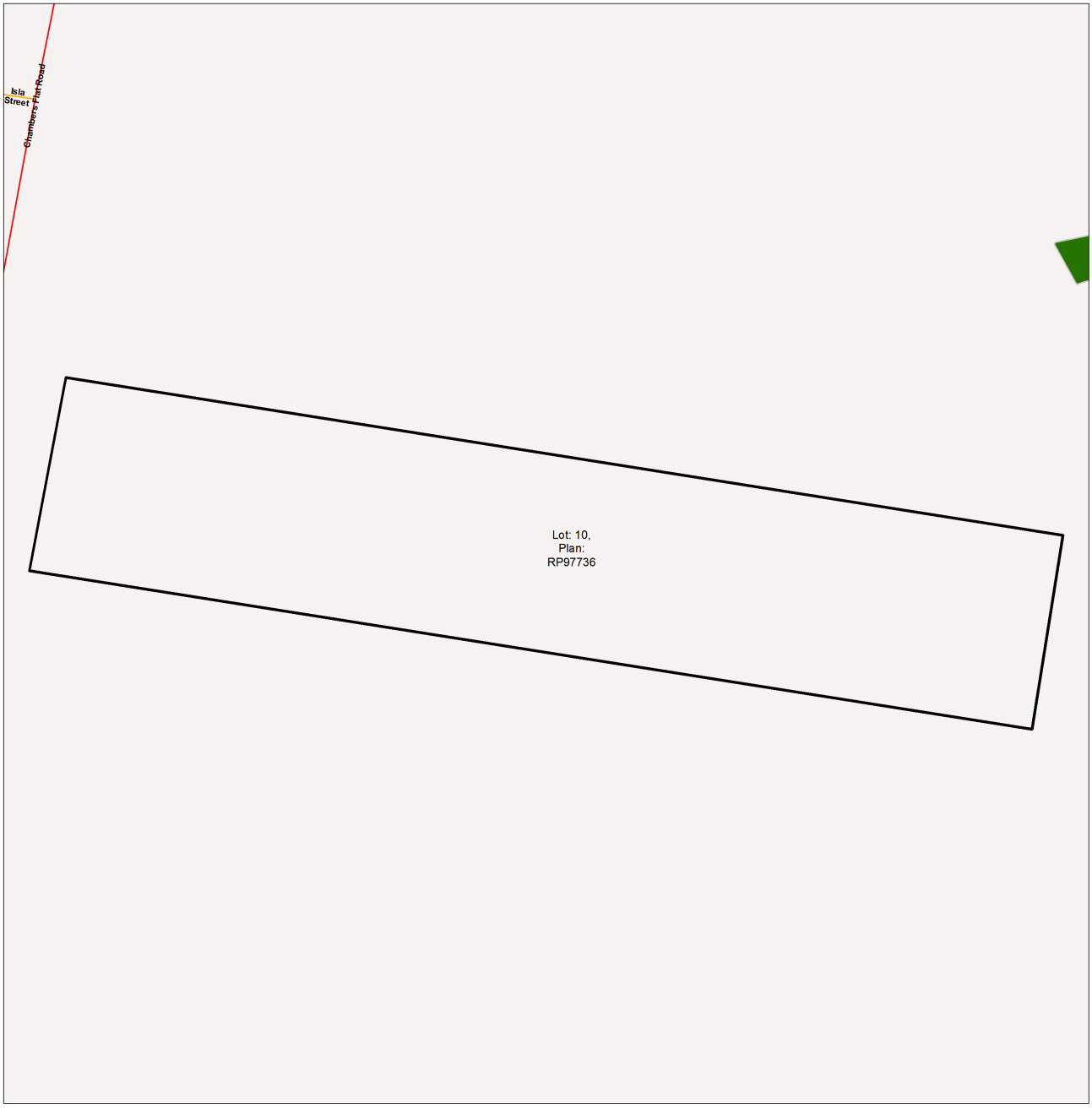
This product is projected into GDA 1994 MGA Zone 56

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

In order to ensure that the most recent map for an area of interest can be accessed, prior to the annual update, a register of changes made to koala habitat areas as a result of the map amendment process will be available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/. The register will include lot on plan for the change, the date the decision was made and the map issued to the landholder which shows areas determined to be koala habitat areas.

