Ecological Assessment Report

174-176 Tygum Road,
Waterford West, Queensland 4133
Prepared for Black Oak Property Group Pty Ltd
30 May 2024

11774

saunders havill group

Document control

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Prepared by

ABN 24 144 972 949
www.saundershavill.com

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Acronyms

DAF	Department of Agriculture and Fisheries (Qld)
DAMS	Development Assessment Mapping System
DES	Department of Environment and Science
DSDMIP	Department of State Development, Manufacturing, Infrastructure and Planning
EAR	Ecological Assessment Report
EPBC	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EVNT	Endangered, Vulnerable or Near Threatened as listed under the NC Act
LCC	Logan City Council
MCU	Material Change of Use
MLES	Matters of Local Environmental Significance
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NC Act	Nature Conservation Act 1992
NCAR	Nature Conservation (Animals) Regulation 2020
NCPR	Nature Conservation (Plants) Regulation 2020
PA	Planning Act 2016 (Qld)
PMST	Protected Matters Search Tool
PR	Planning Regulation 2017 (Qld)
ROL	Reconfiguration of a Lot
SARA	State Assessment Referral Agency (part of DSDMIP)
SPP	State Planning Policy 2017 (Qld)
VM Act	Vegetation Management Act 1999 (Qld)
SRI	Significant Residual Impact

1. Introduction

Saunders Havill Group was engaged by Blackoak Property Group Pty Ltd to prepare an Ecological Assessment Report (EAR) for land located at Tygum Road, Waterford West, described as Lot 46 on RP106985, which is intended to support a development application to *Logan City Council* (LCC). This report provides a review of the site's ecological values in accordance with Commonwealth, State and Local Government legislation.

Contextually, the site is located in the Logan City Council Local Government Area within the South-east Queensland Bioregion (Moreton Basin) and is zoned as 'centre.' The site is bound by Tygum Road to the east, large-scale commercial/retail centre to the north, similar sized residential properties to the south and footpaths associated with Tygum Lagoon to the west (refer **Figure 1** - Site Aerial and **Figure 2** - Site Context).

The proposal is for a Material Chage of Use (MCU) to establish a Warehouse (Self Storage Facility) over the subject site. The proposal involves the construction of a three-storey building at approximately 12m above ground level. The building will provide a total area of 2,678.45m of storage space with access to be provided from Tygum Road. Refer to **Appendix A** for the proposed development layout.

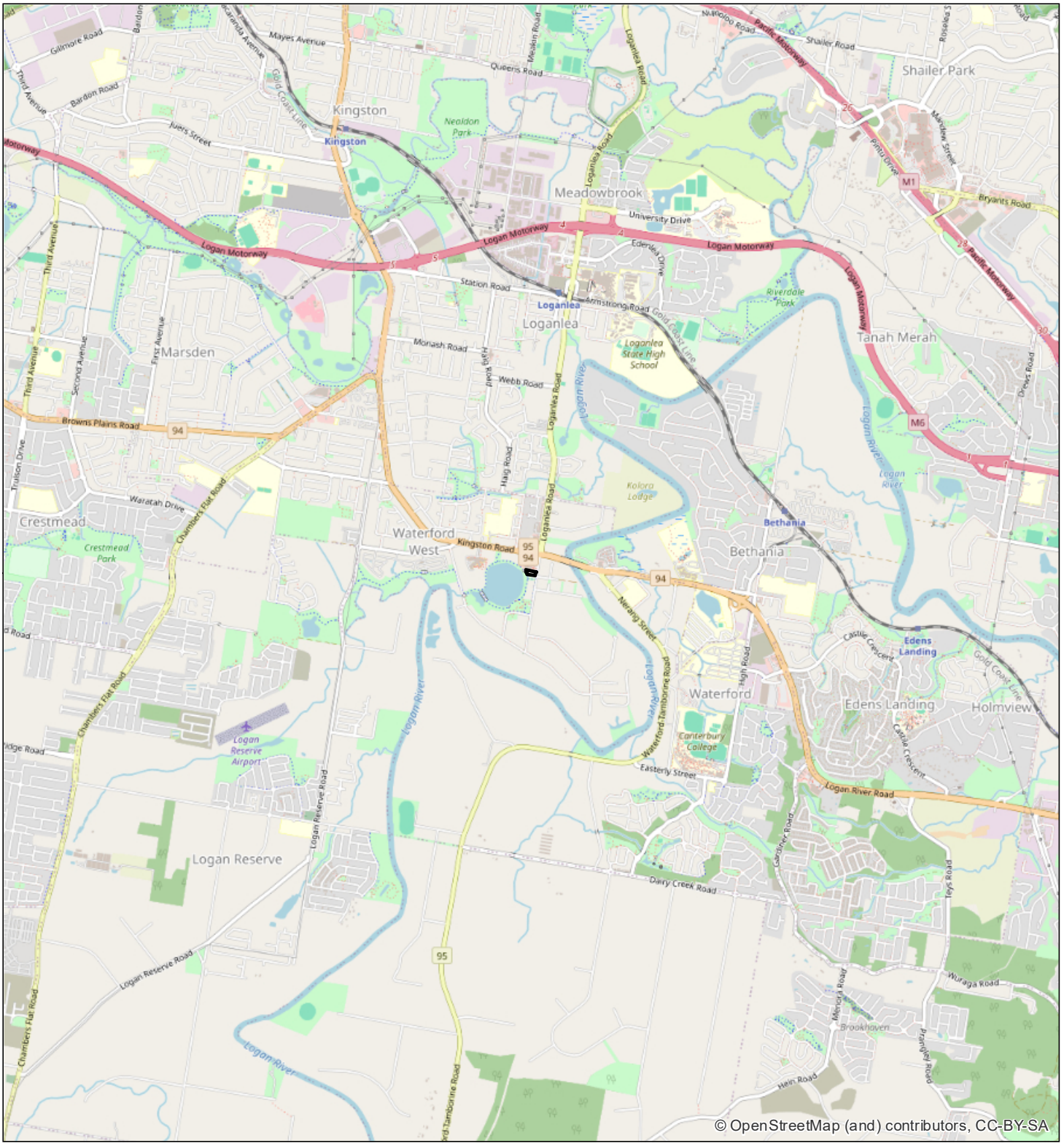
1.1. Property summary

Table 1: Property summary

Address	174-176 Tygum Road, Waterford West, QLD 4133
Area (ha)	0.26 ha
Lots	Lot 46 on RP106985
VM Act 1999	Category X (non-remnant) – 0.26 ha
Protected Plants	Wholly outside 'high-risk' area
MSES	Not present
Koala Habitat	Not within KPA No Koala Habitat Areas
LGA	Logan City Council
Planning Scheme	Logan City Planning Scheme
Zoning	Centre
Environmental overlays	Biodiversity Area Primary and secondary vegetation management area Biodiversity Corridor Matters of Local Environmental Significance Waterways corridors and wetlands – wetland buffer area present

1.2. Purpose of the report

The purpose of this EAR is to present the outcomes of fauna surveys, identify additional environmental site constraints, assess the potential of the project to impact on ecological features and respond to relevant Logan City Planning Scheme Policies and Codes.



Legend

Site DCDB

Figure 1

Site Context

Blackoak Property Group Pty Ltd

File ref. 11774 E Figure 1 EAR Site Context A
Date 26/04/2024
Project Tygum Road, Waterford West

0 1 2 km

N

Scale (A4): 1:50,000 [GDA 2020 MGA Z56]

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Layer Source: © State of Queensland 2024

Legend

Site DCDB

Qld DCDB

Figure 2

Site Aerial

Blackoak Property Group Pty Ltd

File ref. 11774 E Figure 2 EAR Site Aerial A
Date 26/04/2024
Project Tygum Road, Waterford West

0 20 40 m

N

Scale (A4): 1:1,000 [GDA 2020 MGA Z56]

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Layer Source: © State of Queensland 2024

2. Ecological assessment methodology and process

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

1. Desktop analysis;
2. Legislation and policy review;
3. Field survey;
4. Development analysis; and
5. Conclusion and recommendations.

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

2.1. Desktop analysis methodology

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

- Commonwealth Matters of National Environmental Significance protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on and around the site using the Protected Matters Search Tool (PMST);
- *Nature Conservation Act 1992* (NC Act) listed threatened species on and around the site using the Wildlife Online Database;
- Public environmental databases, including Atlas of Living Australia and BioMaps;
- State Government environmental overlay mapping, including:
    - Regulated Vegetation Maps under the *Vegetation Management Act 1999* (VM Act);
    - Flora Survey Trigger Areas under the NC Act;
    - Fish habitat and Waterway for Waterway Barrier Works under the *Fisheries Act 1994*;
    - Watercourses under the *Water Act 2000*;
    - Weeds under the *Biosecurity Act 2014*;
    - Coastal Development and Tidal Works (SARA Coastal Protection) under the Coastal Protection and Management Act 1995; and
    - Matters of State Environmental Significance under the State Planning Policy (SPP) (i.e. wetland protection areas, koala habitat, etc.); and relevant planning scheme documents and maps.
- Local Government (Logan City Planning Scheme) environmental overlay mapping including:
    - Environmental significance - coverage of MLES and MSES and Biodiversity Areas

- Vegetation Management
    - Primary and Secondary management areas located on-site
- Waterways and Wetlands
    - Wetland buffer area

2.2. Field survey methodology

Ecological field surveys were conducted on the subject site in the attempt to confirm presence of potential matters of ecological significance (MNES, MSES and MLES).

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

The application area was walked to ensure all flora and fauna species were identified and recorded. Particular attention was paid to any threatened species listed as possibly occurring within or proximal to the application area. Specific micro-assemblages, which may support these threatened species, were also recorded when observed. This included observations of vertebrate fauna present within or proximal to the study area, including faunal lists and status of species significance under the Commonwealth's EPBC Act (using JAMBA, CAMBA, ROKAMBA and the Bonn Convention) and Queensland's NCA.

The observational survey included identification of ecological features and values such as broad vegetation communities, fauna habitats, and ecological corridors. Recording fauna habitat features within the application area included identification of habitat trees present. Specific attention was paid to flora and fauna species listed as significant under Logan City Council legislation.

2.2.2 GPS Tree Plot

A tree plot survey was conducted across the site to locate and describe the vegetation values, namely the native mature trees and those considered to be habitat trees under the planning scheme definition. A handheld GPS device (Trimble) is used to record sub-metre accurate locations (in some cases use survey accurate locations), and the following parameters of each tree specimen recorded:

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

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

SRZ radius = (DBH x 50)0.42 x 0.64.

2.2.3 Ground-truthing of vegetation communities

Vegetation was ground-truthed and assessed against current VMA regional ecosystem mapping and pre-clear mapping. Surveys were undertaken in accordance with the requirements of the LCC.

A comprehensive flora survey was undertaken using a methodology consistent with the established formats used by the Queensland Herbarium (Neldner et al. [2005]; Hnatiuk et al. [2009]). Survey methodology comprised an initial visual audit, followed by quantitative assessment of vegetation associations and communities.

The western extent of the lot was specifically assessed as this area is mapped under several LCC overlays

3. Legislation, policy and planning instruments

3.1. *Environment Protection and Biodiversity Conservation Act 1999*

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

A search using the Commonwealth's Protected Matters Search Tool (PMST) was conducted for the site. The search provides a list of wetlands of international significance, threatened ecological communities and threatened species, migratory and marine-listed species which have the potential to be temporarily or permanently located within a 5 km radius from the central point of the site. **Table 2** lists a summary of these results relevant to the site. The complete results of this search are included in **Appendix B**.

Table 2: EPBC Act PMST search results

Wetlands of International Importance		
Moreton Bay – 10 km upstream		
Threatened Ecological Communities		
Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community (Endangered) – Community likely to occur within area		
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland (Endangered) – Community likely to to occur within area		
Lowland Rainforest of Subtropical Australia (Critically Endangered) – Community may occur within area		
Poplar Box Grassy Woodland on Alluvial Plains (Endangered) – Community may occur within area		
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions (Endangered) – Community likely to occur in area		
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland (Critically Endangered) – Community may occur within area		
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered) – Community may occur within area		
Threatened Species		
Scientific name	**Common name**	**Status**
Birds		
Anthochaera phrygia	Regent Honeyeater	Critically Endangered
Ardenna grisea	Sooty Shearwater	Vulnerable
Botaurus poiciloptilus	Australasian Bittern	Endangered
Calidris acuminata	Sharp-tailed Sandpiper	Vulnerable

Threatened Species		
Scientific name	**Common name**	**Status**
Calidris ferruginea	Curlew Sandpiper	Critically Endangered
Calyptorhynchus lathami lathami	South-eastern Glossy Black-cockatoo	Vulnerable
Charadrius leschenaultii	Greater Sand Plover	Vulnerable
Climacteris picumnus victoriae	Brown Treecreeper	Vulnerable
Cyclopsitta diophthalma coxeni	Coxen's Fig-parrot	Critically Endangered
Domedea antipodensis	Antipodean Albatross	Vulnerable
Diomedea antipodensis gibsoni	Gibson's Albatross	Vulnerable
Diomedea exulans	Wandering Albatross	Vulnerable
Erythrotriorchis radiatus	Red Goshawk	Endangered
Falco hypoleucos	Grey Falcon	Vulnerable
Gallinago Hardwickii	Latham's Snipe	Vulnerable
Geophaps scripta scripta	Squatter Pigeon (southern)	Vulnerable
Grantiella picta	Painted Honeyeater	Vulnerable
Hirundapus caudacutus	White-throated Needletail	Vulnerable
Lathamus discolor	Swift Parrot	Critically Endangered
Limnodromus semipalmatus	Asian Dowitcher	Vulnerable
Limosa lapponica baueri	Nunivak Bar-tailed Godwit	Endangered
Macronectes giganteus	Southern Giant-Petrel	Endangered
Macronectes halli	Northern Giant Petrel	Vulnerable
Numenius madagascariensis	Far Eastern Curlew	Critically Endangered
Pachyptila turtur subamtarctica	Fairy Prion (Southern)	Vulnerable
Rostratula australis	Australian Painted Snipe	Endangered
Stagonopleura guttata	Diamond Firetail	Vulnerable
Sternula nereis nereis	Australian Fairy Tern	Vulnerable
Thalasssarche cauta	Shy Albatross	Endangered
Thalassarche impavida	Campbell Albatross	Vulnerable
Thalassarche melanophris	Black-browed Albatross	Vulnerable
Thalassarche salvini	Salvin's Albatross	Vulnerable
Thalassarche steadi	White-capped Albatross	Vulnerable
Tringa nebularia	Common Greenshank	Endangered
Turnix melanogaster	Black-breasted Button-quail	Vulnerable

Threatened Species		
Scientific name	**Common name**	**Status**
Fish		
Turnix melanogaster	Black Rock-cod	Endangered
Maccullochella mariensis	Mary River Cod	Endangered
Frogs		
Litoria olongburensis	Wallum Sedge Frog	Vulnerable
Mixophyes fleayi	Fleay's Frog	Endangered
Insects		
Argynnis hyperbius inconstans	Australian Fritillary	Critically Endangered
Mammals		
Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat	Vulnerable
Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)	Endangered
Macroderma gigas	Ghost Bat	Vulnerable
Petauroides volans	Greater Glider	Endangered
Petaurus australis australis	Yellow-bellied Glider	Vulnerable
Petrogale penicillate	Brush Tailed Rock-wallaby	Vulnerable
Phascolarctos cinereus (combined populations of Qld, NSW and ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	Endangered
Potorous tridactylus tridactylus	Long-nosed Potoroo (SE mainland)	Vulnerable
Pseudomys novaehollandiae	New Holland Mouse	Vulnerable
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable
Xeromys myoides	Water Mouse	Vulnerable
Plants		
Arthraxon hispidus	Hairy-joint Grass	Vulnerable
Baloghia marmorata	Marbled Balogia	Vulnerable
Bosistoa transversa	Three-leaved Bosistoa	Vulnerable
Coleus habrophyllus listed as Plectranthis habrophyllus	-	Endangered
Corchorus cunninghamii	Native Jute	Endangered
Croton mamillatus	Bahrs Scrub Croton	Critically Endangered
Cryptocarya foetida	Stinking Cryptocarya	Vulnerable

Threatened Species		
Scientific name	**Common name**	**Status**
Cryptostylis hunteriana	Leafless Tongue-orchid	Vulnerable
Cupaniopsis shirleyana	Wedge-leaf Tuckeroo	Vulnerable
Dichanthium setosum	Bluegrass	Vulnerable
Diploglottis campbellii	Small-leaved Tamarind	Endangered
Endiandra floydii	Floyd's walnut	Endangered
Fontainea venosa	-	Vulnerable
Gossia gonoclada	Angle-stemmed myrtle	Endangered
Macadamia integrifolia	Macadamia Nut	Vulnerable
Macadamia tetraphylla	Rough-shelled Bush Nut	Vulnerable
Notelaea lloydii	Lloyd's Olive	Vulnerable
Notelaea ipsviciensis	Cooneana Olive	Critically Endangered
Owenia cepiodora	Onion Cedar	Vulnerable
Persicaria elatior	Tall Knotweed	Vulnerable
Phaius australis	Lesser Swamp Orchid	Endangered
Planchonella eerwah	Shiny-leaved Condoo	Endangered
Rhodamnia rubescens	Scrub Turpentine	Critically Endangered
Rhodomyrtus psidioides	Native Guava	Critically Endangered
Samadera bidwillii	Quassia	Vulnerable
Sophora fraseri	-	Vulnerable
Thesium australe	Australa Toadflax	Vulnerable
Vincetoxicum woollsii listed as Tylopora woollsii	-	Endangered
Reptiles		
Coeranoscincus reticulatus	Three-toed Snake-tooth Skink	Vulnerable
Delma torquata	Collared Delma	Vulnerable
Saiphos reticulatus	Dunmall's Snake	Vulnerable
Hemiaspis damelii	Grey Snake	Endangered
Migratory Terrestrial species		
Cuculus optatus	Oriental Cuckoo	-
Monarcha melanopsis	Black-faced Monarch	-
Monarcha trivirgatus	Spectacled Monarch	-
Motacilla flava	Yellow Wagtail	-
Myiagra cyanoleuca	Satin Flycatcher	-

Threatened Species		
Scientific name	**Common name**	**Status**
Rhipidura rufifrons	Rufous Fantail	-
Symposiachrus trivirgatus as Monarcha trivirgatus	Spectacled Monarch	

3.2. Nature Conservation Act 1992

The NC Act classifies and protects significant areas (Protected Areas) and protects threatened plant and animal species. The *Nature Conservation (Plants) Regulation 2020* (NCPR) and the *Nature Conservation (Animals) Regulation 2020* (NCAR) lists plant and animal species presumed extinct, endangered, vulnerable, near threatened, least concern, international or prohibited. The schedules of this regulation were considered in this report using a wildlife online database search with a 5 km radius from the site. Species listed under the NCAR and NCPR with the potential to occur in and around the subject site are shown in **Table 3**. Refer to **Appendix C** for full search results.

