

Appendix K – Ecological Assessment, prepared by Biome

Ecological Assessment

**3733-3735 Pacific Highway,
Slacks Creek**

July 2026

BC-26117



BIOME

WATER AND ENVIRONMENTAL CONSULTING



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Abbreviations and Definitions

Term	Meaning
ASL	Above Sea Level
Category B	Remnant vegetation – regulated under the VMA
Category C	Regrowth vegetation – regulated under the VMA
Category X	Non-remnant vegetation – generally not regulated under the VMA
DSH	Diameter at Standard Height – the tree trunk diameter, measured 1.3 m above the ground
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
Exotic Species	Refers to all species of both flora and fauna that are introduced to Australia.
Fauna	Refers to all animal species
Flora	Refers to all plant species
MLES	Matters of Local Environmental Significance
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
NCA	Queensland <i>Nature Conservation Act 1992</i>
Planning Scheme	Logan Planning Scheme 2015 version 9.2
RE	Regional Ecosystem. Defined as a vegetation community that is consistently associated with a particular combination of geology, landform, and soil.
The Site	3733-3735 Pacific Highway, Slacks Creek; Lot 6 RP839894
Threatened species	Species listed under the NCA or EPBC Act as having a conservation status of Near Threatened, Vulnerable, Endangered, or Critically Endangered.



Executive Summary

A warehouse facility is proposed at 3733-3735 Pacific Highway, Slacks Creek. The site is largely cleared of native woody vegetation and is traversed by a drainage channel in the southwestern corner.

The site is not mapped within any Matter of State Environmental Significance overlay. However, the southwestern corner is mapped as a Primary Vegetation Management Area, *Gossia gonoclada* area, and a waterway corridor under the Logan Planning Scheme.

No *Gossia gonoclada* were identified during the site assessment.

Approximately 1,025 m² within the mapped extent of the Primary Vegetation Management Area will be impacted by the development. It is, however, noted that this area comprises actively managed/highly modified areas and two native trees and one native habitat tree within this area are proposed to be cleared. Subject to agreement by Council, it is proposed that each of the impacted trees within the Primary Vegetation Management Area is offset based on a count of native/native habitat trees.

The waterway corridor mapped over the site comprises a highly modified, shallow channel that directs runoff from the surrounding road network and adjacent properties through the site to a dam located on a neighbouring lot to the west. There is very little native vegetation within the waterway corridor, and it has relatively low ecological value.

As the warehouse building is proposed to be cantilevered over the lower-lying areas in the western portion of the site, the flow path of the waterway will not be altered.

Protocols have been outlined in this report to ensure the risk of injury or death to any wildlife present on the site during operational works is minimised.

Through the provisions of offsets for impacts on native trees within the Primary Vegetation Management Area, compliance with the Biodiversity Areas Overlay Code can be achieved. Alternative solutions to the performance outcomes have been provided where strict adherence to the provisions of the Waterway Corridor and Wetlands Overlay Code cannot be achieved.



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1 Introduction

A warehouse facility is proposed over 3733-3735 Pacific Highway, Slacks Creek. The location of the proposed development is hereafter referred to as 'the site'.

This Ecological Assessment has been prepared to identify the environmental values present across the site and comprises both a desktop assessment and field investigation. The findings of these assessments establish the baseline data used to evaluate the potential impacts of the proposed development on identified ecological values and to assess compliance with the Biodiversity Areas and Waterway Corridors and Wetlands Overlay Codes.

1.1 Report Outline

The preparation of this report included both a desktop assessment and a field survey.

1.1.1 Desktop Assessment

The desktop assessment involved:

- A review of the mapped matters of environmental significance;
- An assessment as to how mapped matters of environmental significance influence the development of the site; and
- Interrogation of Commonwealth and State government protected matters and wildlife databases.

1.1.2 Field Survey

The field assessment was conducted on 20 July 2026 to determine:

- Vegetation communities;
- Details of native trees within the development area; and
- Assessment of potential habitat for threatened and near-threatened species.



2 Site Description

The development area is located at 3733-3735 Pacific Highway, Slacks Creek (Lot 6 RP839894). It is located west of the Pacific Motorway and is accessed via a slip road, also known as Nujooloo Road. At the time of the preparation of this report, the eastern portion of the site is being used as a commercial nursery.

Light industrial development is present to the south and north of the site. Residential properties are present to the west.

Figure 2.1 shows the location of the development site (outlined in pink) in the surrounding landscape.

A summary of the site details has been provided in Table 2.1.



Figure 2.1 Site Location

2.1.1 Topography and Drainage

A level pad has been constructed close to the road in the eastern portion of the site. This pad is at an elevation of approximately 12 m ASL. The site slopes westward to a low point of 4 m ASL, centrally located on the western site boundary (Figure 2.2).

Stormwater runoff is directed via overland sheet flow towards a drainage line in the western portion of the site.