7.3 Koala habitat regional ecosystems for core koala habitat areas

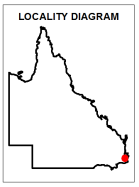


Koala habitat regional ecosystems for core koala habitat areas

Legend

- Selected Lot and Plan
- Koala habitat area (core)
- Towns
- Highway
- Connector
- Street/Local Road
- Major rivers/creeks
- Queensland

LOCALITY DIAGRAM



N

0 20 40 60 80 100 m

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The koala habitat mapping within South East Queensland uses regional ecosystem linework compiled at a scale varying from 1:25,000 to 1:100,000. Linework should be used as a guide only. The positional accuracy of regional ecosystem data mapped at a scale of 1:100,000 is +/- 100 metres.

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This product is projected into GDA 1994 MGA Zone 56

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 golden wattle	C	
Acacia leiocalyx	Early-flowering black wattle	C	
Ageratum houstonianum	Blue billygoat weed		Y
Allocasuarina littoralis	Black she-oak	C	
Angophora leiocarpa	Rusty gum	C	
Angophora woodsiana	Smudgee	C	
Araucaria heterophylla	Norfolk pine		Y
Archontophoenix cunninghamiana	Bangalow palm	C	
Asparagus africanus	Climbing asparagus	RIP	Y
Bidens pilosa	Cobbler's pegs		Y
Bougainvillea sp.	Bougainvillea		Y
Callistemon sp.	Bottlebrush	C	
Chloris gayana	Rhode's grass		Y
Corymbia citriodora subsp. Variegata	Spotted gum	C	
Corymbia intermedia	Pink bloodwood	C	
Corymbia torelliana	Cadaghi		Y
Cupaniopsis anacardioides	Tuckeroo	C	
Eucalyptus siderophloia	Grey ironbark	C	
Eucalyptus tereticornis	Qld bluegum	C	
Ficus microcarpa	Hill's weeping fig		Y
Gomphocarpus physocarpus	Balloon cotton bush		Y
Grevillea robusta	Silky oak	C	
Heptapleurum actinophyllum	Umbrella tree		Y
Hypochaeris radicata	Flatweed		Y
Imperata cylindrica	Blady grass	C	
Lantana camara	Lantana	RIP	Y
Leptospermum polygalifolium	Wild may	C	
Lophostemon suaveolens	Swamp box	C	
Ludwigia peruviana	Ludwigia	RIP	Y
Macaranga tanarius	Macaranga	C	
Macroptilium atropurpureum	Siratro		Y
Melaleuca quinquenervia	Broad-leaved paperbark	C	
Melinis minutiflora	Molasses grass		Y
Melinis repens	Red Natal grass		Y
Nymphaea sp.	Waterlily		Y
Jacaranda mimosifolia	Jacaranda		Y
Morus sp.	Mulberry		Y
Parsonsia straminea	Monkey rope vine	C	
Paspalum dilatatum	Paspalum		Y

Species Name	Common Name	Status	Exotic
Psidium guajava	Guava		Y
Setaria sphacelata	South African pigeon grass		Y
Solanum chrysotrichum	Giant devil's fig		Y
Solanum mauritianum	Wild tobacco		Y
Solanum seaforthianum	Brazilian nightshade		Y
Sphagneticola trilobata	Singapore daisy	RIP	Y

*Status:

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.
Bidyanus bidyanus	Silver perch	CE	**UNLIKELY** *Bidyanus bidyanus* is a small to medium sized freshwater fish found throughout the Murray Darling basin. They are opportunistic omnivores, feeding on a range of invertebrates, vertebrates as well as vegetative matter. Decline in silver perch populations has been recorded for more than 50 years, and the species has gone extinct from up to 87% of its natural range. Main threatening factors to this species include river regulation (e.g. weirs, dams) preventing migration and spawning cues, overfishing and habitat loss. Although native to the Murray Darling basin, this species has been translocated and naturalised in waterways within South East Queensland. The site's waterway does not provide suitable habitat for this species.
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

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
			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** *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, 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 Allocasuarina 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.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on 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.
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.
Coeranoscincus reticulatus	Three-toed Snake-tooth Skink	V	**UNLIKELY** *Coeranoscincus reticulatus* occurs in loose, well mulched friable soil, in and under rotting logs, in forest litter, under fallen pine bark and under decomposing cane mulch. In Queensland this species has been found in tall layered open eucalypt forest, rainforest, wet sclerophyll forest, closed forest, tall open Blackbutt (*Eucalyptus pilularis*) forest and closed Brush box (*Lophostemon confertus*) forest. Records indicated that this species has adaptability to modified environments as a result of clearing and can occur in fragmented habitat and restored riparian vegetation.
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.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on 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.
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.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on 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.
Fregata ariel	Lesser Frigatebird	SL, MB	**UNLIKELY** The lesser frigatebird is said to be the most common and widespread frigatebird in Australian seas (Lindsey, 1986). It is common in tropical seas, breeding on remote islands, including Christmas Island in the Indian Ocean in recent years. It breeds on small, remote tropical and sub-tropical islands, in mangroves or bushes, and even on bare ground. 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.
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).

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
			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). Suitable habitat for this species is not present on the subject site.
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.
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.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Maccullochella mariensis	Mary River cod	E	**UNLIKELY** *Maccullochella mariensis* is a large freshwater fish, with its natural range is limited to the Mary River catchment in Southeast Queensland. Habitat loss, overfishing and introduced species have resulted in significant population declines in this species since European colonisation of Australia. It has been translocated to the Brisbane, Logan/Albert, Coomera and Nerang catchments. The site's waterway does not provide suitable habitat for this species.
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.
Ninox strenua	Powerful owl	V	**UNLIKELY** *Ninox strenua* occupies a large home range in mountain forest, open forests and woodlands, as well as along sheltered gullies in wet forests with dense understoreys, especially along watercourses. This species feeds on medium to large tree-dwelling mammals, flying foxes and roosting birds. It will also take small ground-dwelling mammals such as rabbits or small marsupials. Habitat requirements include hollow bearing trees for breeding and to a lesser extent, hunting. *Ninox strenua* roosts in dense vegetation along creeks and gully lines where the canopy provides refuge from aggressive, edge specialist bird species. For nesting, this species prefers hollow with diameter of greater than 45 cm and a depth 100 cm located in old growth eucalypt forests associated with gullies and / or lower slopes within 100 m of streams or minor drainage lines. 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.
Pandion haliaetus	Osprey	MWS	**UNLIKELY** *Pandion haliaetus* occurs in littoral and coastal habitats and terrestrial wetlands. They are predominately found in coastal areas however, travel inland along major rivers. Osprey require extensive areas of fresh, brackish or saline water for foraging. This species typically feeds on fish, but may also feed on molluscs, crustaceans, insects, reptiles, birds and mammals. Suitable habitat for this species is not present on-site.