Table 3: NC Act wildlife online search results

Scientific name	Common name	Status
Mammals		
Phascolarctos cinereus	Koala	Endangered
Petauroides armillatus	Central Greater Glider	Endangered
Birds		
Ninox strenua	Powerful Owl	Vulnerable
Plants		
Leichhardtia Coronata	-	Vulnerable
Coleus habrophyllus	-	Endangered
Gossia gonoclada	-	Critically Endangered
Gossia hillii	-	Critically Endangered
Melaleuca irbyana	-	Endangered
Macadamia integrifolia	Macadamia Nut	Vulnerable

The protected plants regulatory framework under the NC Act commenced on 31 March 2014, establishing approval triggers and processes for clearing protected plants. A protected plant is defined as extinct, endangered, vulnerable and/or near threatened (EVNT) plant species listed by name in Schedules 1-5 of the NCWR and least concern wildlife, not listed by name but identified as a plant indigenous to Australia in Schedule 6.

Under the amended NC Act, a protected plant that is in the wild must not be 'taken', which includes being cleared, unless taking is under:

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

A search of the protected plants flora survey trigger map identified that the site is located wholly outside a 'high risk' area for protected plants (refer **Appendix D** – **Map 9**).

Under the NC Act, a native plant is considered to be a protected plant if it is 'in the wild' – defined in the NC Act as 'in an independent state of natural liberty'. No specimens listed under the NC Act were identified within the application area.

3.3. Vegetation Management Act 1999

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

Regulated vegetation management mapping (shows vegetation categories used to determine clearing requirements. While areas shown on the map as Category X are not regulated under the VM Act, those shown as category A, B, C or R are subject to clearing requirements. The latter vegetation categories can only be cleared in accordance with an exemption, self-assessable vegetation clearing code, area management plan or development approval. A supporting map defining regional ecosystems, wetlands, watercourses and essential habitat, is provided with the regulated vegetation management map. Approval for clearing of native vegetation is required under the *Planning Act 2016*, specifically, assessment is required against State Code 16: Native Vegetation Clearing of the State Development Assessment Provisions (SDAP) which are administered by the State Assessment and Referral Agency (SARA) which is a division of the Department of Infrastructure, Local Government and Planning (DILGP).

A property search of the Regulated Vegetation Management Map identified the site as being completely mapped as Category X (non-remnant) vegetation reflective of a highly modified residential property (refer **Figure 3**). Clearing of Category X (non-remnant) is exempt from the provisions of the VM Act.

Legend

- Site DCDB
- Qld DCDB

Regulated Vegetation

- Category A area - *Vegetation Offset/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
- Water
- Area not categorised

Figure 3

Regulated Vegetation Management Map

Blackoak Property Group Pty Ltd

File ref. 11774 E Figure 3 EAR RVM A
Date 26/04/2024
Project Tygum Road, Waterford West

0 20 40 m

N

Scale (A4): 1:1,000 [GDA 2020 MGA Z56]

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Layer Sources

3.4. Biosecurity Act 2014

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

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

- Category 1: must be reported to an inspector within 24 hours (includes Red Imported Fire Ants, amongst others).
- Category 2: must be reported within 24 hours Biosecurity Queensland on 13 25 23.
- Category 3: must not be distributed either by sale or gift or released into the environment.
- Category 4: must not be moved.
- Category 5: must not be kept.
- Category 6: must not be fed (animals).
- Category 7: must be euthanised (animals).

Restricted matters observed in the site area are discussed in **Section 4**.

3.5. Other Queensland environmental legislation

Other Queensland environmental legislation has been reviewed in the context of the proposed development. **Table 4** lists other relevant Queensland legislation that is not triggered by the proposed development, the purpose of the legislation, and its relevance to the proposed development site.

Table 4: Site relevant to other Queensland environmental legislation

Legislation	Purpose	Relevance to development site
Koala Legislation - Planning Regulation 2017 – Schedule 11	On February 7th 2020, the Queensland Government introduced new legislation regulating the approach to impacting on Koala habitat. This legislation increased restrictions on habitat within a large portion of south-eastern Queensland and introduced prohibitions for impacting on some parcels of land. South East Queensland Koala habitat protection mechanisms are incorporated into the *Planning Regulation 2017* (PR). Schedule 10 Part 10 of the Regulation sets out what is and is not prohibited or assessable development in a Koala Habitat Area (KHA). Where inside a Koala Priority Area (KPA), the provisions of Schedule 11 of the Planning Regulation apply unless certain criteria are met (refer Part 10 Division 2 Section 16 A (2)). Where outside of a KPA, development that involves interfering with a Koala Habitat Area is assessable, also unless certain criteria apply (refer Part 10 Division 3 Section 16 B (2)). Development for extractive industries in key resource areas is dealt with under Part 10 Division 4. Development that is assessable outside of a KPA is referrable to the State and must address SDAP Code 25 Development in South East Queensland Koala Habitat Areas.	The site is mapped as being entirely outside a Koala Priority Area with no Koala Habitat Areas on-site (refer **Appendix D – Map 10**). As no koala habitat exists on-site, a response to *State Code 25* is not required.
Coastal Protection and Management Act 1995	Seeks to protect the coastal resources of the coastal zone through regulation of assessable coastal development	The site does not contain any coastal areas. Therefore, a response to State Code 8 is not required (refer **Appendix D – Map 12**).
Fisheries Act 1994 and Water Act 2000	The *Fisheries Act 1994* deals with the use, conservation and improvement of Queensland's fisheries resources and fish habitats. The legislation deals with the impact from coastal development on marine fish habitat, including protected marine plants, and declared fish habitat areas. Development proposals that modify, or have a temporary or permanent loss of fish habitat	The site does not contain mapped Fish Habitat Areas or Waterways on-site and therefore does not trigger a response to State Development Assessment Provisions (SDAP) State Code 18. The site does not contain any waterways mapped under the *Water Act 2000* therefore a riverine protection

Legislation	Purpose	Relevance to development site
	are assessed by the Department of Agriculture and Fisheries (DAF).	permit is not required (refer refer **Appendix D – Map 16**).
State Planning Policy 2017 (SPP)	Provides interim development assessment requirements which ensures that state interests are considered by local government when assessing development applications where the local government planning scheme does not yet integrate the State interests in the SPP. MSES include Biodiversity, Coastal Environment, and Water Quality.	The site is not mapped as containing any MSES (refer **Appendix D – Map 11**). MSES mapping overlays and requirements of the SPP are required to be incorporated into the LCC Planning Scheme and are reflected in the planning scheme overlays. Compliance with the SPP is addressed through the provisions of the planning scheme.

3.6. Town planning instruments

The site is located within the jurisdiction of LCC and is subject to the provisions of the LCC Planning Scheme.

3.6.1 Logan City Council Planning Scheme

The proposed works area is within allotments zoned as Centre (**Figure 4**).

Under the LCC planning scheme, the proposed works area is mapped with the following ecologically relevant overlays:

- Biodiversity Areas Trigger (**Figure 5**).
- Vegetation Management Areas: mapped with primary and secondary vegetation management areas (**Figure 6**)
- Biodiversity Corridor (refer **Figure 7**)
- Matters of State and Local Environmental Significance: The works area is mapped as containing MSES and MLES (**Figure 8**).
- Waterway and wetlands (**Figure 9**)

Responses to the Biodiversity Areas Overlay Code and Waterway corridors and wetlands overlay are provided in **Appendix E**.

Legend

- Site DCDB
- Qld DCDB

Zoning

- Centre
- Low density residential
- Recreation and open space

Figure 4

Logan Planning Scheme 2015
Zoning

Blackoak
Property Group
Pty Ltd

File ref. 11774 E Figure 4 EAR LCC Zoning A
Date 26/04/2024
Project Tygum Road, Waterford West

0 20 40 m

N

Scale (A4): 1:1,000 [GDA 2020 MGA Z56]

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Layer Sources

Legend

- Site DCDB
- Qld DCDB
- Biodiversity areas trigger

Figure 5

Logan Planning Scheme 2015
Biodiversity Trigger Area

Blackoak
Property Group
Pty Ltd

File ref. 11774 E Figure 5 EAR LCC Biod Trig A
Date 26/04/2024
Project Tygum Road, Waterford West

0 20 40 m

N

Scale (A4): 1:1,000 [GDA 2020 MGA Z56]

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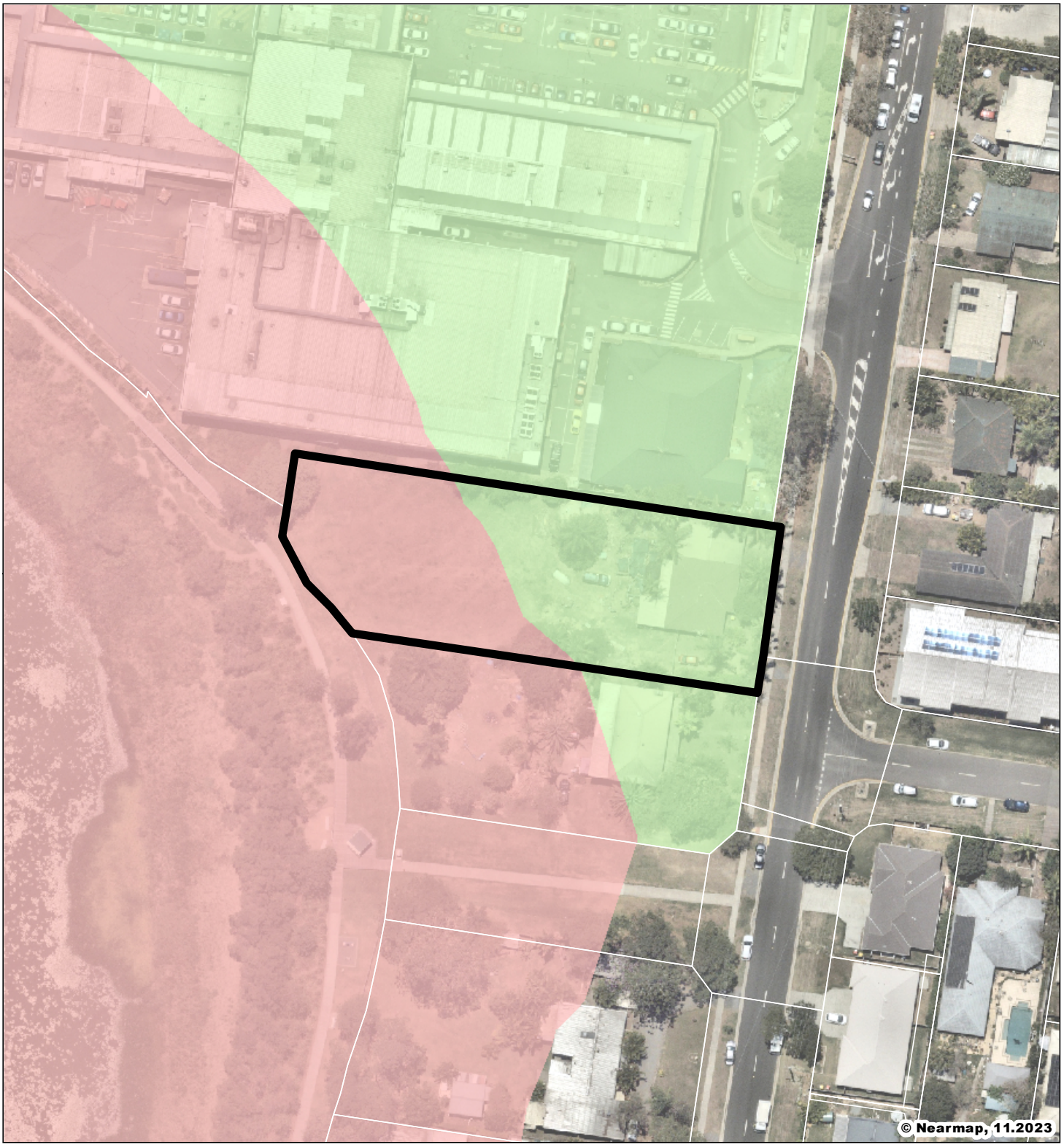
Layer Sources



Legend

- Site DCDB
- Qld DCDB

Vegetation Management Areas

- Primary vegetation management area
- Secondary vegetation management area

Figure 6

Logan Planning Scheme 2015
Vegetation Management Areas

Blackoak Property Group Pty Ltd

File ref. 11774 E Figure 6 EAR LCC VM Areas A
Date 26/04/2024
Project Tygum Road, Waterford West

0 20 40 m

N

Scale (A4): 1:1,000 [GDA 2020 MGA Z56]

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Layer Sources

Legend

- Site DCDB
- Qld DCDB
- Biodiversity corridor

Figure 7

Logan Planning Scheme 2015
Biodiversity Corridors

Blackoak
Property Group
Pty Ltd

File ref. 11774 E Figure 7 EAR LCC Bio Corridors A
Date 26/04/2024
Project Tygum Road, Waterford West

0 20 40 m

N

Scale (A4): 1:1,000 [GDA 2020 MGA Z56]

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Legend

- Site DCDB
- Qld DCDB
- Matters of state ecological significance - regulated vegetation (intersecting a watercourse)
- Matters of both state and local ecological significance - regulated vegetation (intersecting a watercourse)
- Matters of both state and local ecological significance
- Matters of local ecological significance
- Matters of state ecological significance

Figure 8

Logan Planning Scheme 2015 MSES and MLES

Blackoak Property Group Pty Ltd

File ref. 11774 E Figure 8 EAR LCC MLES A
Date 26/04/2024
Project Tygum Road, Waterford West

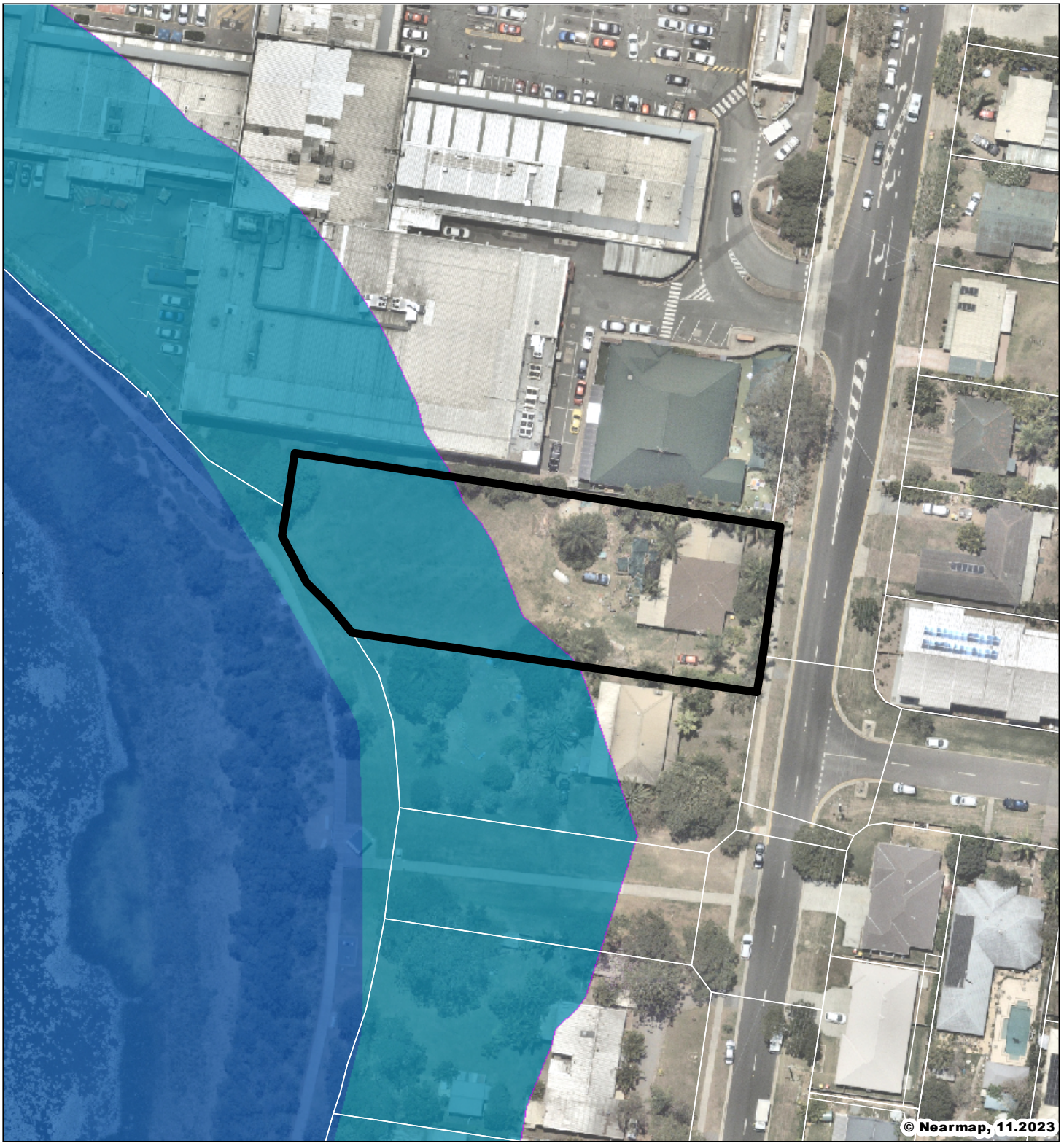
0 20 40 m

N

Scale (A4): 1:1,000 [GDA 2020 MGA Z56]

saunders havill group

Layer Sources



Legend

- Site DCDB
- Qld DCDB
- Minor waterway
- Wetland buffer trigger

Figure 9

Logan Planning Scheme 2015
Waterway Corridors and Wetlands

Blackoak
Property Group
Pty Ltd

File ref. 11774 E Figure 9 EAR LCC Waterways A
Date 29/04/2024
Project Tygum Road, Waterford West

0 20 40 m

N

Scale (A4): 1:1,000 [GDA 2020 MGA Z56]

saunders havill group

Layer Sources

4. Ecological survey results

Ecologists from Saunders Havill Group (SHG) assessed the site on 23 April 2024, with weather conditions detailed in **Table 5.** The entire site was walked several times to ensure all vegetation communities and species were recorded. Particular attention was paid to any threatened flora and habitat for any threatened fauna species that were listed as potentially occurring within the vicinity of the application area, and specific micro assemblage which may support these threatened species. Refer to **Plan 1** for field surveys.