Figure 2.2 Site Contours

2.1.2 Soils and Geology

The soil is generally described as hard pedal mottled-yellow duplex soils (Australian Soil Classification, Queensland Globe, 2026).

The southwestern corner of the site is mapped as having Acid Sulfate Soils present in the soil profile, although the type and depth to the Acid Sulfate Soils is not defined (Figure 2.3).

The geology is described as rolling to hilly terrain with gentle to moderate slope.



Figure 2.3 Acid Sulfate Soils Mapping (Qld Globe, 2026)

Table 2.1 Site Overview

Site Details	
Lot/Plan	Lot 6 RP839894
Address	3733-3735 Pacific Highway, Slacks Creek
Local government area	Logan City
Planning Scheme	Logan Planning Scheme 2015 version 9.2
Zone	Specialised Centre Zone
State Planning Constraints	
NIL	
Logan City Planning Scheme	
Environmental Overlays	Vegetation Management Areas (Primary Vegetation)
	Waterway Corridor
	<i>Gossia gonoclada</i> area



3 Legislative and Planning Constraints

Matters of environmental significance are subject to federal, state, and local government legislative and planning frameworks. A review of legislation relevant to the planning and management of the site's mapped matters of environmental significance has been undertaken.

Table 3.1 summarises the environmental constraints mapped across the site.

3.1 Zoning

Under the Logan City planning scheme, the site is zoned Specialised Centre Zone.

3.2 Commonwealth Government

Referral to the Commonwealth government is required if significant residual impacts to Matters of National Environmental Significance (MNES) (as defined under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)) occur, such as impacts on Koala habitat or threatened ecological communities.

As most MNES are not mapped, a field assessment is required to determine their presence.

Under the provisions of the EPBC Act, Part 3, Sections 18 and 18A, if a development proposal involves an action that is likely to result in a significant residual impact on any MNES, the proposal must be referred to the Australian Government Environment Minister for a determination as to whether the proposed development is a controlled action.

A discussion of MNES present and potentially impacted is presented in the following chapters.

3.3 Queensland State Government

Matters of State Environmental Significance (MSES) include conservation areas, wetlands, vegetation, and wildlife habitat. MSES mapping layers are available online from Queensland Globe and provide a visual representation of matters affecting the site.

The following MSES are mapped over the site (refer to Table 3.1):

- Category X Regulated Vegetation.

The following information has been provided on how the above-listed MSES may influence the development of the site.

3.3.1 Regulated Vegetation

Regulated vegetation is categorised as follows:

- Category A – land designated as having a particular regulatory status (e.g. offset area or subject to a restoration order);
- Category B – remnant vegetation;
- Category C – high-value regrowth vegetation;
- Category R – vegetation within 50 m of a watercourse or drainage feature in all Great Barrier Reef Catchments; and
- Category X – vegetation not mapped as Category A, B, C, or R.



Category X vegetation is mapped over the subject site.

Clearing of Regulated Vegetation can only be undertaken as:

- Exempt Clearing Work;
- Under the provisions of an accepted development clearing code; or
- For a relevant purpose under 22A of the *Vegetation Management Act 1999* (*Planning Regulation 2017*, Schedule 10, Part 3, Division 1, 4).

Exempt Clearing Work

Vegetation that is mapped as Category X under the *Vegetation Management Act 1999* can be cleared as Exempt Clearing Work under the *Planning Regulation 2017*, Schedule 21, Part 2, Section 2 (d).

3.4 Logan City

The planning scheme maps the following matters of environmental significance over the subject site (refer to Table 3.1):

- Primary Vegetation Management Area;
- Waterway Corridor; and
- Locally significant *Gossia gonoclada* area.

Where a development proposes to impact these mapped values, the Acceptable Outcomes or Performance Outcomes of the Biodiversity Areas Overlay Code and the Waterway Corridors and Wetlands Overlay Code will need to be addressed.

3.4.1 Primary Vegetation

Development in the Primary Vegetation Management Areas is to protect the current extent of native vegetation, or where that is not possible, provide a net gain of native vegetation.

3.4.2 Waterway Corridor

Development within a waterway corridor is to be designed and located to protect the ecosystem processes, water quality, function, scenic amenity and landscape values of the waterway. A buffer is to be provided that safeguards wildlife movement and fish passage along the waterway and other riparian values. The natural hydrological values and geomorphological processes are to be maintained.

Where the natural hydrological values and geomorphological processes are modified, the near-natural hydrology is to be reinstated.