Scientific Name	Common Name	Status*	Likelihood of Occurrence 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.
Phascolarctos cinereus	Koala	E, E#	**UNLIKELY** *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, particularly in the eastern portion proximate to larger areas of koala habitat outside of the site.
Plegadis falcinellus	Glossy ibis	SL	**POSSIBLE** *Plegadis falcinellus* inhabits fresh water marshes at the edges of lakes and rivers, lagoons, flood-plains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation for both foraging and breeding. Additionally, the species is occasionally found in coastal areas such as estuaries, deltas, saltmarshes and coastal lagoons. Glossy ibis feed on aquatic invertebrates/insects including freshwater snails, mussels, crabs and crayfish. The species also eats fish, frogs and tadpoles, dryland invertebrates (such as beetles and grasshoppers), lizards, small snakes and nestling birds. This species is migratory within Australia, as the species moves in response to rainfall. With potential migrations occurring to destination outside of Australia. Given the broad habitat requirements of this species it is possible that it utilises the subject 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.
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

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
			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.
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.

Scientific Name	Common Name	Status*	Likelihood of Occurrence on Site
Tachyglossus aculeatus	Short-beaked echidna	SL	**UNLIKELY** *Tachyglossus aculeatus* inhabits forests, woodlands, heath, grasslands and arid environments. Females tend to prefer access to woodland habitat, especially for resources to raise their young. The short-beaked echidna predominately feeds on ants and termites. This species breeds between July and August, with eggs being incubated for 10.5 days. The site does not provide suitable habitat for this species given the low habitat values and existing threats (domestic dogs etc).
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.
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.	**N/A** Site is not within 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 AO2.1** The site has 2,368m^2 of mapped Primary Vegetation Management Area under the Biodiversity Overlay of the Logan Planning Scheme 2015, with only 55m^2 to be impacted by the proposed works. In order to facilitate the development with no-net loss in biodiversity, a financial settlement offset is proposed. An Offset Infrastructure Agreement will be entered

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.	into with Logan City Council and the offset paid prior to commencement of works. **Complies with AO2.2** The waterway corridor in the western part of the site will be rehabilitated in accordance with Logan Planning Scheme Policy 3.3 Waterway and Wetland Enhancement Works and The South-East Queensland Ecological Restoration Framework (Chenoweth EPLA and Bushland Restoration Services, 2012) as detailed in the ESA (Burchills 2024).
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** Of the 28,761m² mapped Secondary Vegetation Management Area mapped on the site, 4,778m² will be impacted by the proposed works. This comprises calculated vegetated area (i.e. with a canopy cover of greater than 1 tree per 10m²) and 7 individual native trees. This impact is proposed to be offset via a financial settlement offset as detailed in the ESA (Burchills 2024).

	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.	
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 prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	**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; 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.	**N/A** Development is not within a Koala corridor.
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;	**AO5** Development is located outside of a Locally significant vegetation area as identified on Biodiversity areas overlay map OM-02.03.	**N/A** Development is located outside of Locally significant vegetation areas.

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.		
For assessable development		
Wildlife movement		
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: 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.	**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: a. the Queensland Government Fauna Sensitive Road Design Manual Volume 2: Preferred Practices; b. the Queensland Government Koala-sensitive Design Guideline.	**N/A** Development is not within a Biodiversity or Koala corridor.
Locally significant Melaleuca irbyana buffer area		
PO7	**AO7**	**N/A**

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.	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.	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; b. native vegetation.	**AO8** No acceptable outcome provided.	**Complies with PO8** No ridgelines are present on-site. Native vegetation will be protected and enhanced though rehabilitation of the area along the mapped waterway in the western part of the site.
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 or Koala corridor, or a Biodiversity corridor identified on Biodiversity areas overlay map OM-02.02.

Appendix F – Waterway Corridors and Wetlands Overlay Code Response

8.2.12 Waterway corridors and wetlands overlay code

8.2.12.1 Application

1. This code applies to accepted development (subject to requirements) and assessable development for which the Waterway corridors and wetlands overlay code is identified in Table 5.10.14.1 - Waterway corridors and wetlands overlay map OM-14.00 in Part 5 - Tables of assessment.
2. When using this code, reference should be made to section 5.3.2 - Determining the criteria 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.