Table 5: Weather Conditions

Date	Weather Conditions	High (°C)	Low(°C)	Rain (mm)
23.04.2024	Partly overcast	25.7	16.0	4.0

Bureau of Meteorology 2021 (Weather Station 140009)

4.1. General site survey details

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

- The site incorporates 1 lot totalling 0.26 ha situated in the suburb of Waterford West. Similar sized residential lots are present to the south and east, beyond Tygum Road, with a large-scale commercial/retail centre and day care to the north and large waterbody (Tygum Lagoon) to the west.
- The site consists of a residential dwelling in the east and cleared/maintained lawns in the west The site's vegetation is mapped entirely as Category X (non-remnant) vegetation with on-ground surveys confirming largely planted ornamental species, weeds and maintained/cleared areas.
- The whole site is covered by an LCC biodiversity corridor overlay with Waterway and Wetlands overlays present in the far west.

4.2. Biodiversity Corridor

The subject site is a highly modified residential property consisting of exclusively planted species and cleared areas. Almost all trees recorded are exotic species with native species also reflecting planted ornamental species surrounding a dwelling, species include *Syagrus romanzoffiana* (Cocos Palm), *Archontophoenix cunninghamiana* (Bangalow Palm), *Dypsis decaryi* (Triangle Palm), *Celtis sinensis* (Chinese Celtis) and *Libidibia ferrea* (Leopard Tree). The balance of the site is cleared and maintained as open paddock, which is dominated by exotic grasses, *Sporobolus sp* (Rat's Tail Grass) and *Setaria sphacelate* (Soth African Pigeon Grass). At present the site offers no habitat for native fauna and no movement potential. Flora species on-site are likely to be only utilised by highly mobile avifauna as observed during field surveys (refer **Photo set 1**).

The whole site is mapped under the LCC biodiversity corridor overlay which also covers the lot to south and the entirety of the lot to the north (Lot 1 on RP852102) which consists of a large-scale commercial/retail centre with no vegetation retained (refer **Plan 2**). The mapped biodiversity corridor extends all the way to Kingston

Road in the north and Tygum Road to the east. The development to the north occupies the entire northern boundary of the subject site, essentially removing any connectivity potential in the northern direction.

The purpose of the LCC biodiversity corridor overlay is to maintain and enhance local level connectivity by ensuring current vegetation connectivity associated with waterways and wetlands is maintained and enhanced through future developments. It is evident utilising aerial imagery, context assessments and on-ground surveys that the site does not provide any connectivity value at present due to a lack of native vegetation or connected vegetation. Furthermore, the development of a large-scale commercial/retail centre to the north with no vegetation retained essentially prevents any fauna movement being established. As a result, there is no benefit in retaining vegetation or enhancing vegetation within the site as the presence of large-scale developments and roads removes any fauna movement potential. The corridor functionality is clearly confined to the vegetated buffer associated with Tygum Lagoon, which includes native riparian species *Melaleuca quinquenervia* (Broad-leafed Paperbark) and *Lomandra longifolia* (Long-leaved Matrush) and has been further rehabilitated, now forming a continuous buffer around the waterbody. The construction of a footpath with grass verges that are frequently maintained adjacent to the site indicates that this area does not contribute to the functionality or intention of the biodiversity corridor.

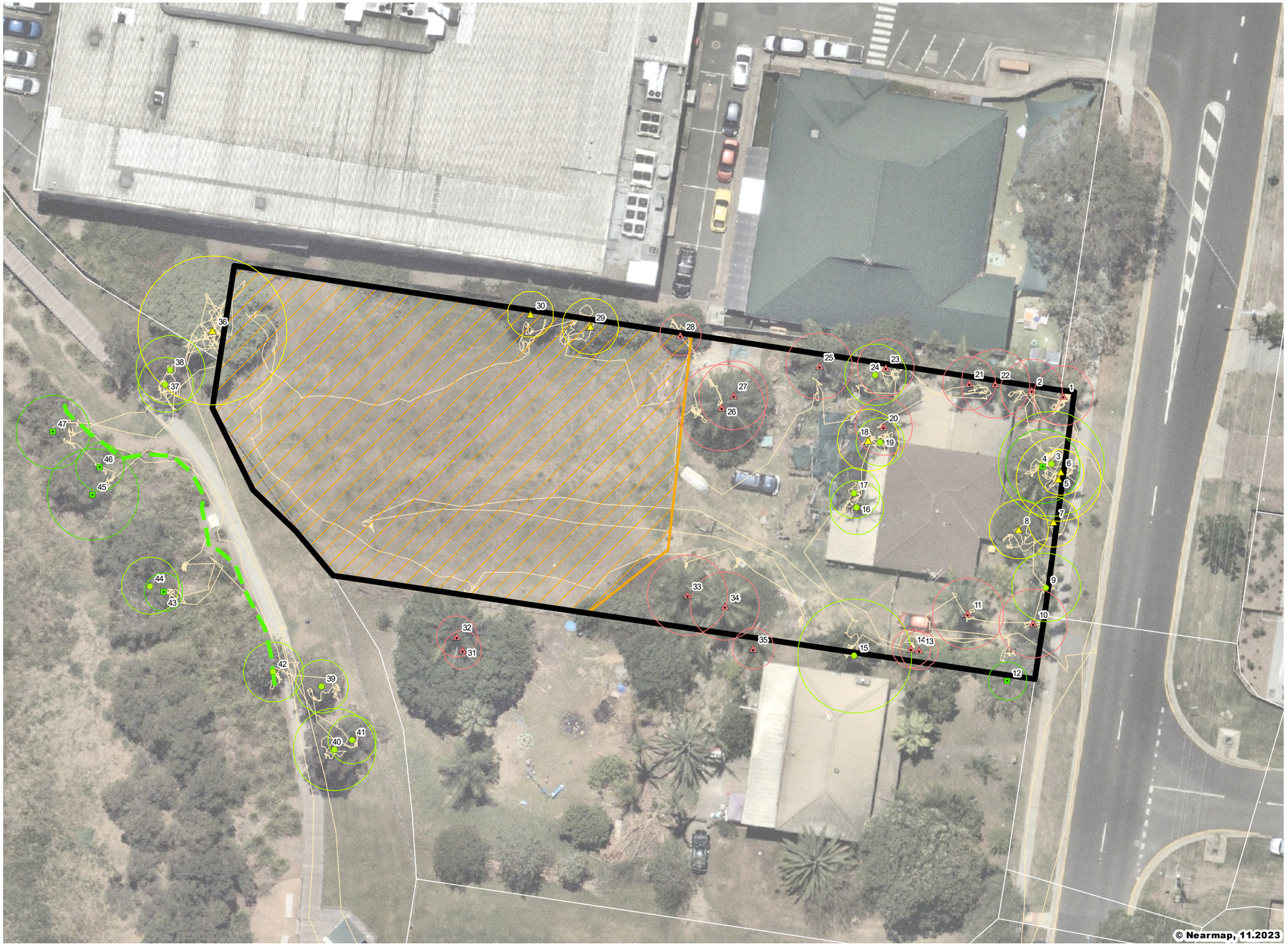
Photo set 1: Highly modified vegetation within the site (top). Adjacent highly modified land-uses to the north and west (bottom)

4.3. Wetland and Waterway buffer

Under the LCC environmental overlays, the western extent of the site is mapped as containing a wetland buffer as a result of a large waterbody (Tygum Lagoon) to the west. On-ground site surveys identified this area to be highly modified for residential uses consisting of a large cleared and maintained area dominated by exotic grasses (refer **Plan 1**). Species indicative of a wetland environment were not present within this area indicating the site does not contribute to the wetland buffer. An assessment of the waterbody was carried out on-ground. From the water's edge is a 30-meter-wide area dominated by wetland dependant species including *Typha orientalis* (Typha) and *Melaleuca quinqunervia* (Broad-leaved Paperbark). Beyond this is a 10m wide revegetated area consisting of predominantly *Lomandra longifolia* (Long-leaved Matrush) and other native ground species (refer **Photo set 2**). A footpath has been constructed adjacent to this revegetated area with grass verges that are frequently maintained. It is evident that the wetland vegetation is confided to the west of the footpath with the footpath indicating a clear line of separation between the wetland environment and the site. Furthermore, the wetland buffer mapping extends into a large-scale commercial/retail centre to the north which further indicates that the mapping is inaccurate (refer **Plan 2**).

Photo set 2: Area on-site mapped as wetland buffer (top). Constructed footpath and revegetation area indicating edge of wetland buffer (bottom)

1. Field Survey Effort



Notes:
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Legend

- Qld DCDB
- Site DCDB
- Edge of revegetation area
- Cleared/maintained area dominated by exotic grasses

GPS Tree Plot (w/ TPZ)

- Introduced Tree
- Native Tree
- Non-juvenile Koala Habitat Tree
- Weed Tree
- GPS Tracklog

Issue	Date	Description	Drawn	Checked
A	17/05/2024	Preliminary	TC	LB

0 5 10 m

Transverse Mercator | GDA 2020 | Zone 56 | 1:400 @ A3

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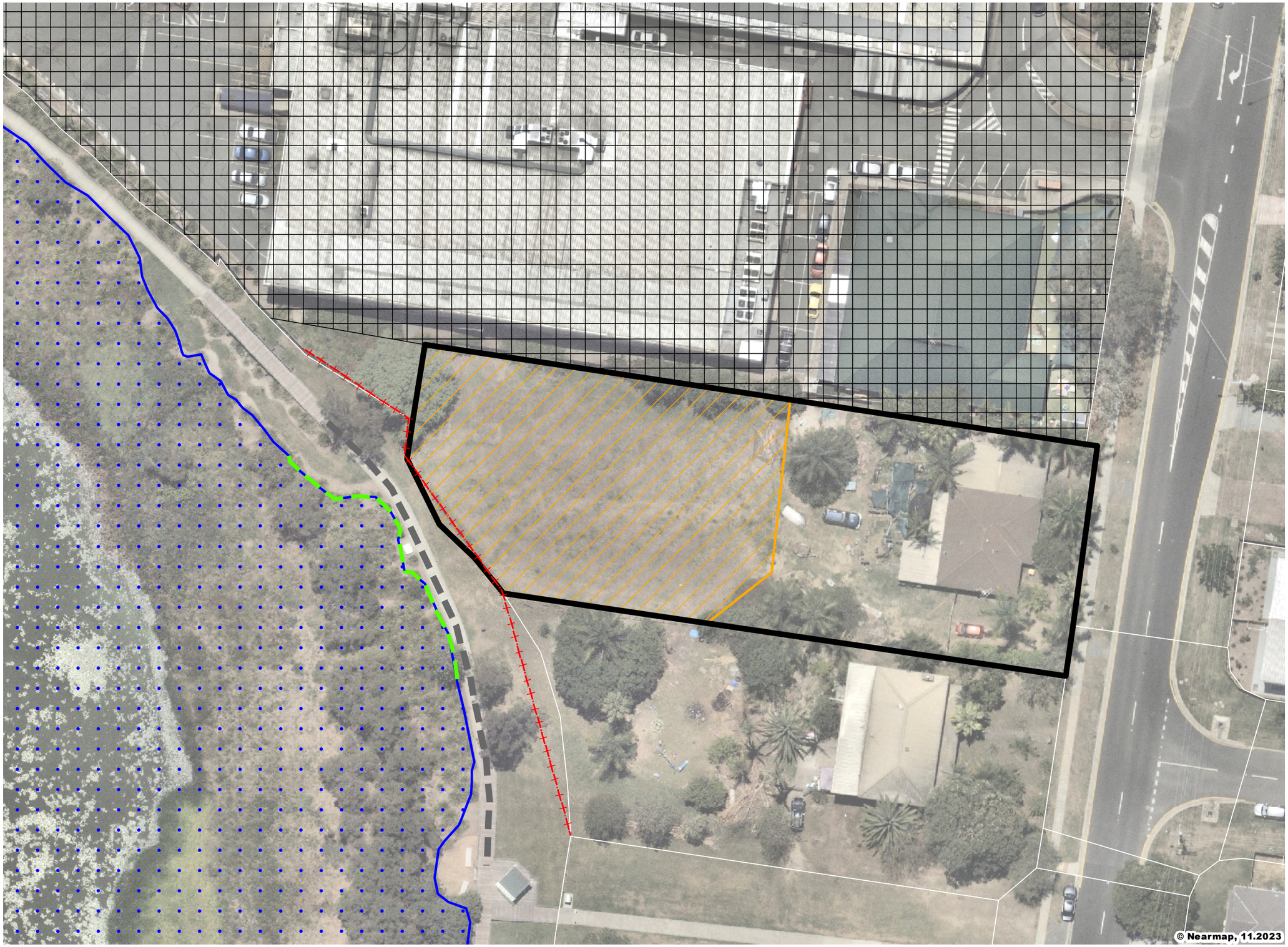
Blackoak Property Group Pty Ltd

Tygum Road, Waterford West

Address / RPD: Tygum Road, Waterford West

17/05/2024 | 11774 E 01 EAR Field Survey Effort A

2. Context Assessment



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Legend

- Qld DCDB
- Site DCDB
- Cleared/maintained area dominated by exotic grasses
- Edge of revegetation area
- Wetland and Buffer
- Large scale commercial/retail centre
- Property fencelines
- Constructed footpath

Issue	Date	Description	Drawn	Checked
A	26/04/2024	Preliminary	TC	LB

0 5 10 15 m

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

saunders havill group

Blackoak Property Group Pty Ltd

Tygum Road, Waterford West

Address / RPD: Tygum Road, Waterford West

26/04/2024 | 11774 E 02 EAR Context Assessment A

4.4. Flora Survey Results

Flora was assessed during the site visit on the 23rd of April 2024 where the entire site was walked several times.

4.4.1 Native Species

- A total of sixty-four (64) species of flora were detected on-site during the survey, inclusive of fifteen (15) native species and forty-nine (49) exotic/weed species (refer **Table 6** and **Table 7**).
- The site typically reflects a low-density residential land use, being a highly modified property consisting of exclusively ornamental species and cleared areas.
- The site is mapped wholly as Category X (non-remnant) vegetation. Pre-clear mapping indicates the site contains RE12.3.11. No species indicative of this RE where observed on-site which is reflective of the highly modified state of vegetation.
- Native species were significantly limited across the site and confined to ornamental, planted species.

Table 6: Native flora species recorded on-site

Scientific Name	Common Name
Archontophoenix cunninghamiana	Bangalow Palm
Aristida vagans	Threeawn Speargrass
Centella asiatica	Pennywort
Cynodon dactylon	Green Couch
Dichondra repens	Kidney Weed
Eragrostis spartinoides	Love Grass
Ficus benjamina	Weeping Fig
Ficus watkinsiana	Strangler Fig Tree
Fimbristylis velata	A fringe rush
Grevillea robusta	Silky Oak
Ipomea plebeia	Bell Vine
Livistona australis	Cabbage-tree Palm
Lomandra longifolia	Long-leaved Matrush
Platycerium bifurcatum	Elk Horn
Platycerium superbum	Staghorn

4.4.2 Introduced Species

A total of 49 flora species detected onsite are introduced to Australia or the local region (**Table 7**). Five (5) of these species are classified as Restricted Invasive under the *Biosecurity Act 2014* and will require some form of targeted management on-site.

Table 7: Exotic/weed flora species detected on-site

Scientific Name	Common Name	Restricted Under Biosecurity 2014
Ageratum houstonianum	Blue Billygoat Weed	
Aloe Vera	Aloe Vera	
Alternanthera brasiliana	Purple Joyweed	
Asparagus aethiopicus	Ground Asparagus Fern	
Beaucarnea recurvata	Pony Tail Palm	
Callisia fragrans	Purple Succulent	
Callisia repens	Purple Inchweed	
Calyptocarpus vialis	Creeping Cinderella Weed	
Catharanthus roseus	Pink Periwinkle	
Celtis sinensis	Chinese Celtis	Restricted Invasive Plant (category 3)
Chloris gayana	Rhodes Grass	
Corymbia torelliana	Cadaghi	
Dracaena trifasciata	Mother-in-law's Tongue	
Dypsis decaryi	Triangle Palm	
Dypsis lutescens	Golden Cane Palm	
Emilia sonchifolia	Emilia	
Gomphrena celosioides	Gomphrena Weed	
Hibiscus rosa-sinensis	Chinese Hibiscus	
Lantana camara	Lantana	Restricted Invasive Plant (category 3)
Libidibia ferrea	Leopard Tree	
Loelreuteria elegans	Golden Rain Tree	
Megathyrsus maximus	Green Panic	
Monstera deliciosa	Monstera	
Morus alba	Mulberry	
Murraya paniculata	Mock Orange	
Nephrolepis exaltata	Fishbone Fern	
Oxalis corniculata	Creeping Oxalis	
Paspalum mandiocanum	Broad-leaved Paspalum	
Passiflora edulis	Passion Fruit Vine	
Phoenix dactylifera	Date Palm	
Phytolacca octandra	Inkweed	

Schefflera actinophylla	Umbrella Tree	
Schinus terebinthifolius	Broadleaf Pepper Tree	Restricted Invasive Plant (category 3)
Senna pendula	Easter Cassia	
Setaria sphacelata	South African Pigeon Grass	
Sida rhombifolia	Common Sida	
Solanum mauritianum	Wild Tobacco	
Solanum nigrum	Blackberry Nightshade	
Solanum seaforthianum	Brazilian Nightshade	
Sporobolus jacquemontii	Rat's Tail Grass	Restricted Invasive Plant (category 3)
Stenotaphrum secundatum	Buffalo Grass	
Strelitzia reginae	Birds of Paradise	
Syagrus romanzoffiana	Cocos Palm	
Syngonium podophyllum	Arrowhead Vine	
Taxodium distichum	Swamp Cypress	
Tecoma stans	Yellow Bells	Restricted Invasive Plant (category 3)
Tradescantia spathacea	Boat Lily	
Ulmus minor	Field Elm	
Urochloa decumbens	Signal Grass	

4.5. GPS Tree Plot Survey

A GPS Tree Plot Survey was carried out on-site locating and identifying all trees with a trunk diameter (DBH) ≥100 mm (measured at 1.4 m above ground). Trees meeting these criteria were located within and proximal to the proposed development area. Data for the GPS Tree Plot Survey have been extracted and summarised below. Refer to **Plan 1** for the tree plot and **Appendix F** for the Tree Schedule.