3.4.3 Gossia gonoclada Area

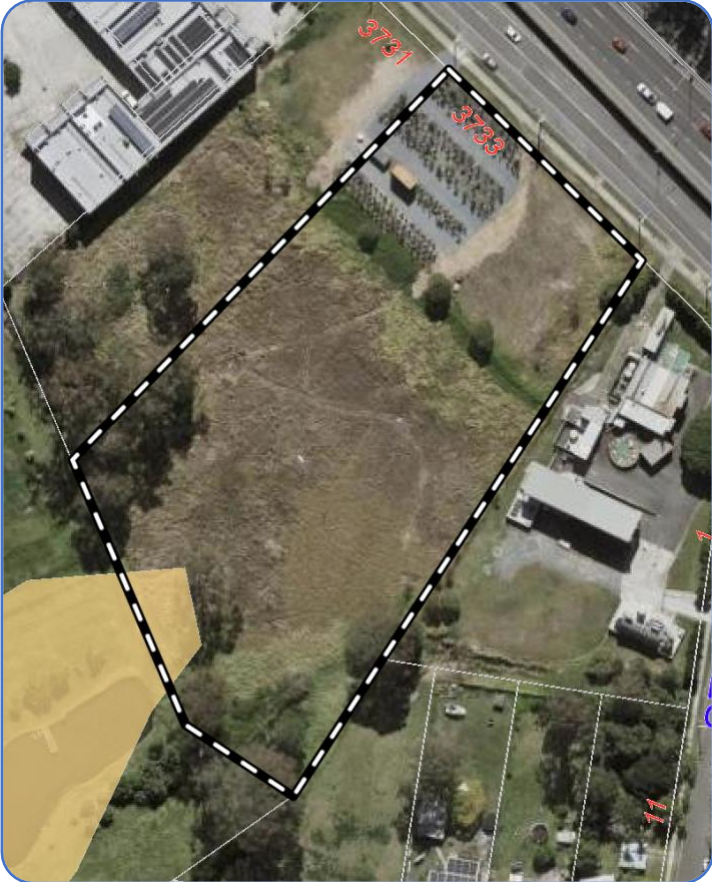
Gossia gonoclada specimens are to be protected and suitably buffered to mitigate the indirect impacts of encroachment and edge effects.



Table 3.1 Legislative Constraints Summary

Legislative Constraint	Mapping Extent	Relevant Provisions
LOGAN CITY PLANNING SCHEME		
Vegetation Management Areas OM-02.01	 LEGEND: — — Site boundary Primary Vegetation Secondary Vegetation	Development is to be located to avoid the need to clear any native vegetation in the primary and secondary vegetation management areas. If clearing cannot be avoided, an offset is applicable. The offset may be undertaken as rehabilitation on the site or via a financial contribution.



Legislative Constraint	Mapping Extent	Relevant Provisions
Local significant vegetation area OM-02.03	 LEGEND: — — Site boundary  Gossia gonoclada area	<i>Gossia gonoclada</i> is endemic to the tidally influenced reaches of the Brisbane and Logan Rivers within lowland riparian rainforest and notophyll vine forest. It is listed as Critically Endangered under Queensland legislation and Endangered under Commonwealth legislation. <i>Gossia gonoclada</i> specimens are to be protected and suitably buffered to mitigate the indirect impacts of encroachment and edge effects



Legislative Constraint	Mapping Extent	Relevant Provisions
Waterway Corridor OM-14.00	LEGEND: — — Site boundary ■ Waterway Corridor Trigger Area	Development within a waterway corridor is to be designed and located to protect the ecosystem processes, water quality, function, scenic amenity and landscape values of the waterway. A buffer is to be provided that safeguards wildlife movement and fish passage along the waterway and other riparian values. The natural hydrological values and geomorphological processes are to be maintained. Where the natural hydrological values and geomorphological processes are modified, the near-natural hydrology is to be reinstated.



Legislative Constraint	Mapping Extent	Relevant Provisions
Matters of state and local significance OM-02.04	 LEGEND: — — Site boundary  MLES	The overlays of the matters of state and local significance provide a guide as to the level of offsets required.



4 Database Review

To identify the threatened species and ecosystems potentially occurring on or near the site, database searches were undertaken. The results of these database searches helped inform the targeted searches for threatened species during the field investigation.

Threatened species and ecological communities are defined as a species or community that is:

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

Database searches were restricted to a 2 km radius from the site (Figure 4.1).

While the results from a database query will provide the most comprehensive potential species list, it should be noted that search parameters account for a variety of vegetation community types and environmental features that are not present on the site. Therefore, it is expected that a search will return results that over-represent the species that could be expected to utilise the site.