8.2.12.2 Purpose

1. The purpose of the code is to protect and enhance the ecological values, bank stability and scenic amenity of waterway corridors and wetlands and their riparian areas.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. Development is designed, constructed and managed to:
        i. protect and enhance ecosystem processes and the function of a waterway corridor, wetland, and their riparian areas;
        ii. protect natural hydrological and geomorphological processes;
        iii. protect and enhance water quality of a waterway and wetland;
        iv. protect and enhance landscape values of a waterway and wetland;
        v. ensure the long term management and maintenance of a waterway and wetland;
        vi. provide public access to a wetland and along the entire frontage of the Logan and Albert Rivers where they are located within the urban footprint;
        vii. avoid erosion prone areas or mitigate the risk of coastal hazards.

8.2.12.3 Assessment benchmarks for assessable development and requirements for accepted development

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

Table 8.2.12.3.1 - Waterway corridors and wetlands overlay code: accepted development (subject to requirements) and assessable development

Performance outcomes	Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development		
Design and location		
PO1 Development is designed and located to protect the ecosystem processes, water quality, function, scenic amenity and landscape values of a Waterway corridors and wetlands area identified on Waterway corridors and wetlands overlay map OM-14.00.	**AO1** Development is located outside the: a. waterway areas identified on Waterway corridors and wetlands overlay map OM-14.01; b. wetlands and wetland buffers identified on Waterway corridors and wetlands overlay map OM-14.02.	**Complies with PO1** The waterway corridor present in the west of the site will be mostly protected as part of the proposed development. Some impacts are however required to facilitate the proposed design. Given the highly degraded current conditions the waterway corridor will be rehabilitated in accordance with Logan Planning Scheme Policy 3.3 Waterway and Wetland Enhancement Works and The South-East Queensland Ecological Restoration Framework (Chenoweth EPLA and Bushland Restoration Services, 2012), to protect and enhance the ecological processes and function of this waterway, as well as water quality, scenic amenity and landscape values.
For assessable development only		
Location and ecosystem processes		

PO2 Development is: a. designed and located such that a waterway area or wetlands and wetland buffer is protected; b. designed, constructed and managed to protect and enhance: i. in-stream and riparian habitat values of a Waterway corridors and wetlands area identified on Waterway corridors and wetlands overlay map OM-14.00; ii. safe wildlife movement and fish passage. Note - Planning scheme policy 3 - Environmental management provides guidance on how to achieve this outcome. Compliance with this performance outcome is to be demonstrated by an ecological assessment report prepared in accordance with part 2 of Planning scheme policy 3 - Environmental management.	**AO2** Development: a. demonstrates that locating outside the waterway area of wetland and wetland buffer is not reasonably possible; b. prepares an ecological assessment report in accordance with part 2 of Planning scheme policy 3 - Environmental management that demonstrates how the development protects and enhances in-stream and riparian habitat values and results in no loss of connectivity which supports wildlife movement; c. protects and enhances the ecological function of a Waterway corridor and wetlands area in accordance with section 3.3.1 - Riparian corridor revegetation and weed control and section 3.3.2 - Waterway terrestrial and aquatic fauna movement of Planning scheme policy 3 - Environmental management.	**Complies with AO2** An ecological assessment report in accordance with part 2 of Planning scheme policy 3 - Environmental management has been provided. The waterway corridor present in the west of the site will be mostly protected as part of the proposed development. Some impacts are however required to facilitate the proposed design. The waterway corridor will be rehabilitated in accordance with Logan Planning Scheme Policy 3.3 Waterway and Wetland Enhancement Works and The South-East Queensland Ecological Restoration Framework (Chenoweth EPLA and Bushland Restoration Services, 2012), to enhance habitat values and buffer function.
Natural hydrological and geomorphological processes		
PO3 Development is designed, constructed and managed to ensure: a. the natural hydrological and geomorphological processes of a Waterway corridors and wetlands area identified on Waterway corridors and wetlands overlay map OM-14.00 are maintained;	**AO3** Development is designed, constructed and managed to protect the natural hydrological and geomorphological processes of a Waterway corridors and wetlands area by: a. stabilising banks using native vegetation in accordance with section 3.3.1 - Riparian corridor revegetation and weed control and section 3.3.3 - Near-natural hydrology	**Complies with PO3** The waterway corridor will be rehabilitated in accordance with Logan Planning Scheme Policy 3.3 Waterway and Wetland Enhancement Works and The South-East Queensland Ecological Restoration Framework (Chenoweth EPLA and Bushland Restoration Services, 2012).