- A total of 47 individual trees were recorded on, or within close proximity to, the project site.
- A total of 18 tree species were recorded inclusive of 6 native species, including *Melaleuca quinquenervia* (Broad-leaf Paperbark) and *Casuarina glauca* (Swamp Oak) and 10 exotic/non-native species, including *Syagrus romanzoffiana* (Cocos Palm), *Dypsis decaryi* (Triangle Palm) and *Beaucarnea recurvata* (Pony Tail Palm). Notably, the majority of native species were recorded to the west of the site associated with Tygum Lagoon.
- No trees identified on-site are considered to be of any ecological or landscape significance given the dominance of non-native species, highly modified location and small/juvenile status.

4.6. Fauna survey results

Fauna assessments were undertaken during the site visit on the 23 April 2024, with the entire site traversed and all fauna species recorded.

A total of eleven (11) fauna species were recorded, which were all avi-fauna and recorded as fly-over (refer **Table 8**).

Table 8: Fauna recorded on-site (fly-over)

Scientific Name	Common Name	Native/Introduced
Bird		
Cacatua sanguinea	Little Corella	Native
Coracina novaehollandiae	Black-faced Cuckoo-shrike	Native
Corvus orru	Torresian Crow	Native
Dacelo novaeguineae	Laughing Kookaburra	Native
Haliastur indus	Brahminy Kite	Native
Hirundo neoxena	Welcome Swallow	Native
Manorina melanocephala	Noisy Miner	Native
Threskiornis molucca	Australian White Ibis	Native
Todiramphus macleayii	Forest Kingfisher	Native
Trichoglossus chlorolepidotus	Scaly-breasted Lorikeet	Native
Trichoglossus haematodus moluccanus	Rainbow Lorikeet	Native
Cacatua sanguinea	Little Corella	Native

4.7. Threatened species

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

- Scheduled as critically endangered, endangered, vulnerable or conservation dependent under the Commonwealth EPBC Act; and/or
- Scheduled as endangered, vulnerable, or near threatened under the Queensland NC Act; and/or
- Identified by LCC as a locally significant species in the LCC planning scheme.

4.7.1 Threatened flora

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

A search of the NC Act Wildlife Online database listed six threatened flora species as potentially occurring within the area, being *Leichhardtia coronate*, *Coleus habrophyllus*, *Gossia gonoclada*, *Gossia hillii*, *Melaleuca irbyana* (Swamp Tea-tree) and *Macadamia integrifolia* (Macadamia Nut). No flora species listed under the NCA as threatened were recorded.

Twenty-eight (28) flora species listed as Threatened under the EPBC Act were indicated as having the potential to occur within 5 km of the site (**Appendix B**). On-ground assessment determined that it was unlikely that any of these species would inhabit the site naturally due to high levels of modification and disturbance and general lack of native vegetation. The site was walked several times and no EPBC listed threated flora species were observed.

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

- The Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland Ecological community occurs in coastal catchments, mostly at elevations of less than 20 m above sea level that are typically found within 30 km of the coast however distance can vary by catchment. The canopy layer is dominated by *Casuarina glauca* (Swamp Oak) and in Queensland is represented by RE12.1.1 or RE12.3.20. None of these RE communities occur on site or within the immediate vicinity of the site.

- The Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland includes the plants, animals and other organisms typically associated with forested palustrine wetlands, or swamp forests, found in the temperate to subtropical coastal valleys of Australia's east coast. The Coastal Sclerophyll Swamp Forest often has a layered canopy, dominated by melaleucas and/or Eucalyptus robusta. In Queensland, this TEC is part of a number of RE communities including RE12.2.7, 12.3.4, 12.3.5, 12.3.6 and 12.3.20. None of these RE communities occur on site or within the immediate vicinity of the site.

- The Lowland Rainforest of Subtropical Australia TEC typically has high species richness. In Queensland, this TEC is part of a number of RE communities including 12.3.1, 12.5.13, 12.8.3, 12.8.4, 12.8.13, 12.11.1, 12.11.10, 12.12.1 and 12.12.16. None of these RE communities occur on site or within the immediate vicinity of the site.

- Poplar Box Grassy Woodland on Alluvial Plains is typically a grassy woodland with a canopy dominated by Eucalyptus populnea and understorey mostly of grasses and other herbs. This ecological community mostly occurs in gently undulating to flat landscapes and occasionally on gentle slopes on a wide range of soil types of alluvial and depositional origin. In Queensland, this TEC is part of a number of RE communities including 11.3.2, 11.3.17, 11.4.7. 11.4.12 and 12.3.10. None of these RE communities occur on site or within the immediate vicinity of the site.

- Subtropical eucalypt floodplain forest and woodland of the New South Wales and North Coast and South-east Queensland bioregions. The following Regional Ecosystems form part of or align with the TEC: 12.3.2, 12.3.2a, 12.3.3, 12.3.3a, 12.3.3b, 12.3.3d, 12.3.4a, 12.3.7, 12.3.7c, 12.3.7d,12.3.10, 12.3.11, 12.3.11a, 12.3.11b, 12.3.12, 12.3.14a, 12.3.15,12.3.19. None of these RE communities occur on site or within the immediate vicinity of the site.

- The Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland TEC usually comprises low open to closed forest, closed scrub or thickets dominated by *Melaleuca irbyana* (Swamp Tea-tree) with or without an emergent tree layer of scattered eucalypts, and occasionally as Eucalyptus woodland in which *M. irbyana* forms a distinct understorey stratum. In Queensland this TEC is represented by Regional Ecosystem 12.9-10.11. None of these RE communities occur on site or within the immediate vicinity of the site.

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland is characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs (where shrub cover comprises less than 30% cover), and a dominance or prior dominance of White Box (Eucalyptus albens) and/or Yellow Box (E. melliodora) and/or Blakely's Red Gum (E. blakelyi) trees. In Queensland, ecological community is a primary component of the following Regional Ecosystems: 11.8.2a, 11.8.8, 11.9.9a, 13.3.1, 13.11.8, 13.12.8 and 13.12.9. It can also be a smaller component of the following regional ecosystems: 11.3.23, 12.8.16. None of the RE communities associated with this TEC occur on site or within the immediate vicinity of the site.

No listed Flora or TECs, nor any conditions to support them, were observed on-site.

4.7.2 Threatened fauna species

No fauna species listed as threatened under the EPBC Act or the NC Act were recorded on-site. The EPBC Act PMST listed fifty-six (56) fauna species listed as Threatened under the EPBC Act with the potential to occur within 5 km of the site (**Appendix B**). Field surveys did record indirect evidence (scats) of Koala, no evidence of any other EPBC listed threaten fauna species was recorded within the site.

5. Impact assessment and development analysis

5.1. Proposed development

The proposal is for a Material Chage of Use (MCU) to establish a Warehouse (Self Storage Facility) over the subject site. The proposal involves the construction of a three-storey building at approximately 12m above ground level. The building will provide a total area of 2,678.45m^2 of storage space with access to be provided from Tygum Road. Refer to **Appendix A** for the proposed development layout.

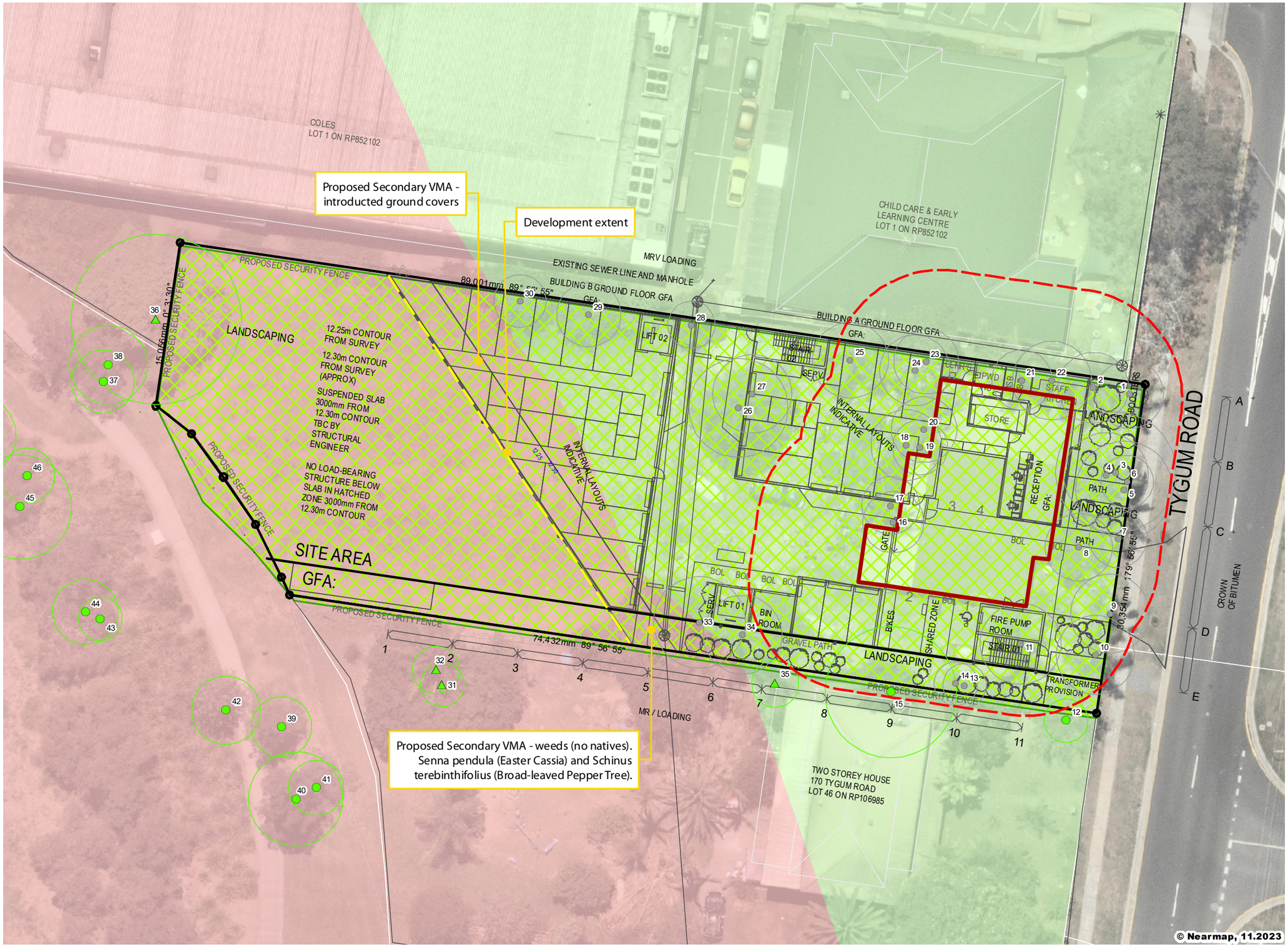
The site is a highly modified residential property which has been consistently maintained. The proposed development will result in the removal of vegetation within the one lot which forms the site. This vegetation is mapped wholly as Category X (non-remnant) and consists exclusively of ornamental planted species and cleared areas.

The western extent of the site is mapped as containing a wetland buffer under the LCC planning scheme. Field surveys identified this area to be completely disconnected from the wetland environment to the west with on-site vegetation consisting of cleared maintained lawns dominated by exotic grasses. Furthermore, the establishment of a footpath and associated grass verges indicates the site plays no role in the ecological function of the wetland. The project proposes an impact area approximately 25m from the western boundary of the site. Therefore, the majority of the mapped wetland buffer area is retained. The entire site is also mapped under the biodiversity corridor overlay under the LCC planning scheme. Given the site is bound by a large-scale commercial/retail centre to the north (also mapped as biodiversity corridor) it is clear the site is not providing any ecological linkages at present or in the future. The proposed development is intending to retain a portion of the western extent of the site which will be landscaped.

5.2. Offsets

The site is mapped as containing both Primary Vegetation Management Area (PVMA) and Secondary Vegetation Management Area (SVMA) under the LCC planning scheme. Given the complete lack of native vegetation within the PVMA, this area has been rectified on-ground as SVMA area with offsets provided on a per tree basis. The site is dominated by exotic tree species with only scattered native specimens adjacent to the current dwelling, therefore no offsets are proposed for impacts to PMVA or SVMA (refer **Plan 3**).

3. Development Assessment & LCC Vegetation Clearing Offset Estimate



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Legend

- Qld DCDB
- Site boundary

LCC Mapped Vegetation Management Areas

- Primary vegetation management area
- Secondary vegetation management area
- Existing Dwelling
- 10m buffer from existing dwelling

GPS Tree Plot (w/ TPZ)

- Tree to remove - Offset Exempt (non-native/dwelling offset exemption)
- Neigbouring native tree to retain
- Neighbouring weed/introduced tree to retain
- Proposed Secondary VMA
- Development layout

All Vegetation clearing to be carried out under LCC exemptions

Issue	Date	Description	Drawn	Checked
B	19/07/2024	Updated layout	TC	LB

0 5 10 m

Transverse Mercator | GDA 2020 | Zone 56 | 1:350 @ A3

saunders havill group

Blackoak Property Group Pty Ltd

Address / RPD: Tygum Road, Waterford West

Tygum Road, Waterford West

19/07/2024 | 11774 E 03 EAR Development Assessment B

5.3. Potential impacts

The key potential ecological impacts associated with the development proposal are:

5.3.1 Weeds

Increased vehicle movement during the construction phase has the potential to increase the spread of weeds in the area, particularly during the vegetation clearing phase. Given the site and surrounds are highly modified with the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the potential introduction/spread of weeds.

5.3.2 Earthworks

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

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

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

5.3.3 Light emissions during construction

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

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

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

5.3.4 Noise and vibration

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

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

5.3.5 Waste disposal

Inappropriate disposal of non-hazardous wastes can attract invasive species such as feral cats, wild dogs and introduced rats (amongst other fauna) to site. This may exacerbate potential impacts (e.g. invasive species introduction, road mortality). Litter may also enter surrounding environments. With the implementation of standard mitigation measures, the project is likely to result in a negligible impact to ecological values due to the generation and handling of waste.

5.3.6 Hazardous and dangerous goods

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

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

5.3.7 Increased human presence

Increased human activity during construction has the potential to disturb fauna within adjacent habitat areas. Resulting impacts to fauna include heightened vigilance and predator avoidance, which can disrupt foraging and roosting efficiency or deter wildlife from using particular areas. Impacts essentially represent a reduction in core habitat due to edge effects. Given the site is located within a highly modified area at present, the project is likely to result in a temporary and minor impact to ecological values due to increased human presence on site during the construction period.

5.4. Ongoing disturbances

After completion of development, significant increases in direct and indirect anthropogenic impacts on the surrounding ecological values are not anticipated. This is due to the proposed development being mostly situated in previously cleared and maintained areas, with limited ecological value. Potential increase to traffic along the roads at the extremity of the site indicate continuing risks to ecological values from:

- vehicle movements; and
- noise and light pollution.

Each potential impact associated with the increased traffic is described in detail in the following sections.

5.4.1 Vehicle strike

Upon completion of the development, vehicle traffic may increase marginally (compared to baseline conditions). However, given the area is already utilised by vehicles the project is unlikely to increasing the likelihood of fauna strike.

5.4.2 Noise and light

Noise levels are likely to increase marginally with road-noise likely to remain unchanged.

Artificial light from storage operations may affect nocturnal and diurnal animals by disrupting patterns, with quality of light (e.g. wave length and colour), intensity and duration potentially evoking different responses. Impacts from increased light levels include disorientation from or attraction toward artificial sources of light; mortality from collisions with structures; and effects on light-sensitive cycles of species (e.g. breeding and migration for fauna and flowering in plants). The presence and intensity of artificial light will have the most impact at the edge of adjacent vegetation communities. With suitable lighting installations, the project is likely to result in a negligible impact to wildlife due to light spillage.

6. Conclusion

This EAR was prepared on behalf of Blackoak Property Group Pty Ltd who propose an MCU of the site to establish a warehouse (self-storage facility) over the current residential property. This EAR provides a review of the ecological values across the site in accordance with Commonwealth, State and Local Government legislation.

Overall, the following conclusions can be made:

- The site includes a single residential dwelling consisting of entirely category X (non-remnant) vegetation dominated by maintained lawns consisting of exotic grasses as well as some disturbed ornamental tree's. None of the vegetation found on site is considered to be of any ecological value due to the highly disturbed nature of the site and exotic nature of many of the species found.
- A total of sixty-four (64) species of flora were detected on-site during surveys, inclusive of fifteen (15) native species and forty-nine (49) exotic/weed species.
- No threatened species nor TECs listed under the EPBC Act nor NC Act were recorded on site during field assessments.
- The site contains several environmental overlays under *Logan City Planning Scheme* including biodiversity corridor, wetland buffer and primary vegetation management area and secondary vegetation management areas.
- As the site is bound by a large-scale commercial/retail centre to the north (also mapped as a biodiversity corridor) and being highly modified in nature, the area offers no native habitat nor ecosystem connectivity within the site. Additionally, field surveys identified clear separation between the site and the wetland environment located associated Tygum Lagoon to the west.
- The site is mapped as Primary and Secondary Vegetation Management Areas, given the complete lack of native vegetation, no offsets are proposed for the removal of vegetation associated with this development.