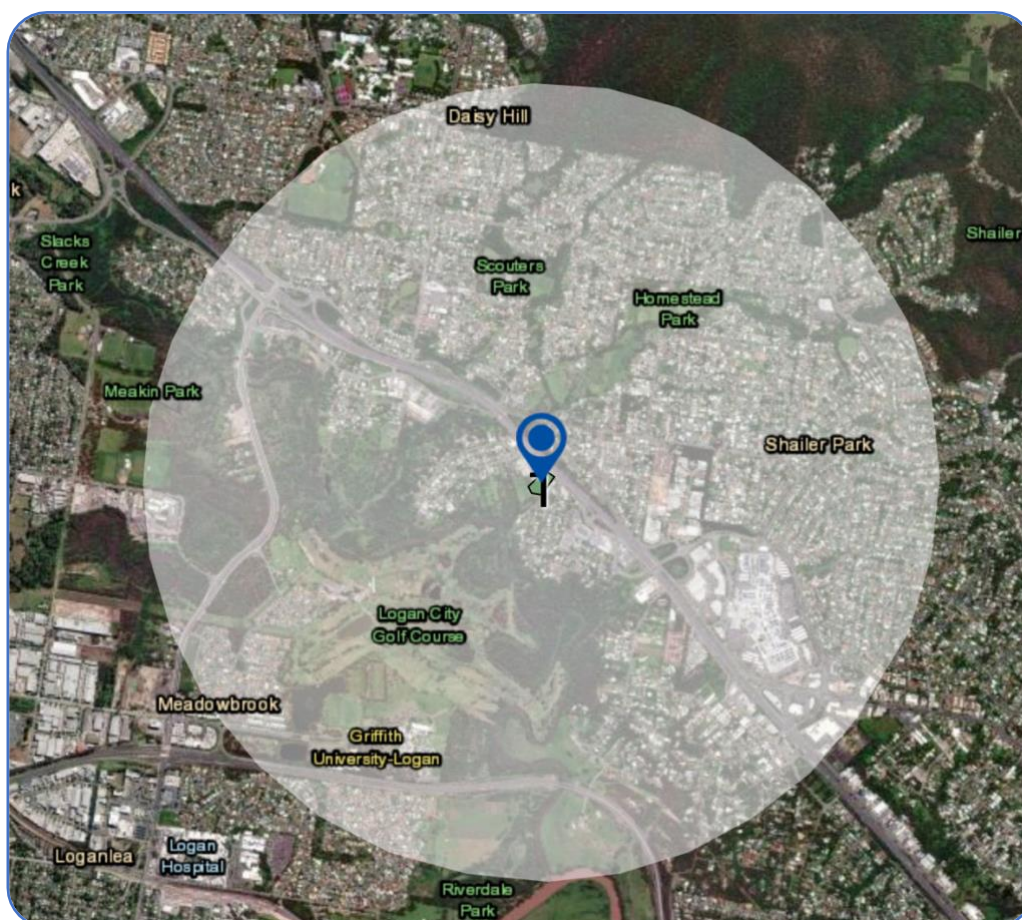


Figure 4.1 Database Search Area



4.1 Protected Matters Database Search

The Commonwealth EPBC Act Protected Matters search tool enables searches for MNES in a specified area. The search tool has been designed to generate a list of MNES that may occur in or near a selected area, in this instance, within 2 km of the subject site (Figure 3.1).

The search results provide a ranking as to the presence of an ecological community, species, or species habitat as follows:

- Known to occur within the area;
- Likely to occur within the area; or
- May occur within the area.

This report focused on species *known to occur* within the search area, as these results are more likely to be reflective of verified data. Table 4.1 lists the threatened species or species' habitats known to occur within 2 km of the site.

Table 4.1 Protected Matters Search Results

Scientific Name	Common Name	Status
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V
<i>Maccullochella mariensis</i>	Mary River Cod	E

Status: Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*: E = Endangered, V = Vulnerable

4.2 WildNet Database Search

A search of the Queensland Government WildNet database was undertaken to identify flora and fauna recorded within a 2 km radius of the site.

Table 4.2 lists the threatened species recorded within 2 km of the site.

Table 4.2 WildNet Database Search Results

Scientific Name	Common Name	Status
Fauna		
<i>Adelotus brevis</i>	Tusked Frog	V
<i>Hirundapus caudacutus</i>	White-throated Needletail	V, V [#]
<i>Ninox strenua</i>	Powerful Owl	V
<i>Phascolarctos cinereus</i>	Koala	E, E [#]
Flora		
<i>Gossia gonoclada</i>	Angle-stemmed Myrtle	CR, E [#]
<i>Gossia hillii</i>	Scaly Myrtle	CR

Status: Queensland *Nature Conservation Act 1992*: CR = Critically Endangered, E = Endangered, V = Vulnerable.

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*: E[#] = Endangered, V[#] = Vulnerable.



5 Vegetation Survey

The field investigation was undertaken on 20 July 2026.

5.1 Methodology

An initial walk-over of the site was undertaken to quantify the broad vegetation communities present. Within each vegetation community, a survey point was selected, and within a 20 m radius, the following was recorded:

- Structural composition of the community; and
- Dominant species in each stratum.

The data collected enabled a broad description of the vegetation communities to be made in terms of predominant species and structure.