b. where the natural hydrological and geomorphological processes are modified, the near natural hydrology is re-instated.	reinstatement works of Planning Scheme Policy 3 - Environmental Management; b. reinstating the near-natural hydrology in accordance with section 3.3.3 - Near-natural hydrology reinstatement works of Planning scheme policy 3 - Environmental management.	
Erosion prone areas		
PO4 Development in an erosion prone area identified on Waterway corridors and wetlands overlay map OM-14.03 is for coastal dependent development, or temporary, readily relocatable or able-to-be-abandoned development.	**AO4** Development is not located in an erosion prone area identified on Waterway corridors and wetlands overlay map OM-14.03 unless the development: a. cannot be feasibly located elsewhere; b. is coastal dependent development, or temporary, readily relocatable or able-to-be-abandoned development.	**N/A** Development is not within erosion prone areas.
Water quality		
PO5 Development is designed, constructed and managed to protect water quality of a Waterway corridors and wetlands area identified on Waterway corridors and wetlands overlay map OM-14.00 by: a. providing vegetated buffers; b. incorporating water sensitive urban design principles having regard to: i. protecting water quality of surface and ground waters;	**AO5** Development: a. provides a vegetated riparian buffer in accordance with section 3.3.1 - Riparian corridor revegetation and weed control of Planning scheme policy 3 - Environmental management; b. provides effective erosion and sediment control in accordance with section 3.3 - Filling and excavation standards of Planning scheme policy 5 - Infrastructure;	**Complies with PO5** A stormwater basin is proposed to ensure water quality and quantity is treated before discharging from the site. Appropriate erosion sediment control measures will be in place during site works (e.g. earthworks, vegetation clearing), as detailed within an Erosion and Sediment Control Plan.

ii. minimising sewage discharges to the natural environment; c. limiting discharge of sediments and pollutants into a Waterway corridors and wetlands area.	c. implements water sensitive urban design principles in accordance with section 3.6 - Stormwater infrastructure standards and section 3.7 - Landscaping standards of Planning scheme policy 5 - Infrastructure; d. excludes stock from a Waterway corridors and wetlands area by providing a permanent fence and gate and utilises off-stream stock watering points.	
Access		
PO6 Development provides for an integrated and publicly accessible network of waterways and wetlands to facilitate activation and maintenance of: a. a River waterway identified on Waterway corridors and wetlands overlay map OM-14.01, being the Albert River or Logan River where located within the urban footprint; b. a Major wetland identified on Waterway corridors and wetlands overlay map OM-14.02.	**AO6** Development provides: a. road access in the form of an access road or collector road to a River waterway, identified on Waterway corridors and wetlands overlay map OM-14.01, being the Albert River or Logan River, where the premise adjoins the River waterway and is located within the urban footprint; b. a pedestrian and cycle network along a Major wetland identified on Waterway corridors and wetlands overlay map OM-14.02 where the premises adjoins the Major wetland.	**N/A** Development is not within or proximate to River waterways or Major wetlands.
Tenure		
PO7 Development provides for tenure or management arrangements that facilitate the protection and enhancement of a Waterway corridors and wetlands.	**AO7** No acceptable outcome provided.	**Complies with PO7** After rehabilitation works are complete the waterway corridor area will be dedicated to Council as public open space.

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