7. Appendices

Appendix A

Development Proposal

Appendix B

EPBC Act 1999

PMST search results

Appendix C

Nature Conservation Act 1992

Wildlife online search results

Appendix D

Environmental Search results

Appendix E

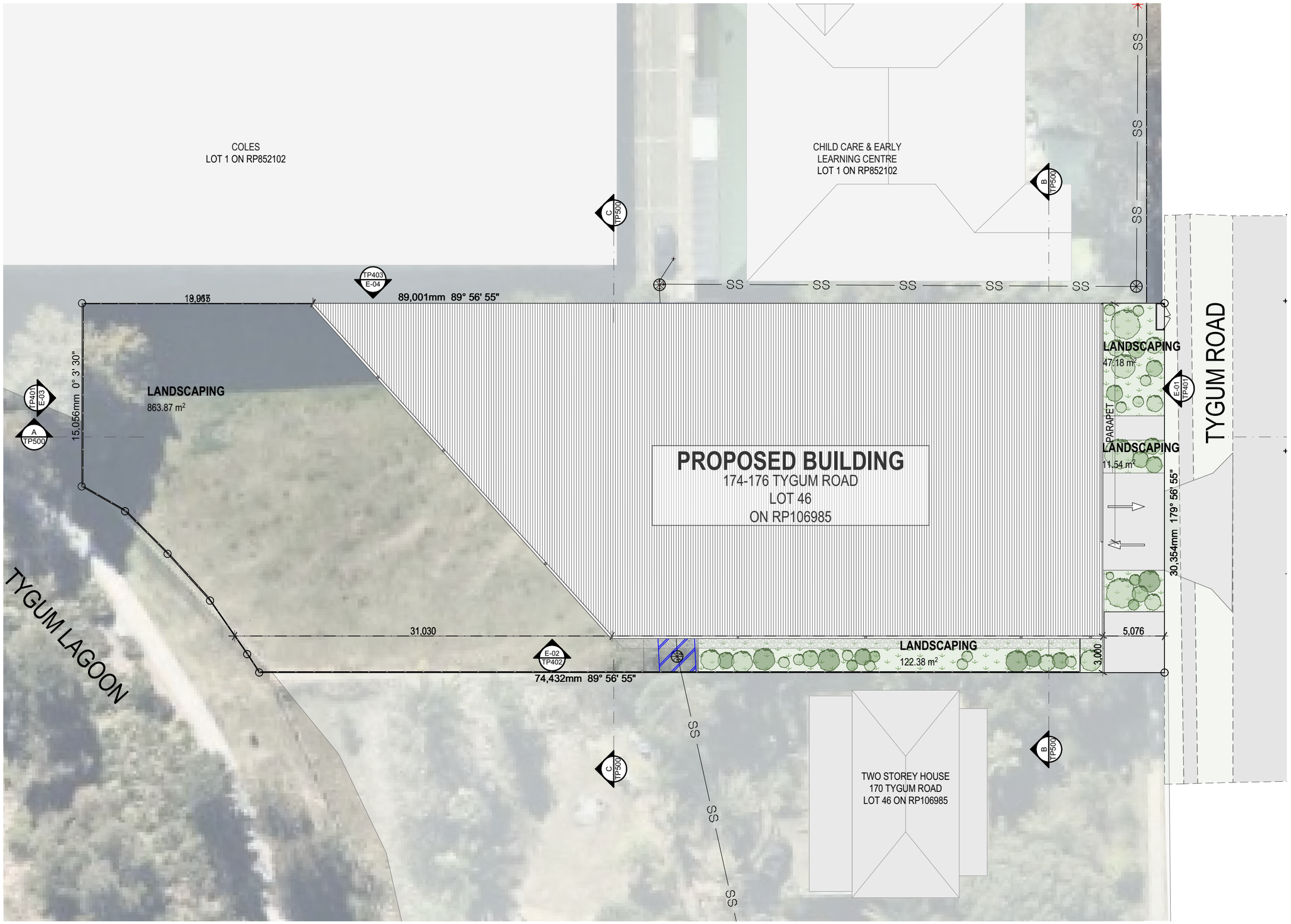
LCC Code Responses

Appendix F

Tree Schedule

Appendix A

Development Proposal



1 **Site Plan - Proposed**
1:300

TOWN PLANNING

General Notes

Confirm all dimensions on site.
Do not scale off drawings.
All levels are approximate only and are subject to confirmation by licenced surveyor.
All workmanship, materials and construction to comply with the Queensland Building Act 1975, the Queensland Development Code, the Building Code of Australia 2022, Premises Standard and AS1428.1.
Work to be carried out in a neat and appropriate manner.
Where ambiguities or discrepancies exist, Hayes Anderson Lynch Architects Pty. Ltd. shall be contacted for clarification.

Date	Issue	Details	Checked
16/07/24	D	Client Issue	BG
12/07/24	C	Client Issue	BG
02/07/24	B	Client Issue	BG
22/04/24	A	Client Issue	BG

HAYES ANDERSON LYNCH ARCHITECTS PTY LTD
ARCHITECTS
TOWN PLANNERS
INTERIOR DESIGNERS
3 / 709 MAIN STREET
KANGAROO POINT QLD 4169
P +61 7 3852 3190
E reception@halarchitects.com.au
W www.halarchitects.com.au
Member Australian Institute of Architects

Project
Storage Facility
174-176 Tygum Road, Waterford West, QLD 4133

Drawing Title
Site Plan - Proposed

Scale @ A3	Drawn:	Checked:
1:300	JK	BG
Project Number	**Drawing Number**	**Issue**
H4727TYG	**TP102**	D

Appendix B

EPBC Act 1999

PMST 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: 12-Apr-2024

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:	90
Listed Migratory Species:	42

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:	46
Whales and Other Cetaceans:	2
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:	4
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	16
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	Within 10km of 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 likely to 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 buffer area only
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
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to 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
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
Turnix melanogaster			
Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
FISH			
Epinephelus daemelii			
Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Maccullochella mariensis			
Mary River Cod [83806]	Endangered	Translocated population known to occur within area	In feature area
FROG			
Litoria olongburensis			
Wallum Sedge Frog [1821]	Vulnerable	Species or species habitat may occur within area	In buffer area only
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]	Endangered	Species or species habitat may occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population)			
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area	In feature area
Macroderma gigas			
Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Petauroides volans]			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
[Petaurus australis australis]			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Petrogale penicillata]			
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)]			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
[Potorous tridactylus tridactylus]			
Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area	In feature area
[Pseudomys novaehollandiae]			
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Pteropus poliocephalus]			
Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
[Xeromys myoides]			
Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
PLANT			
[Arthraxon hispidus]			
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Baloghia marmorata]			
Marbled Balogia, Jointed Baloghia [8463]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Bosistoa transversa]			
Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Coleus habrophyllus listed as Plectranthus habrophyllus [91378]	Endangered	Species or species habitat known to occur within area	In feature area
Corchorus cunninghamii Native Jute [14659]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Croton mamillatus Bahrs Scrub Croton [84796]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Cryptocarya foetida Stinking Cryptocarya, Stinking Laurel [11976]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Cupaniopsis shirleyana Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area	In feature area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat may occur within area	In buffer area only
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 likely to occur within area	In feature area
Fontainea venosa [24040]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Gossia gonoclada Angle-stemmed Myrtle [78866]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macadamia integrifolia Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak [7326]	Vulnerable	Species or species habitat known 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
Notelaea x ipsviciensis listed as Notelaea ipsviciensis Cooneana Olive [93460]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Owenia cepiodora Onionwood, Bog Onion, Onion Cedar [11344]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat known to occur within area	In feature area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area	In feature area
Planchonella eerwah Shiny-leaved Condoo, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat likely to occur within area	In feature area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat known 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
[Sophora fraseri](#) [8836]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Thesium australe](#) Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
[Vincetoxicum woollsii listed as Tylophora woollsii](#) [40080]	Endangered	Species or species habitat may occur within area	In buffer area only
REPTILE			
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Congregation or aggregation known to occur within area	In buffer area only
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[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
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lepidochelys olivacea			
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area	In buffer area only
Natator depressus			
Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
SHARK			
Sphyrna lewini			
Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only

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
Ardenna grisea			
Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Calonectris leucomelas			
Streaked Shearwater [1077]		Species or species habitat known to occur within area	In buffer area only
Diomedea antipodensis			
Antipodean Albatross [64458]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Diomedea exulans			
Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Macronectes giganteus			
Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli			
Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Marine Species			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Congregation or aggregation known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area	In buffer area only
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat may occur within area	In buffer area only
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area	In buffer area only
Sousa sahulensis as Sousa chinensis Australian Humpback Dolphin [87942]		Species or species habitat may occur within area	In buffer area only
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		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	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
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[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 known to occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to 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 likely to occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Limnodromus semipalmatus](#) Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Limosa lapponica](#) Bar-tailed Godwit [844]		Species or species habitat likely to occur within area	In buffer area only
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pandion haliaetus			
Osprey [952]		Species or species habitat known to occur within area	In feature area
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat known 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
Ardenna grisea as Puffinus griseus			
Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Bubulcus ibis as Ardea ibis			
Cattle Egret [66521]		Breeding likely to occur within area overfly marine area	In feature area
Calidris acuminata			
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to 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
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
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 known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat may occur within area overfly marine area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In buffer area only
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
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may 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 known 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 known to occur within area overfly marine area	In feature area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Thalassarche steadi](#) White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Reptile			
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Congregation or aggregation known to occur within area	In buffer area only
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Lepidochelys olivacea](#) Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area	In buffer area only
[Natator depressus](#) Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Whales and Other Cetaceans [Resource Information]

Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
[Orcaella heinsohni](#) Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area	In buffer area only
[Sousa sahulensis](#) Australian Humpback Dolphin [87942]		Species or species habitat may occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Berrinba Wetlands	Nature Refuge	QLD	In buffer area only
Buccan	Conservation Park	QLD	In buffer area only
Leslie Parade	Nature Refuge	QLD	In buffer area only
Murray's Environmental	Nature Refuge	QLD	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Logan and Gold Coast Faster Rail	2022/09439		Assessment	In buffer area only
Loganlea Station Relocation and Park 'n' Ride Expansion	2022/09348		Completed	In buffer area only
Controlled action				
Jacobs Well Airport	2004/1361	Controlled Action	Completed	In buffer area only
Not controlled action				
Bahrs Scrub residential community development, Qld	2013/6718	Not Controlled Action	Completed	In buffer area only
Clearance of approx 152ha of open forest vegetation for residential development at Mt Cotton Villag	2004/1592	Not Controlled Action	Completed	In buffer area only
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

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Logan Enhancement Project, Qld	2016/7683	Not Controlled Action	Completed	In buffer area only
Loganlea to Jimboomba 110kV network upgrade, SE Qld	2013/7035	Not Controlled Action	Completed	In buffer area only
Logan River Marina	2003/1176	Not Controlled Action	Completed	In buffer area only
Marsden Parks Depot, Marsden, Qld	2018/8378	Not Controlled Action	Completed	In buffer area only
Prawn Aquaculture Enterprise Expansion	2001/294	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 estate Bunker Rd	2005/2130	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
Woodlands Residential development (Villages 4 and 6, Waterford, Qld	2013/6828	Not Controlled Action	Completed	In buffer area only

Bioregional Assessments			[Resource Information]
SubRegion	BioRegion	Website	Buffer Status
Clarence-Moreton	Clarence-Moreton	BA website	In buffer area only

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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

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

Appendix C

Nature Conservation Act 1992

Wildlife online search results

Queensland Government

WildNet species list

Search Criteria: Species List for a Specified Point
Species: All
Type: Native
Queensland status: Rare and threatened species
Records: Confirmed
Date: Since 1980
Latitude: -27.6936
Longitude: 153.1355
Distance: 5
Email: tylahmills@saundershavill.com
Date submitted: Friday 12 Apr 2024 08:19:43
Date extracted: Friday 12 Apr 2024 08:20:04

The number of records retrieved = 8

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Strigidae	*Ninox strenua*	powerful owl		V		8
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		E	E	829
plants	land plants	Apocynaceae	*Leichhardtia coronata*			V		4/4
plants	land plants	Lamiaceae	*Coleus habrophyllus*			E	E	1/1
plants	land plants	Myrtaceae	*Gossia gonoclada*			CR	E	18/16
plants	land plants	Myrtaceae	*Gossia hillii*			CR		2/1
plants	land plants	Myrtaceae	*Melaleuca irbyana*			E		9/8
plants	land plants	Proteaceae	*Macadamia integrifolia*	macadamia nut		V	V	1

CODES

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

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

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

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

Appendix D

Environmental Search results

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Environmental searches

174-176 Tygum Road,
Waterford West
Queensland 4133
Blackoak Property Group Pty Ltd
12 April 2024

11774

Property attributes	
Address	174-176 Tygum Rd, Waterford West, QLD 4133
Lot/plan(s)	46RP106985
Area (ha)	0.26 hectares (ha)
Local government area	Logan City Council

1. Federal Matters of National Environmental Significance

1.1 Matters of National Environmental Significance

A Protected Matters Report was generated from the environment.gov.au website and returned the following results. These matters may occur within a 10 km radius of the site and are protected under the *Environment Protection and Biodiversity Conservation Act 1999*.

World Heritage Properties	None
National Heritage Places	None
Wetlands of International Importance (Ramsar Wetlands)	1
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	9
Listed Threatened Species	97
Listed Migratory Species	49

1.2 Listed Threatened Ecological Communities

Community	**Status**	**RE Mapped**
Grey box-grey gum wet forest of subtropical eastern Australia	Endangered	No

Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	No
Swamp Tea-tree (Melaleuca irbyana) Forest of South-east Queensland	Critically Endangered	No
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	No
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	No
Lowland Rainforest of Subtropical Australia	Critically Endangered	No
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	No
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	No
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	No

2 State Matters

2.1 Vegetation Management Act 1999 and subordinate legislation			
Regional Ecosystem	VMA status	Category	Area (ha)
Non-Remnant Vegetation	None	X	0.26
Essential Habitat		Not present	
Wetland/s		Not present	
Bioregion		Coastal bioregions and sub-regions	
2.2 Nature Conservation Act 1992 and subordinate legislation			
Protected Plants Flora Survey Trigger Map		Not present	
2.3 Koala Habitat Mapping			

Koala Priority Area (KPA)	Not present
Koala Habitat Areas	Not present
2.4 State Planning Policy Interactive Mapping System (selected environmental matters)	
SPP - Biodiversity	Not present
SPP - Coastal Environment	Not present
SPP - Water Quality	Not present
SPP - Natural Hazards Risk and Resilience	Not present
2.5 Development Assessment Mapping System	
DAMS - Coastal Protection	Not present
DAMS - Fish Habitat Areas	Not present

3. Local Matters — Logan City Council	
Zoning	Centre
Neighbourhood Plan	Does not apply
Overlay — Acid Sulphate Soils	Potential and actual acid sulphate soils >5 metre AHD <= 20m AHD present
Overlay — Biodiversity Areas Trigger	Biodiversity areas trigger present
Overlay — Vegetation Management Areas	Primary Vegetation Management Area present Secondary Vegetation Management Area present
Overlay — Biodiversity Corridors	Biodiversity corridor present
Overlay — Locally Significant Vegetation	Not present
Overlay — Matters of Local and/or State Environmental Significance	Matters of local ecological significance areas present
Overlay — Ecological Significance	Ecological significance areas present
Overlay — Bushfire Hazard	Not present
Overlay — Landslide Hazard	Landslide hazard geological formation impacting equal to or greater than 15% slope areas present Landslide hazard trigger areas present
Overlay — Flood Hazard	Flood hazard inundation areas present
Overlay — Heritage Areas	Not present
Overlay — Waterway Corridors and Wetlands	Waterways corridors and wetlands - wetland buffer areas present

Map 1 — Lot/Plan(s)

Layer Source: © State of Queensland 2024

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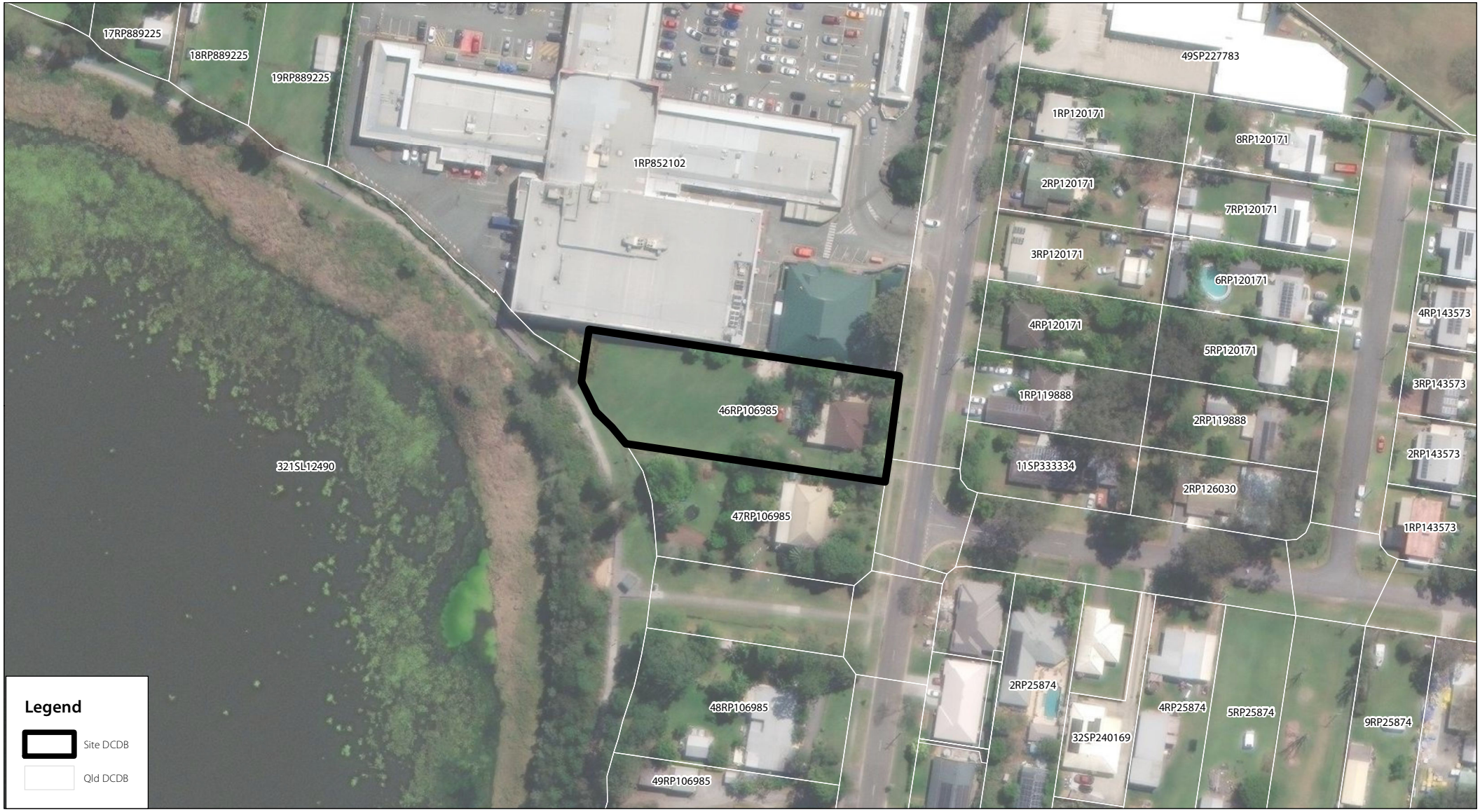
Map 2 — Aerial Image (Current)