5.1.1 Vegetation Strata

Vegetation layers or strata were arranged by height class, generally including:

- Canopy (T1): Upper tree layer forming the tallest stratum;
- Mid-storey (T2/S1): Shrub and small tree layer beneath the canopy; and
- Ground layer (G): Plants usually less than 1 m in height.

5.2 Vegetation Communities

One broad vegetation community is present on the site:

- Vegetation Community 1 – Cleared and highly modified open paddock.

The site has historically been cleared of native woody vegetation. Exotic pasture grasses, with the occasional retained canopy tree, dominate the vegetation on the site. Canopy trees comprise *Eucalyptus tereticornis* (Forest Red Gum), with more occasional occurrences of the exotic *Pinus elliotii* (Slash Pine) and *Acacia disparrima* (Hickory Wattle).

On the batter of the pad in the west and in the southeastern corner of the site, the invasive *Sphagneticola trilobata* (Singapore Daisy) is prevalent.

A small dam is present in the southwestern portion of the site. It is heavily vegetated by *Typha orientalis* (Bulrush).

5.3 Threatened Flora Species Occurrence

No threatened or near-threatened flora species were observed during the site assessment.

A review of the available literature and the Atlas of Living Australia assessed the potential of *Gossia gonoclada* (Angle-stemmed Myrtle) and *G. hillii* (Scaly Myrtle) occurring on the site.

5.3.1 *Gossia gonoclada*

Gossia gonoclada is endemic to the tidally influenced reaches of the Brisbane and Logan Rivers within lowland riparian rainforest and notophyll vine forest.



There is no rainforest community present on the subject site and the closest tidally influenced waterway is Slacks Creek, which is located approximately 190 m to the west.

The Atlas of Living Australia has 11 records of *Gossia gonoclada* from within 1 km of the site. All are closely associated with bushland areas associated with Slacks Creek and are located to the south of the site.

5.3.2 Gossia hillii

Gossia hillii is found in wet sclerophyll and rainforests of southeast Queensland and northern New South Wales. It is an understorey species that was once commonly occurring on forest margins; however, it is in decline from Myrtle Rust (Fensham and Radford-Smith, 2021).

The Atlas of Living Australia has one record of *Gossia hillii* within 1 km of the subject, and this record dates from 1993.

Suitable habitat for this species is not present on the subject site.



6 Fauna and Habitat Assessment

The identification of threatened species or their habitats was the primary focus of the fauna survey. The survey methodology incorporated targeted searches for conservation-significant species.

6.1 Survey Timing and Conditions

6.1.1 Timing of Survey

The field assessment was undertaken during daylight hours on 20 July 2026, beginning within 2 hours of sunrise.

While some fauna groups exhibit reduced activity during cooler conditions, the survey timing remains suitable for detecting a broad range of resident terrestrial vertebrate species, particularly mammals, birds, and reptiles that are likely to occupy the site year-round. As the survey focused on the detection of habitat for threatened species, the survey timing was therefore considered appropriate to characterise the site's fauna values and identify habitat features relevant to the assessment of potential development impacts.

6.1.2 Prevailing Weather Conditions

Table 6.1 provides a summary of the prevailing weather conditions during the field assessment. This information has been taken from the Archerfield weather station, located approximately 14 km from the subject site.

Table 6.1 Weather Conditions 20 July 2026

Variable	
First Light	0610
Sunrise	0635
Sunset	1712
Last Light	1737
Rainfall to 9 am	1.4 mm
Rainfall previous 7 days	5.8 mm
Cloud cover	8/8
Wind (9 am)	SSE 28 km/hr
Temperature Min-Max	14.8-22.8°C
Temperature 9 am	18.1°C

6.2 Survey Methods

The sections below provide an overview of the specific and best-practice techniques employed to search for some of the threatened species recorded in databases (refer to Chapter 4). Where a specific methodology is not described, general survey techniques (aural and visual surveys) are considered sufficient.



6.2.1 Tusked Frog

Tusk Frogs are known to call during both the day and night in areas of ponded or slow-moving water, usually associated with adjacent sclerophyll forest.

Due to their generally cryptic behaviour and known response to call playback (Katsikaros and Shine, 1997), call-playback surveys for Tusked Frog (*Adelotus brevis*) may increase the probability of detection. Tusk Frogs are known to call during both the day and night. Recommended survey timing is from September to February, during warm, humid, windless conditions when surface water is present (Rowland, 2013).

Due to the sub-optimal weather conditions at the time of the site investigation, call-playback was not undertaken, and assessment of availability of suitable habitat was the focus of the survey for this species.

6.2.2 Powerful Owl

Searches were made for owl activity (whitewashing and pellets). Powerful Owls are known to nest in large hollows of Eucalypt trees close to water. Searches were also made for suitable nesting locations.

6.2.3 Koala

There is no single technique or widely accepted method to survey Koalas (Wilmott et al., 2019).

Visual canopy searches were undertaken during daylight hours. This method involved two observers searching the canopy from multiple directions.

Indirect survey methods were also employed; specifically, searches for signs of Koalas. Faecal pellets (scats) of Koalas and their distinctive scratch marks on smooth-barked trees are readily identifiable and allow evaluation of past and present habitat occupancy. Both scats and scratch marks persist for a reasonable period after the animal departs from the area (Woosnam-Merchez et al., 2012; Jiang et al., 2019).

While the detection of Koala faecal pellets indicates the presence of Koalas, an inability to locate scats does not demonstrate that Koalas are absent. Jiang et al. (2019) demonstrated that human observers can miss up to 46% of trees with scats. In addition, scat detection surveys cannot be used to determine whether Koalas are resident or transient, nor can they necessarily be correlated to activity levels (Youngentob et al., 2021).

A search radius of 1 m from the base of a selection of preferred Koala food trees (e.g. *Eucalyptus microcorys*, *E. tereticornis*, and *E. propinqua*), the tree was searched until Koala scat was found, or the observer was satisfied that a scat would likely have been located if present.

Where direct observations are not recorded, the identification of traces allows the presence of this species to be confirmed despite the limitations and involves minimal habitat disturbance.

6.2.4 Survey Limitations

This survey was not intended to produce a full inventory of fauna species utilising the site; rather, it focused on locating threatened species and/or their habitats.



The absence of a species in a single survey does not confirm its absence from the site. Reliable conclusions about a target species' absence require repeated surveys conducted across different seasons and often different years.

Despite these limitations, the survey effort provides a level of fauna assessment commensurate with the requirements for preparing an ecological assessment under the planning scheme policy.

6.3 Habitat Assessment

A habitat assessment was conducted to identify key habitats for threatened fauna species identified in the desktop review.

Habitat assessment is used as a surrogate for intensive surveys. The habitat assessment criteria described in this report are based on the NSW Office of Environment and Heritage *Best Practice Field Survey Methods for Threatened Species on Development Sites* (NSW Department of Environment and Conservation, 2004). As there is no equivalent document for Queensland, the NSW best-practice guidelines have been relied upon.

The habitat assessment identifies the features of terrestrial ecosystems that provide important food, nesting, or shelter resources for fauna, which, in turn, inform the Likelihood of Occurrence assessment (refer to Section 6.4).

Table 6.2 presents the results of the habitat assessment.

Table 6.2 Habitat Assessment Summary

Habitat Feature	Present	Comments
Hollow-bearing trees, including dead stags	Yes	
Trees with DSH >50 cm	Yes	
Bush rock and rocky outcrops	No	
Large trees with basal cavities	No	
Logs	No	
Wetlands, streams, rivers, dams, and other water bodies – permanent or intermittent	Yes	A degraded waterway is present in the southwestern corner of the site, and a small dam is present close to the northern boundary.
Nests and roosts	No	
Sap feed trees for the Yellow-bellied Glider and Squirrel Glider	No	
Distinctive scats or signs (e.g. those of Spotted-tailed Quoll or Koala)	No	Dense ground vegetation limited detectability of scats.
Preferred Koala food trees present: Tallowwood (<i>E. microcorys</i>), Forest Red Gum (<i>E. tereticornis</i>), Grey Gum (<i>E. propinqua</i> / <i>E. biturbinata</i>), Red Stringybark (<i>E. resinifera</i>)	Yes	
Latrine and den sites of the Spotted-tailed Quoll	No	
She-oak species	No	



Habitat Feature	Present	Comments
Presence of chewed she-oak cones (and age)	No	
Flying-fox camps	No	
Microchiroptera bat subterranean roosts (caves, culverts, tunnels, and disused mine shafts)	No	
Areas that can act as corridors for plant or animal species' movement	No	
Degree of connectivity	-	None

6.4 Likelihood of Threatened Fauna Occurrence

The likelihood of occurrence assessment adopts a three-tiered approach. The first step is based on database interrogation to identify species recorded in the search area – in this instance, within 2 km of the subject site. The second step is based on a field survey to determine the presence of suitable habitat on and proximal to the subject site. Finally, through professional knowledge of the ecological requirements of these species, an assessment is then made as to whether these species are likely to occur.

Although assessments of habitat, combined with knowledge of a species' ecology, do provide a measure to predict the presence of a species, there are no methodologies that can predict, with absolute certainty, the absence of a species from potential habitat. It cannot be confidently claimed that a target species is absent from a site without repeated seasonal surveys. Consequently, threatened species are assumed to be present if their habitat requirements are met.

Four terms for the likelihood of occurrence are used:

- Known: the species has been observed on the site (either an individual or a sign).
- Potential: suitable habitat for a species occurs on the site.
- Unlikely: preferred habitat is not present on or is degraded and limited in size, and as such, a species is considered to have a low to very low probability of occurring on the site.
- No: habitat on site and in the vicinity is unsuitable for a particular species.