Layer Sources: © State of Queensland 2024, Aerial Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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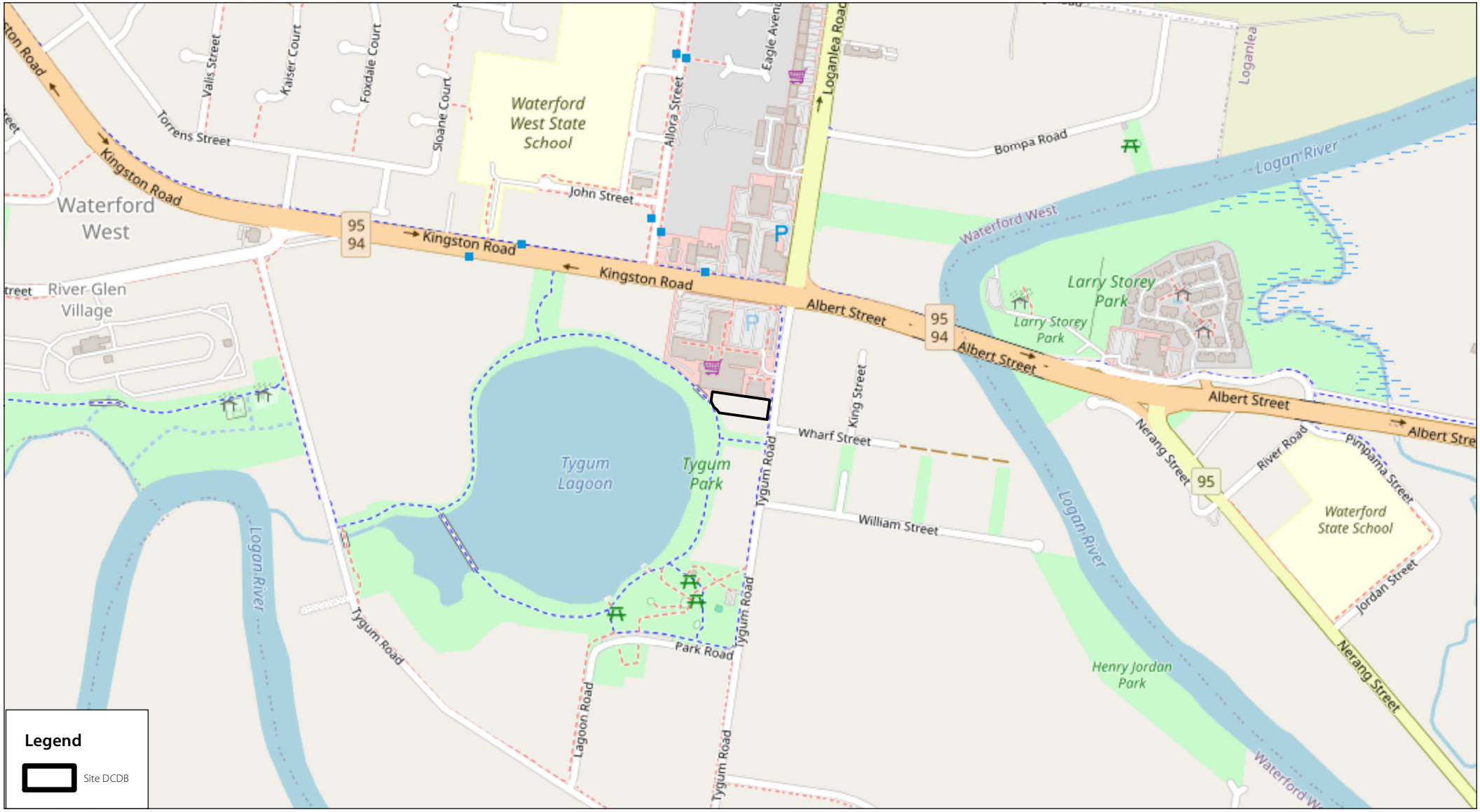
Map 3 — Aerial Image (Historical)

Layer Sources: *© State of Queensland 2024*

Map 4 — Locality



Layer Sources: © State of Queensland 2024, Aerial © OpenStreetMap (and) contributors, CC-BY-SA

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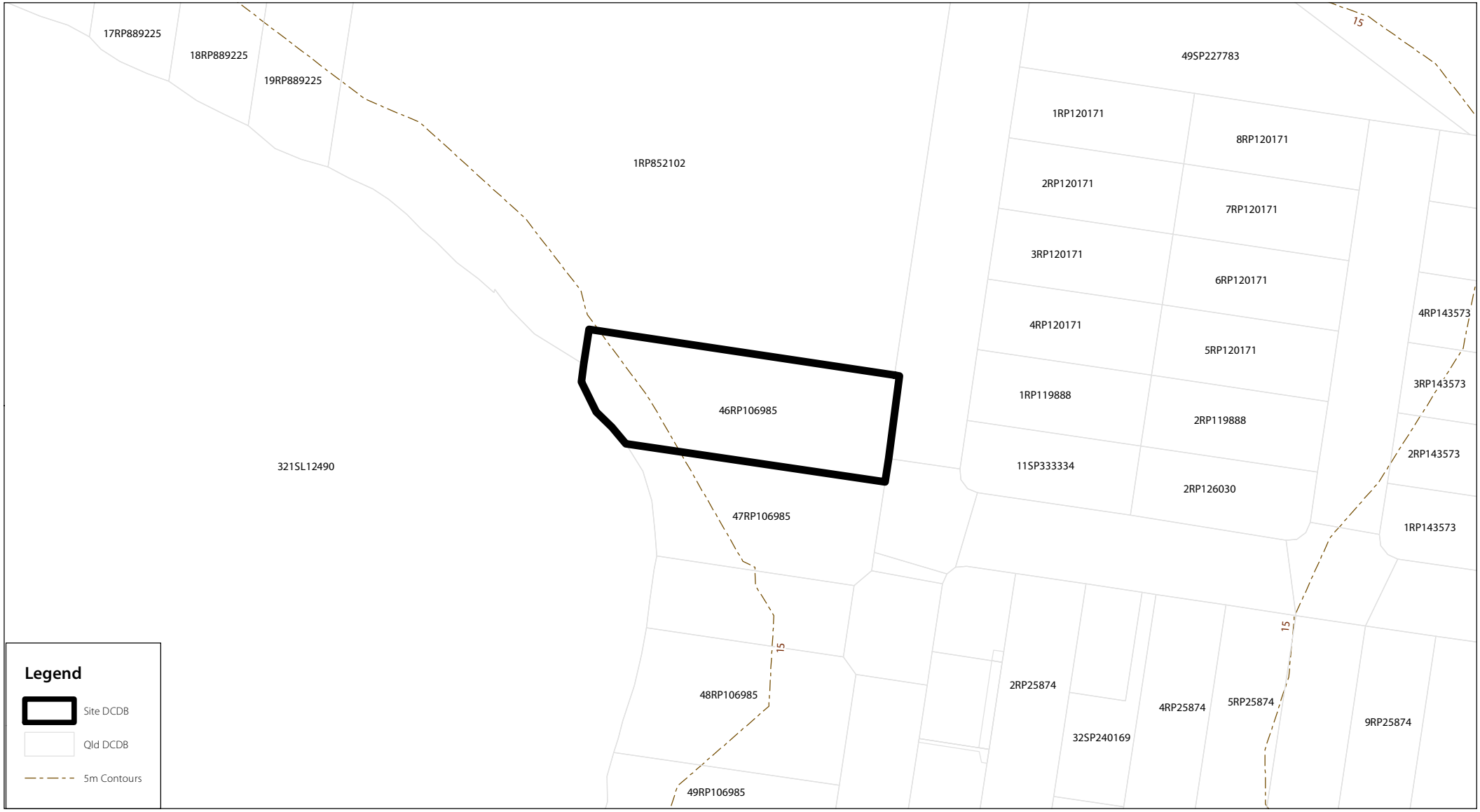
Map 5 — Contours



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State Matters

Map 6 — Regulated Vegetation Management Map

Layer Source: © State of Queensland 2024

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Map 7 — Vegetation Management Regional Ecosystem Map

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

Layer Source: © State of Queensland 2024

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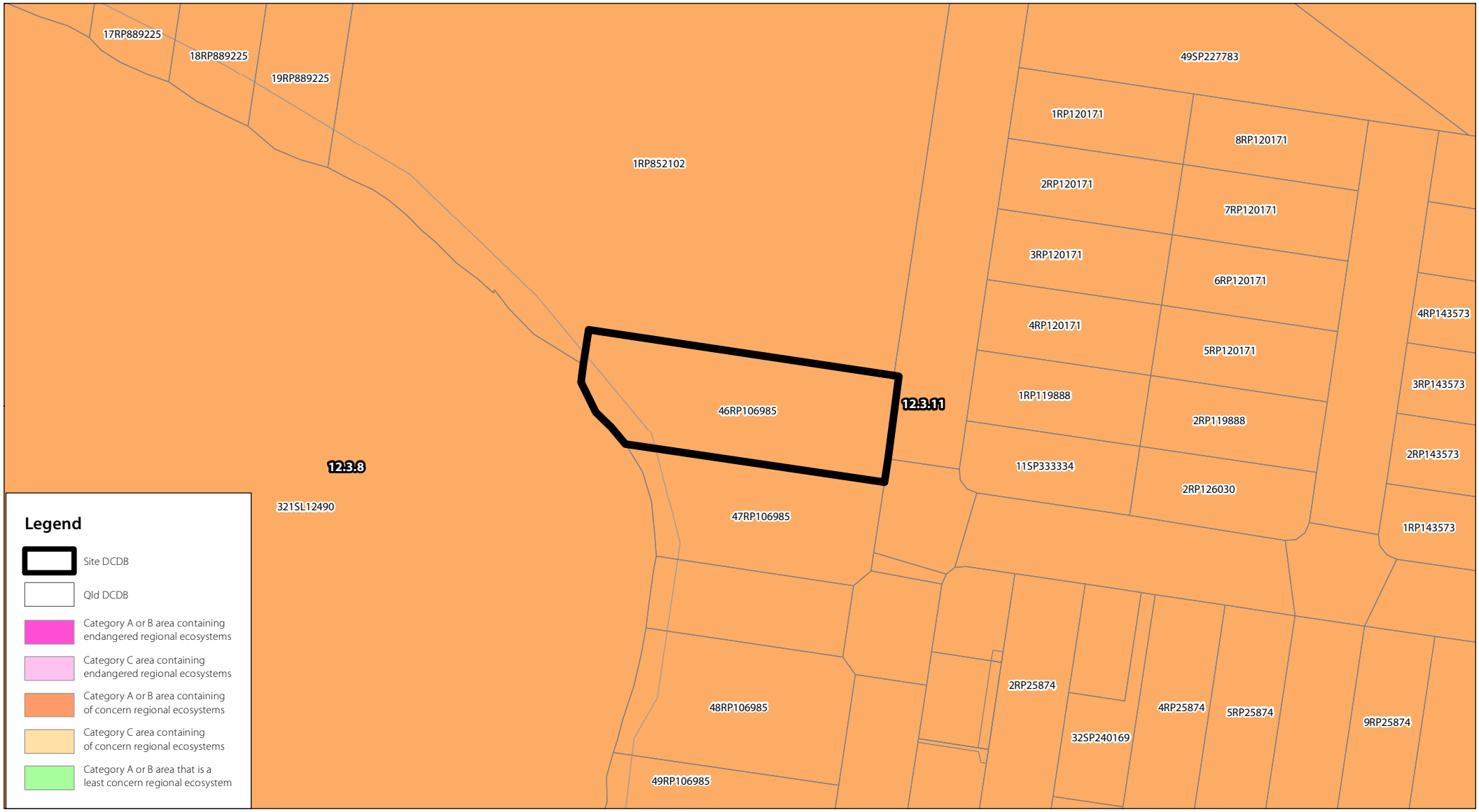
Map 8 — Pre-clear Regional Ecosystem Map



Layer Source: © State of Queensland 2024

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Map 9 — Protected Plants Flora Survey Trigger Map

Layer Source: © State of Queensland 2024

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Map 10 — Koala Priority Areas and Koala Habitat Areas

Layer Source: © State of Queensland 2024

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Map 11 — SPP — Biodiversity

Layer Source: © State of Queensland 2024

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Map 12 — SPP — Coastal Environment

Layer Source: © State of Queensland 2024

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Map 13 — SPP — Water Quality

Layer Source: © State of Queensland 2024

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Map 14 — SPP — Natural Hazards Risk and Resilience

Layer Source: © State of Queensland 2024

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Map 15 — DAMS — Coastal Protection

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Map 16 — DAMS — Fish Habitat Areas

Layer Source: © State of Queensland 2024

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Map 17 — Water Act 2000 — Watercourse Identification

Map 18 — Highest Astronomical Tide

Layer Source: © State of Queensland 2024

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Local Matters

Map 19 — Zoning

Layer Sources: © State of Queensland 2024, Logan City Council 2024

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Map 20 — Acid Sulfate Soils

Layer Sources: © State of Queensland 2024, Logan City Council 2024

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Map 21 — Biodiversity Areas Trigger

Layer Sources: © State of Queensland 2024, Logan City Council 2024

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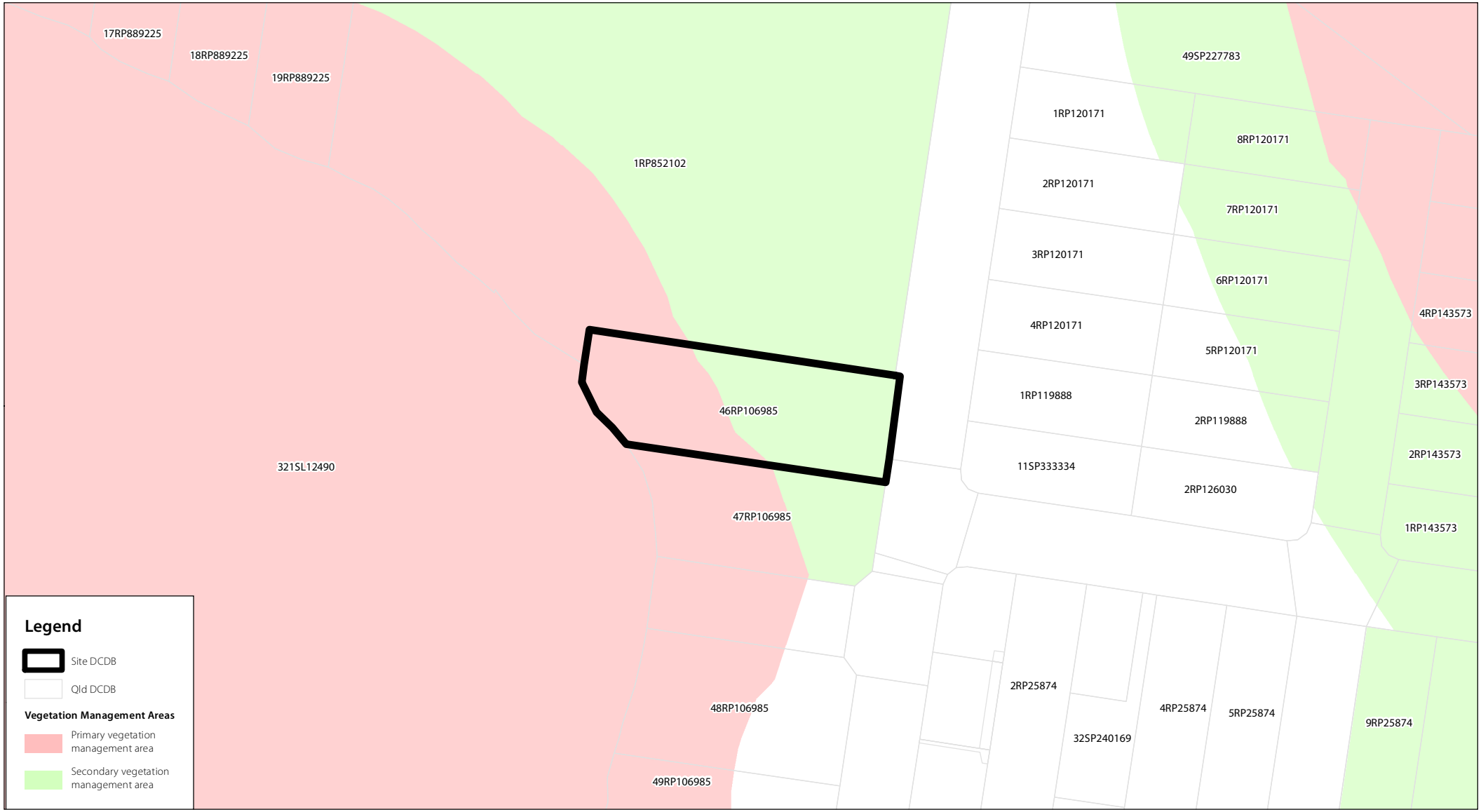
Map 22 — Vegetation Management Areas



Layer Sources: © State of Queensland 2024, Logan City Council 2024

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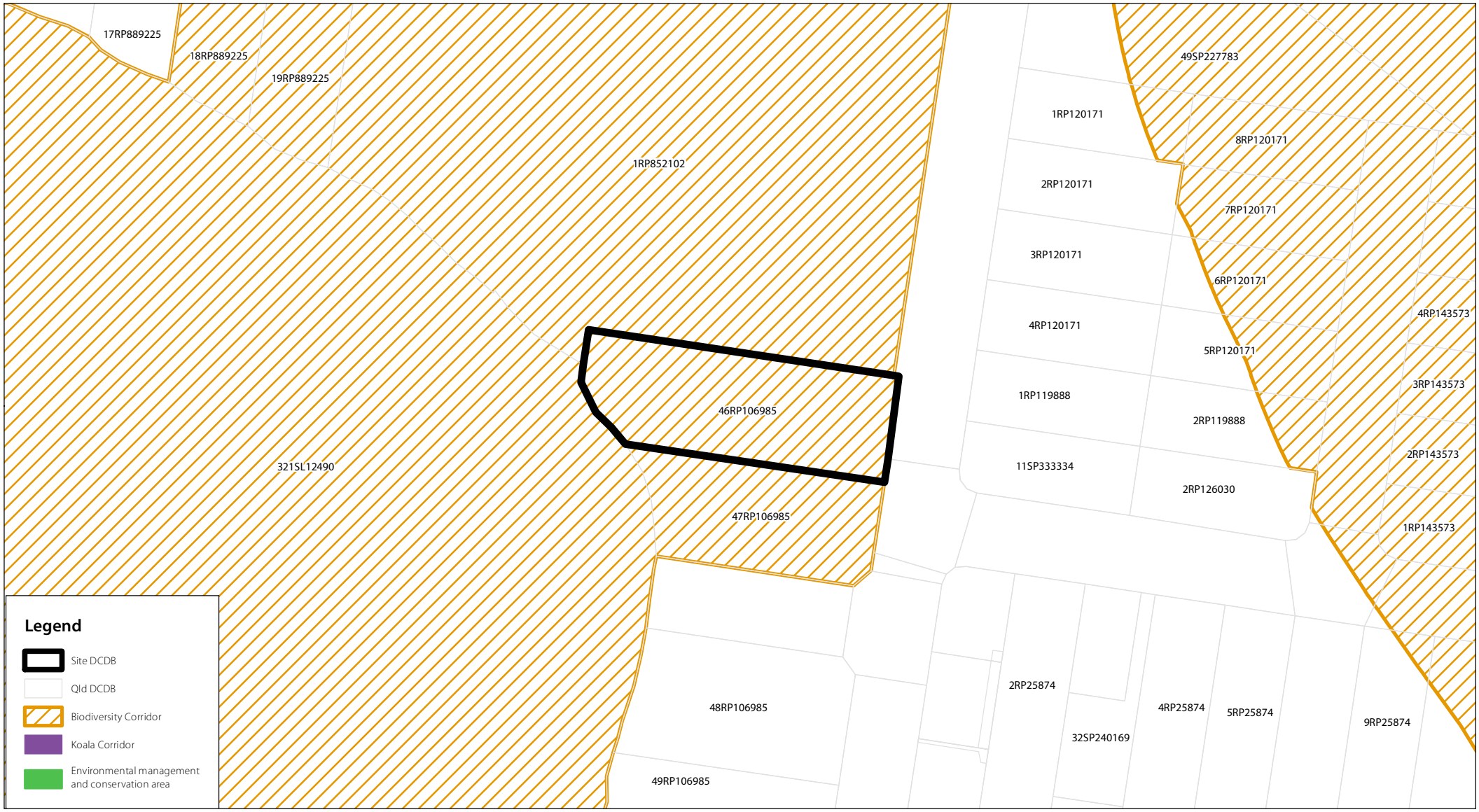
Map 23 — Biodiversity Corridors



Layer Sources: © State of Queensland 2024, Logan City Council 2024

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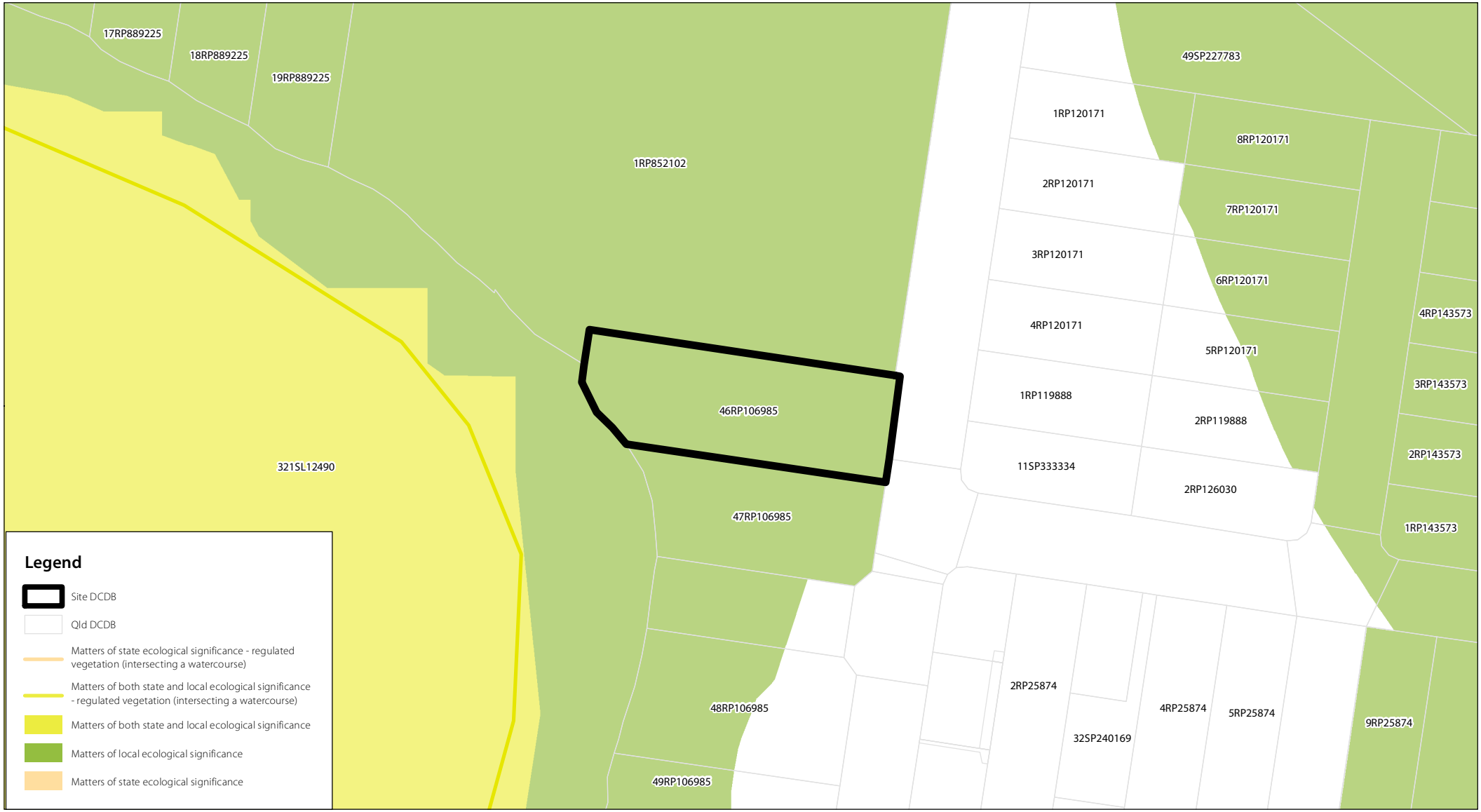
Map 24 — Locally Significant Vegetation

Layer Sources: © State of Queensland 2024, Logan City Council 2024

Map 25 — Matters of State and Local Significance



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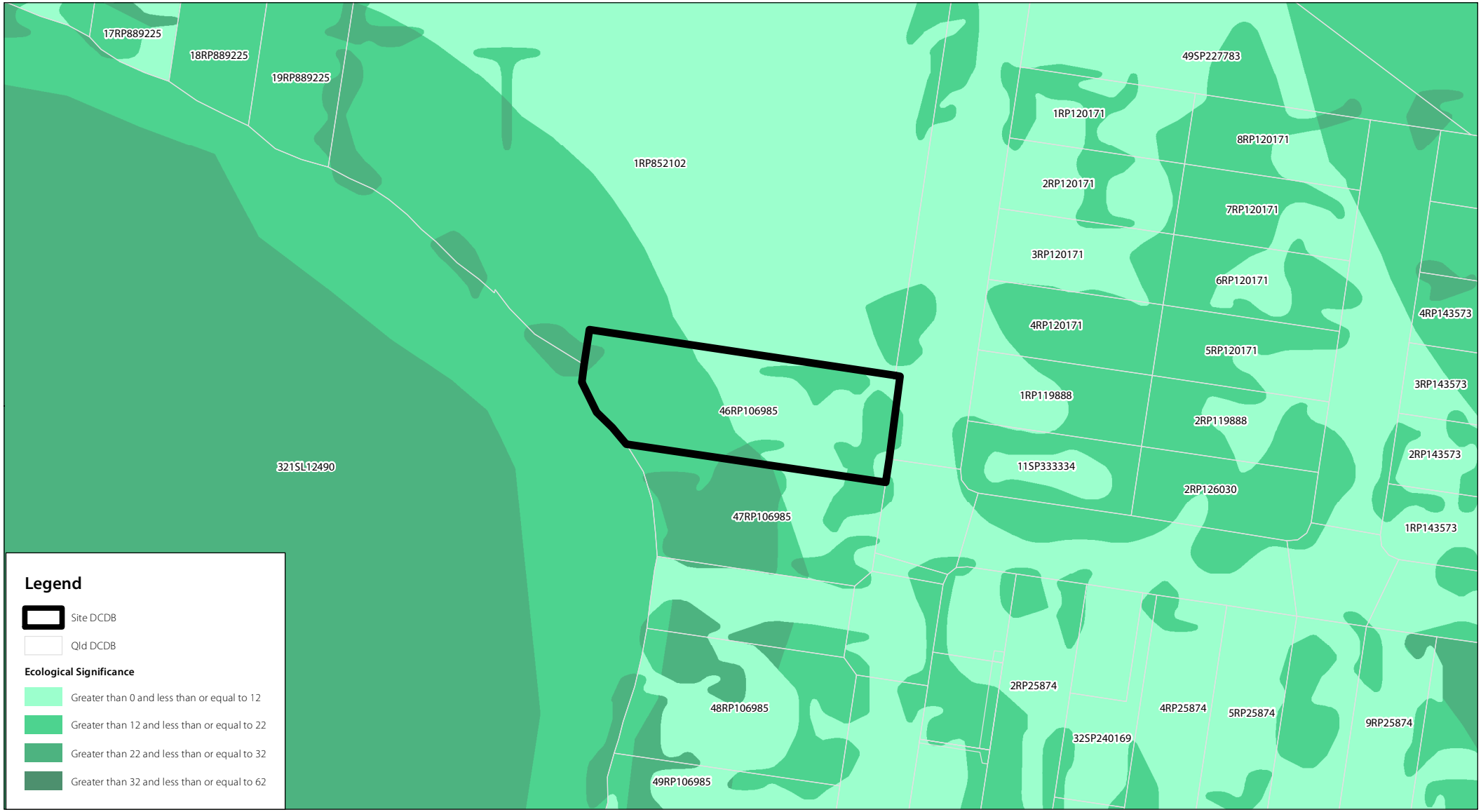
Map 26 — Ecological Significance



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Map 27 — Bushfire Hazard

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Map 28 — Landslide Hazard

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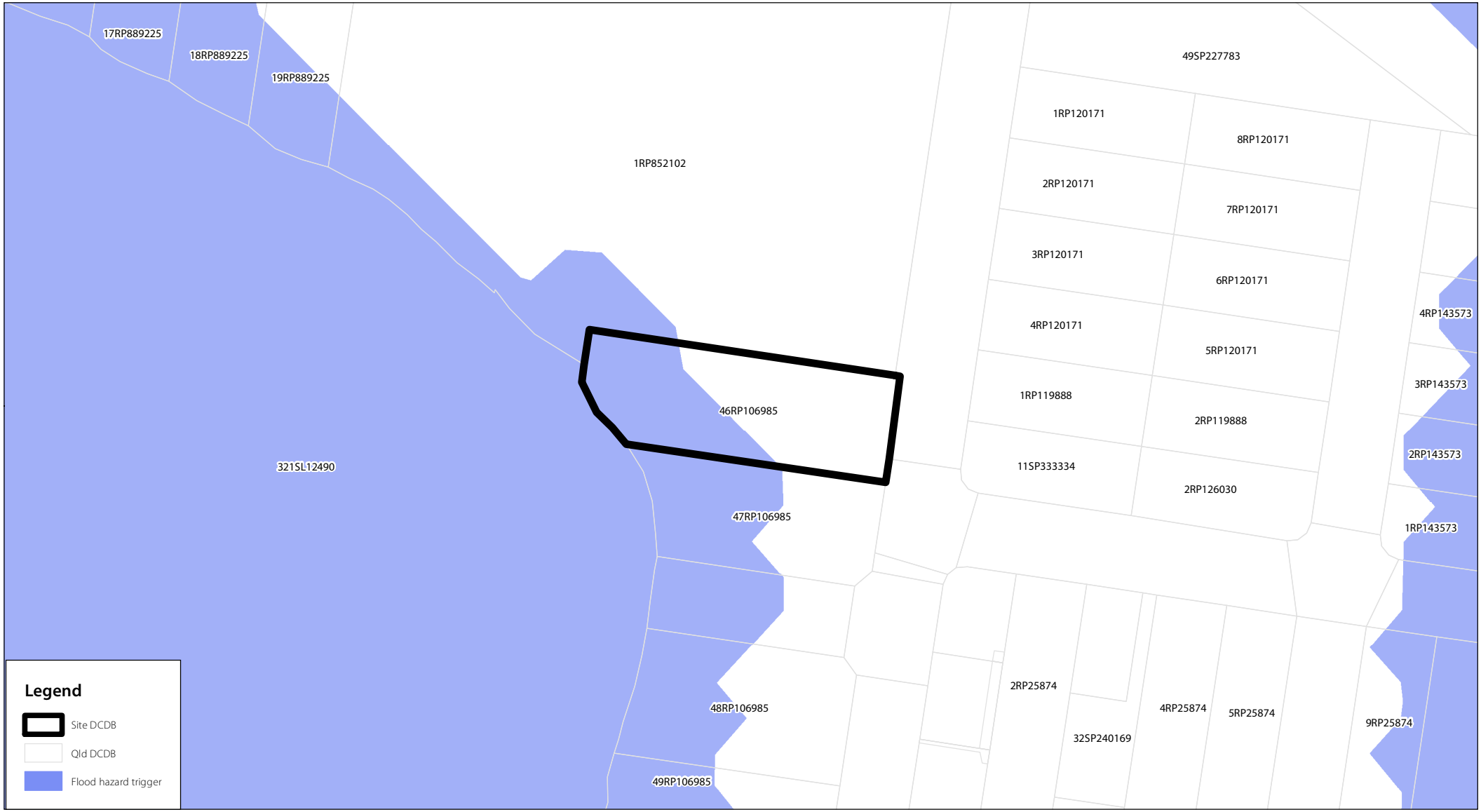
Map 29 — Flood Hazard



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Map 30 — Heritage

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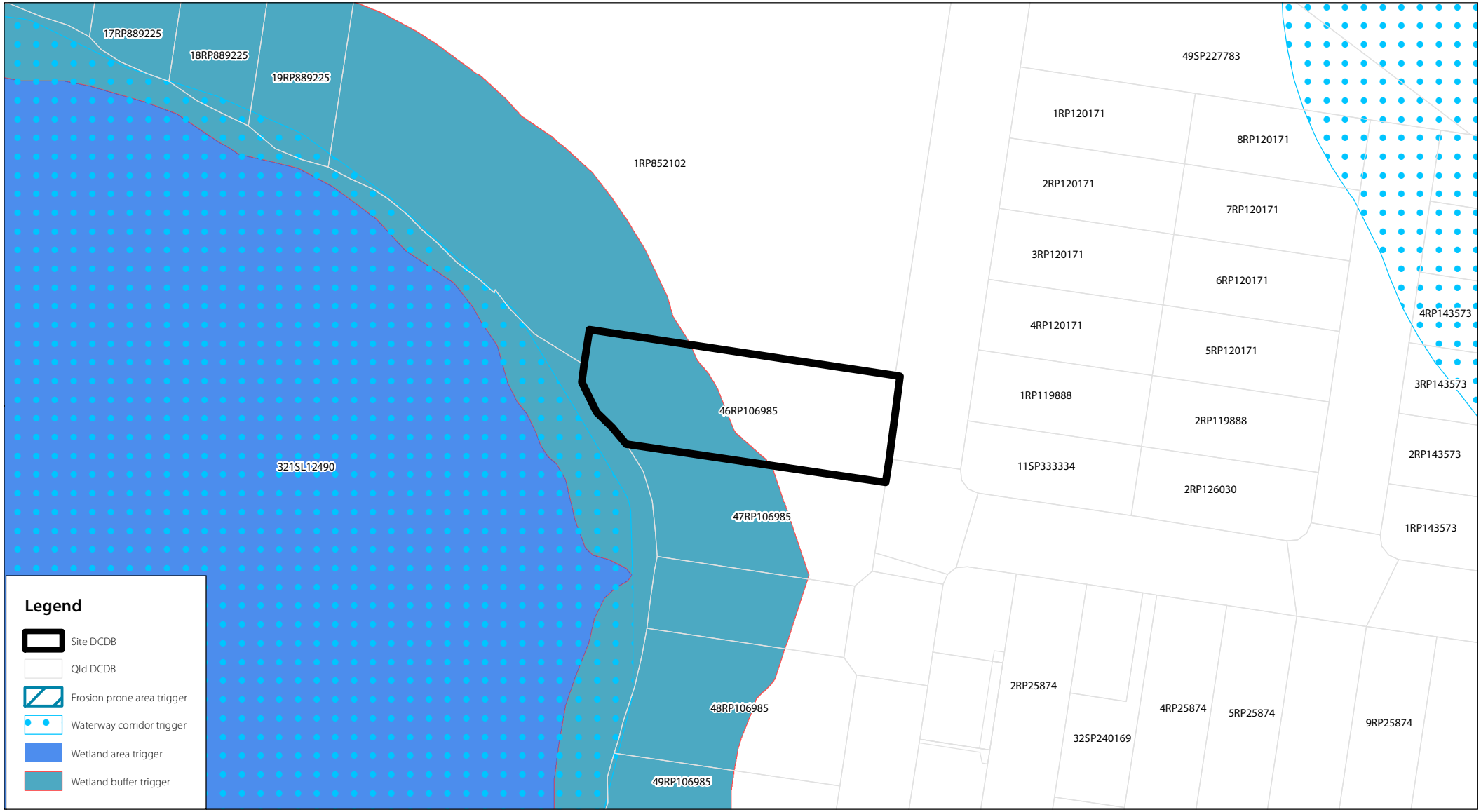
Map 31 — Waterway Triggers