Table 6.3 presents the results of this assessment.

6.5 Threatened Fauna Survey Results

One Endangered species, Koala (*Phascolarctos cinereus*), has potential to, at least on occasion, utilise the trees on the site as a shelter and foraging resource. The canopy trees on the site also provide seasonal foraging resources for Grey-headed Flying-fox (*Pteropus poliocephalus*).



Table 6.3 Threatened Fauna – Assessment of Likelihood of Occurrence

Scientific Name	Common Name	Status*	Ecology	Likelihood of Occurrence
Birds				
<i>Hirundapus caudacutus</i>	White-throated Needletail	V, V#	White-throated Needletail breeds in Asia, from central and south-eastern Siberia and Mongolia, east to the Maritime Territories of Russia and south to northern Japan and north-eastern China (DCCEEW, 2025). Most White-throated Needletails spend the non-breeding season in Australasia. The species is widespread in eastern and south-eastern Australia, from the islands in the Torres Strait and the tip of Cape York south to Tasmania (DCCEEW, 2025). In Australia, the White-throated Needletail is almost exclusively aerial. The species forages aerially, at heights up to 'cloud level', above a wide variety of habitats ranging from heavily treed forests to open habitats, such as farmland, heathland or mudflats (DCCEEW, 2025).	NO As the species is almost exclusively aerial while in Australia, the site does not provide habitat for this species.
<i>Ninox strenua</i>	Powerful Owl	V	The Powerful Owl is the largest owl in Australia, occurring mainly on the coastal side of the Great Dividing Range from Mackay in Queensland to south-western Victoria. It inhabits a range of vegetation types from woodland to rainforest, occupying a territory of 400-4,000 ha (New South Wales Office of Environment and Heritage (NSW OEH), 2021). During the day, Powerful Owls roost in dense vegetation. It forages at night on medium-sized arboreal mammals (such as gliders and possums) and birds (NSW OEH, 2021). Powerful Owls nest in large tree hollows (at least 0.5 m deep), in large eucalypts (circumference of 80-240 cm). Hollows of these dimensions are restricted to trees that are at least 150 years old (NSW OEH, 2021).	NO The site provides little habitat for prey species, and no hollows suitable for nesting are present.
Mammals				
<i>Phascolarctos cinereus</i>	Koala	E, E#	The Koala inhabits dry open sclerophyll forests and woodlands occurring on fertile soils (Van Dyck, 1995; Menkhorst and Knight, 2001; Environmental Protection Agency (EPA), 2006). Communities containing denser vegetation and larger trees are generally preferred; however, Koalas can also inhabit less optimal habitats such as young forests, highly fragmented vegetation communities, and small remnants (EPA, 2006).	POTENTIAL While no direct (visual sighting) or indirect (scats or scratch marks) of Koala were recorded during the site assessment, favoured forage trees are present on the site.



Scientific Name	Common Name	Status*	Ecology	Likelihood of Occurrence
				The Atlas of Living Australia has over 80 records of Koala from within 1 km of the site over the past 25 years.
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	LC, V#	The Grey-headed Flying-fox occurs in the coastal belt from Rockhampton to Melbourne. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, <i>Melaleuca</i> swamps, and <i>Banksia</i> woodlands (Eby, 1998). None of the vegetation communities used by the Grey-headed Flying-fox produces continuous foraging resources throughout the year, so the species selectively forages where food is available. As a result, patterns of occurrence and relative abundance within its distribution vary widely between seasons and between years. At a local scale, the species is generally present intermittently and irregularly (Eby & Lunney, 2002). The Grey-headed Flying-fox roosts in aggregations of various sizes on exposed branches (camps). They most frequently travel around 15 km from a camp to feed (Tidemann, 1998), although they can travel up to 50 km as food resources change (Eby, 1991).	POTENTIAL While no flying-fox camps are present on the site, the canopy trees provide a seasonal food resource when flowering.
Amphibians				
<i>Adelotus brevis</i>	Tusked Frog	V	The Tusked Frog is a ground-dwelling frog that has a distribution that extends from the coast and adjacent ranges from central Queensland to southern NSW (Hines, 2012). The species inhabits rainforests and wet forests. Tusked Frogs have also been recorded from dams and garden ponds in urban and peri-urban areas (Hines, 2012). Tusked Frog can be found close to suitable breeding habitats such as ponds and slow-moving sections of streams (Meyer et al., 2001; Hines, 2012). They call while hidden amongst vegetation and leaf litter (Hines, 2012).	NO Suitable habitat for this species is not present.
Fishes				
<i>Maccullochella mariensis</i>	Mary River Cod	E#	Mary River Cod has been stocked in impoundments in SE Qld for recreational angling since 1983 - upstream of the walls of Cressbrook, Hinze, Maroon, Moogerah, North Pine, Somerset, and Wivenhoe Dams and lakes Dyer (Bill Gunn Dam) and Clarendon (Gomon and Bray, 2022).	NO Suitable habitat for this species is not present.