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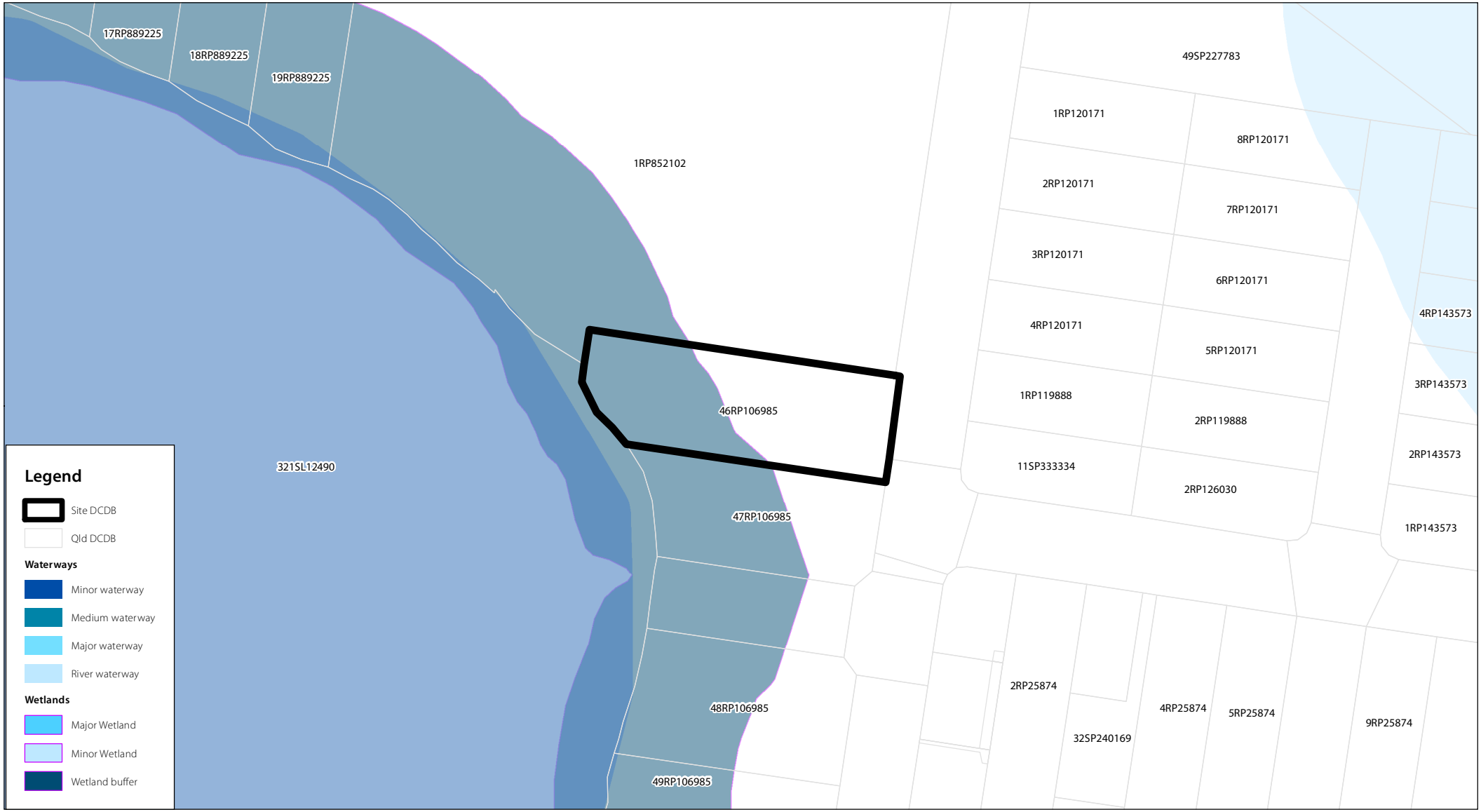
Map 32 — Waterways and Wetlands



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Appendix E

LCC Code Responses

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.	**Development complies with PO1** The site is mapped wholly as Biodiversity corridor on the Biodiversity areas overlay map–OM-02.02. However, it is clear based on contextual and on-ground assessments that the site does not contribute to the purpose of the biodiversity corridor being retaining landscape level connectivity. A large lot is present to the north of the site which is also mapped as wholly within the biodiversity corridor. This lot is currently utilised as a large-scale commercial/retail centre and childcare centre (refer **Plan 2**). No vegetation is retained on this lot and no corridor functionality is present. The proposed site will not provide corridor functionality at present, or in the future, as a result of surrounding developments. The presence of these developments indicates the biodiversity corridor mapping is out-dated and is no longer relevant to this locality. Therefore, the proposed development is considered appropriate for this site.
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:	**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:	**Development complies with AO2.1** The western extent of the project site is mapped as Primary Vegetation Management Area which aligns with the wetland buffer mapping. Detailed field survey identified this area to be cleared maintained

Performance outcomes	Acceptable outcomes	Comments
a) to: i. protect the current extent of native vegetation; or ii. achieve a net gain of native vegetation; a) 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.	a) if identified as a matter of local 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 b) if identified as a 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 - Compliance with AO2.1(b) is achieved where an environmental offset is provided to the Queensland Government in accordance with conditions imposed by a referral agency under the State Development Assessment Provisions. Alternatively, compliance is also achieved where referral agency assessment was undertaken but no environmental offset condition imposed. **AO2.2** Development rehabilitates degraded areas in accordance with the Southeast Queensland Ecological Restoration Framework.	lawns dominated by exotic grasses and shrubs (refer **Plan 1**). As a result, this area was rectified as a secondary vegetation management area. Given the area of primary consists of only exotic species, an offset is not proposed. The proposed impact area is located approximately 25m from the western boundary of the site (refer **Plan 3**).
Secondary vegetation management area		
PO3	**AO3**	**Development complies with AO3**

Performance outcomes	Acceptable outcomes	Comments
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.	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.	Secondary Vegetation Management Areas are mapped across the eastern extent of the site. Detailed field surveys, including the identification and location of all trees, identified the site as dominated by exotic ornamental species indicative of this environment. Native trees were sparse and located along property boundaries or adjacent to the current dwelling. No offsets are proposed for removal of secondary vegetation management area (refer **Plan 3**).

Performance outcomes	Acceptable outcomes	Comments
	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.	**Not applicable.** The site is not located within a mapped 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; b. edge effects.	**AO5** Development is located outside of a Locally significant vegetation area as identified on Biodiversity areas overlay map—OM-02.03.	**Not applicable.** The site does not include a mapped locally significant vegetation area.

Performance outcomes	Acceptable outcomes	Comments
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.	**Development complies with PO6** The project site is mapped wholly within the Biodiversity Corridor on the Biodiversity areas overlay map–OM–02.02. The lot to the north, also mapped wholly as Biodiversity Corridor, consists of a large-scale commercial/retail centre and child care centre. No vegetation is retained on this lot and no corridor functionality is present. The proposed site does not provide any corridor functionality at present or in the future as a result of surrounding developments. The presence of these developments indicates the biodiversity corridor mapping is out-dated and is no longer relevant to this locality. Therefore, the biodiversity corridor does not provide safe movement for fauna at present or in the future.
Locally significant Melaleuca irbyana buffer area		
PO7 Development within the Locally significant Melaleuca irbyana buffer area identified on	**AO7** Development within the Locally significant Melaleuca irbyana buffer area identified on Biodiversity areas	**Not applicable.** The subject site is not located within a mapped locally significant *Melaleuca irbyana* buffer area.

Performance outcomes	Acceptable outcomes	Comments
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.	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.	
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.	**Development complies with PO8.** The subject site does not contain any significant ridgeline values. Furthermore, native vegetation is extremely limited and includes planted ornamental species. Exotic species dominate the site including including *Syagrus romanzoffiana* (Cocos Palm), *Dypsis decaryi* (Triangle Palm) and *Beaucarnea recurvata* (Ponytail Palm). Areas of native vegetation are associated with Tygum Lagoon the west of the project site. Notably, native species associated with this area are not proposed to be impacted as a result of the development (refer **Plan 3**).
Lighting		
PO9 Development in a Biodiversity corridor or Koala corridor identified on Biodiversity areas overlay	**AO9.1** Lighting associated with development in a Biodiversity corridor or Koala corridor identified on Biodiversity areas overlay map–OM–02.02:	**Development complies with PO9** The site is mapped wholly as Biodiversity corridor on the Biodiversity areas overlay map–OM-02.02. However, it is clear based on contextual and on-

Performance outcomes	Acceptable outcomes	Comments
map–OM–02.02 is designed to minimise adverse light impacts on native fauna.	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	ground assessments that the site does not contribute to the purpose of the biodiversity corridor being retaining landscape level connectivity. A large lot is present to the north of the site which is also mapped as wholly within the biodiversity corridor. This lot is currently utilised as a large-scale commercial/retail centre and childcare center. No vegetation is retained on this lot and no corridor functionality is present. The presence of these developments indicates the biodiversity corridor mapping is outdated and is no longer relevant to the locality. Therefore, this PO is not applicable.

Response to LCC Waterway Corridors and Wetland Overlay Code

Performance Outcomes	Acceptable Outcomes	Response
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.	**Development complies with PO1** The western extent of the site is mapped as wetland buffer on the Waterway corridors and wetlands overlay map OM-14.01. Detailed on-ground surveys of this area were carried by ecologists from SHG which identified the area to be highly modified for residential uses consisting of a large cleared and maintained area dominated by exotic grasses (refer Plan 1). Species indicative of a wetland environment were not present within this area indicating the site does not contribute to the wetland buffer. An assessment of the waterbody was carried out on-ground. From the water's edge is a 30-meter-wide area dominated by wetland dependent species including *Typha orientalis* (Typha) and *Melaleuca quinquenervia* (Broad-leaved Paperbark). Beyond this is a 10m wide revegetated area consisting of predominantly *Lomandra longifolia* (Long-leaved Matrush) and other native ground. A footpath has been constructed adjacent to this revegetated area with grass verges that are frequently maintained. It is evident that the wetland vegetation is confided to the west of the footpath with the footpath indicating a clear line of separation between the wetland environment and the site (refer **Plan 2**). Furthermore, the wetland buffer mapping extends into a large-

		scale commercial/retail centre to the north which further indicates that the mapping is inaccurate. The proposed development will be situated 25m from the western boundary
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.	**Development complies with AO2** As stated in **Section 4.3**, the area in the western extent of the site does not contribute to the function of the wetland. Notably, modified areas in the form of a concrete footpaths and manicured verges are positioned between the site and the wetland. This defines a clear line of separation between the site and wetland.
Natural hydrological and geomorphological processes		
PO3	**AO3**	**Development complies with AO3**

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; b. where the natural hydrological and geomorphological processes are modified, the near natural hydrology is re-instated.	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 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.	As discussed within **Section 4.3**, the site is clearly separated from Tygum Lagoon to the west. Additionally, the hydrological regime of the local area is likely highly modified as a result of surrounding developments. Therefore, the proposed development is not likely to affect the natural hydrological and geomorphological process of the wetland area. Furthermore, an approximate 25m area in the west of the lot will be retained.
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.	**Not Applicable** The proposed development is not located within any 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:	**AO5** Development: a. provides a vegetated riparian buffer in accordance with section 3.3.1 - Riparian corridor revegetation and weed control	**Development complies with AO5** The site is completely disconnected from the wetland area associated with Tygum Lagoon. Furthermore, the site is largely unvegetated and consists predominantly of cleared open lawn. Conversely, the

a. providing vegetated buffers; b. incorporating water sensitive urban design principles having regard to: i. protecting water quality of surface and ground waters; ii. minimising sewage discharges to the natural environment; c. limiting discharge of sediments and pollutants into a Waterway corridors and wetlands area	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; 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.	border of Tygum Lagoon has been revegetated providing a substantial vegetated area.
Access		
PO6 Development provides for an integrated and publicly accessible network of waterways and wetlands to facilitate activation and maintenance of: 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. 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.	**Not applicable** No river waterways, including the Albert River or Logan River, are mapped within the site
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.	**Not applicable** The western extent of the site is separated by the wetland corridor associated with Tygum Lagoon by a public footpath.

Appendix F

Tree Schedule

Tree Schedule - Job 11774
174-176 Tygum Road, Waterford West (Blackoak Property Group Pty Ltd)
26/04/2024

Specimen Details											Canopy Condition Details							Trunk Condition Details					Fauna Details and Habitat Value							
Tree ID	Botanical Name	Common Name	Trunk DBH (mm)	Additional Trunks DBH (mm)	Total DBH (mm) [AS 4970-2009]	Trunk Circumference (cm) [AS 4970-2009]	Height (m)	Spread (m)	Tree Protection Zone (m)	Structural Root Zone (m)	Canopy Form	Spreading	Thinning	Die-Back	Epicormic Growth	Lopped	Canopy Health	Leaning	Vines	Trunk Damage	Fire Damage	Trunk Health	Scats	Scratches	Hollows	Nest	Termite Nest	Habitat Value	Retention	Additional Notes
1	*Syagrus romanzoffiana*	Cocos Palm	260		260	82	6.0	5.0	3.1	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
2	*Syagrus romanzoffiana*	Cocos Palm	270		270	85	7.0	7.0	3.2	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
3	*Archontophoenix cunninghamiana*	Bangalow Palm	460		460	145	7.5	7.0	5.5	2.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
4	*Melaleuca viminalis*	Weeping Bottlebrush	200	200, 120, 100	323	102	3.5	3.0	3.9	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
5	*Dypsis decaryi*	Triangle Palm	370		370	116	4.0	4.0	4.4	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
6	*Phoenix dactylifera*	Date Palm	200		200	63	2.0	3.0	2.4	1.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
7	*Beaucarnea recurvata*	Pony Tail Palm	220		220	69	4.0	2.0	2.6	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
8	*Libidibia ferrea*	Leopard Tree	140	120, 100, 80, 90, 90	258	81	5.0	4.0	3.1	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
9	*Livistona australis*	Cabbage-tree Palm	300		300	94	9.0	3.0	3.6	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
10	*Syagrus romanzoffiana*	Cocos Palm	300		300	94	9.0	6.0	3.6	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
11	*Syagrus romanzoffiana*	Cocos Palm	310		310	97	10.0	7.0	3.7	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
12	*Melaleuca quinquenervia*	Broad-leaved Paperbark	160		160	50	6.0	6.0	2.0	1.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
13	*Syagrus romanzoffiana*	Cocos Palm	150		150	47	3.0	1.0	2.0	1.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
14	*Syagrus romanzoffiana*	Cocos Palm	160		160	50	3.0	1.0	2.0	1.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
15	*Ficus benjamina*	Weeping Fig	350		500	157	5.0	4.0	6.0	2.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
16	*Archontophoenix cunninghamiana*	Bangalow Palm	170	160	233	73	6.0	4.0	2.8	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
17	*Ficus watkinsiana*	Strangler Fig Tree	220		220	69	3.0	3.0	2.6	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
18	*Beaucarnea recurvata*	Pony Tail Palm	270		270	85	4.0	2.0	3.2	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
19	*Archontophoenix cunninghamiana*	Bangalow Palm	210		210	66	6.0	5.0	2.5	1.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
20	*Syagrus romanzoffiana*	Cocos Palm	250		250	79	6.0	8.0	3.0	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
21	*Syagrus romanzoffiana*	Cocos Palm	230		230	72	8.0	6.0	2.8	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
22	*Syagrus romanzoffiana*	Cocos Palm	300		300	94	7.0	7.0	3.6	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
23	*Celtis sinensis*	Chinese Celtis	180	170	248	78	7.0	5.0	3.0	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
24	*Livistona australis*	Cabbage-tree Palm	270		270	85	5.0	4.0	3.2	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
25	*Syagrus romanzoffiana*	Cocos Palm	290		290	91	7.0	6.0	3.5	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
26	*Syagrus romanzoffiana*	Cocos Palm	250	200, 200	377	119	6.0	8.0	4.5	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
27	*Schinus terebinthifolius*	Broadleaf Pepper Tree	300		300	94	5.0	7.0	3.6	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
28	*Corymbia torelliana*	Cadaghi	180		180	57	7.0	8.0	2.2	1.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
29	*Ulmus minor*	Field Elm	210	90, 90	246	77	5.0	7.0	2.9	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		

Specimen Details											Canopy Condition Details							Trunk Condition Details					Fauna Details and Habitat Value							
Tree ID	Botanical Name	Common Name	Trunk DBH (mm)	Additional Trunks DBH (mm)	Total DBH (mm) [AS 4970-2009]	Trunk Circumference (cm) [AS 4970-2009]	Height (m)	Spread (m)	Tree Protection Zone (m)	Structural Root Zone (m)	Canopy Form	Spreading	Thinning	Die-Back	Epicormic Growth	Lopped	Canopy Health	Leaning	Vines	Trunk Damage	Fire Damage	Trunk Health	Scats	Scratches	Hollows	Nest	Termite Nest	Habitat Value	Retention	Additional Notes
30	*Ulmus minor*	Field Elm	160	120	200	63	6.0	7.0	2.4	1.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
31	*Syagrus romanzoffiana*	Cocos Palm	140		140	44	9.0	6.0	2.0	1.4	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
32	*Syagrus romanzoffiana*	Cocos Palm	180		180	57	10.0	6.0	2.2	1.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
33	*Syagrus romanzoffiana*	Cocos Palm	350		350	110	8.0	8.0	4.2	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
34	*Syagrus romanzoffiana*	Cocos Palm	300		300	94	8.0	9.0	3.6	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
35	*Syagrus romanzoffiana*	Cocos Palm	180		180	57	4.0	3.0	2.2	1.6	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
36	*Taxodium distichum*	Swamp Cypress	520	390	650	204	6.0	7.0	7.8	2.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
37	*Casuarina glauca*	Swamp Oak	240		240	75	8.0	4.0	2.9	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
38	*Casuarina glauca*	Swamp Oak	300		300	94	7.0	4.0	3.6	2.0	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
39	*Casuarina glauca*	Swamp Oak	230		230	72	8.0	4.0	2.8	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
40	*Casuarina glauca*	Swamp Oak	360		360	113	10.0	5.0	4.3	2.2	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
41	*Casuarina glauca*	Swamp Oak	210		210	66	8.0	3.0	2.5	1.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
42	*Grevillea robusta*	Silky Oak	190	180	262	82	8.0	4.0	3.1	1.9	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
43	*Melaleuca quinquenervia*	Broad-leaved Paperbark	120	100	156	49	4.0	6.0	2.0	1.5	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
44	*Casuarina glauca*	Swamp Oak	200	150	250	79	7.0	6.0	3.0	1.8	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
45	*Melaleuca quinquenervia*	Broad-leaved Paperbark	400		400	126	7.0	6.0	4.8	2.3	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
46	*Melaleuca quinquenervia*	Broad-leaved Paperbark	140	110, 110	209	66	4.0	7.0	2.5	1.7	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		
47	*Melaleuca quinquenervia*	Broad-leaved Paperbark	220	180, 150	321	101	4.0	6.0	3.9	2.1	Regular	-	-	-	-	-	Typical	-	-	-	-	Typical	-	-	-	-	-	-		