Scientific Name	Common Name	Status*	Ecology	Likelihood of Occurrence
			The Mary River Cod occurs in freshwater habitats ranging from high gradient rocky upland streams to large, lowland slow-flowing pools. Individuals in lowland areas prefer deep, shaded habitats with mud/clay substrates and woody debris. Upland populations prefer areas of low flow with undercut banks rocky ledges, boulders, and woody debris such as submerged logs and snags (Gomon and Bray, 2022).	

Status: Queensland *Nature Conservation Act 1992*: E = Endangered, V = Vulnerable, LC = Least Concern.

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*: E# = Endangered, V# = Vulnerable.



7 Aquatic Values Assessment

As illustrated in Figure 7.1, a small dam is present close to the northern boundary, and a drainage line bisects the southeastern corner of the site. The drainage line is mapped as a waterway under the planning scheme. The flow path of the waterway and extent of the dam have been adapted from contours and hillshade elevation information from Queensland Globe.

The waterway on site comprises a narrow, shallow channel that arises from a constructed drain on the property to the south. This channel directs stormwater runoff collected from the road network and surrounding properties through the site and discharges on the western boundary into a large dam on a neighbouring property.

The following sections provide an overview of the environmental values of the waterway and the surrounding riparian zone.



Figure 7.1 Water Features

7.1 Riparian Vegetation Community

Vegetation comprises a dense cover of exotic pasture grasses. These grasses are occurring within the waterway channel and surrounding areas. There is no woody vegetation present.



7.2 Relative Ecological Value

Ecological value is the perceived importance of an ecosystem, which is underpinned by the biotic and/or abiotic components and processes that characterise that ecosystem (Aquatic Ecosystems Task Group, 2012). The relative ecological value is based on a comparison of the parameters listed below, with the criteria used to provide a value rating. These values and ratings have been adapted from the Aquatic Ecosystem Toolkits (Aquatic Ecosystems Task Group, 2012), Aquatic Biodiversity Assessment and Mapping Method (Clayton et al., 2006), and Biodiversity Assessment and Mapping Methodology (EPA, 2017).

- Diversity – the variety of habitats (total number of regional ecosystems within the riparian areas, relative to the pre-clearing extent; low <25%, moderate 25-50%, high 50-75%, very high >75%)
- Distinctiveness – the presence of a special geomorphological feature (e.g. macrophyte beds, unique geomorphology)
- Vital Habitat – areas that support threatened species (known or potential habitat of threatened species within the spatial area under assessment) or an unusual abundance of a particular species
- Naturalness – the degree to which the ecosystem has been modified by humans (percentage of remnant vegetation across the spatial extent relative to the pre-clearing extent; low <25%, moderate 25-50%, high 50-75%, very high >75%)
- Connectivity – how connected the aquatic ecosystem is to upstream and downstream aquatic environments.

The Relative Value scoring criteria adapted for the assessment of the waterway are presented in Table 7.1.

Table 7.1 Relative Value Scoring Criteria

Score	Values
Very high	The spatial unit has very high values of aquatic and catchment naturalness, has a very high diversity and richness of species and communities, has one or more threatened species or ecosystems, contains a significant special feature (e.g. gorge, macrophyte beds, unique geomorphology), and is important for maintaining aquatic connectivity either downstream or upstream in the catchment.
High	This spatial unit has high aquatic values for diversity and richness of species or communities, plus at least one of the following: • is also important for maintaining aquatic connectivity either downstream or upstream in the catchment • has a high level of aquatic naturalness • has one or more threatened species/communities habitat • contains a special feature
Moderate	This spatial unit has moderate aquatic values for diversity and richness of species or communities, plus at least one of the following: • is also important for maintaining aquatic connectivity either downstream or upstream in the catchment • has a high level of aquatic naturalness • has one or more threatened species/communities habitat • contains a special feature
Low	The spatial unit has limited known aquatic values



The assessment of the waterway against the criteria listed in Table 7.1 has been undertaken, and it is concluded that it has low ecological value; it has low diversity, low naturalness, has no foraging habitat for shorebirds and migratory waders, and does not contain any special or unique features. In addition, its lack of connectivity up or downstream to a natural waterway, substantially limits fish passage. Fish passage is further restricted by incursion of exotic grasses within the channel.

The primary function of the waterway is stormwater conveyance.



8 Proposed Development

As shown in Figure 8.1, a warehouse building with numerous tenancies is proposed on the site. As illustrated in Figure 8.2, the building will be cantilevered over the lower-lying areas of the site.

A 10 m wide landscape buffer has been provided along the western boundary of the site.

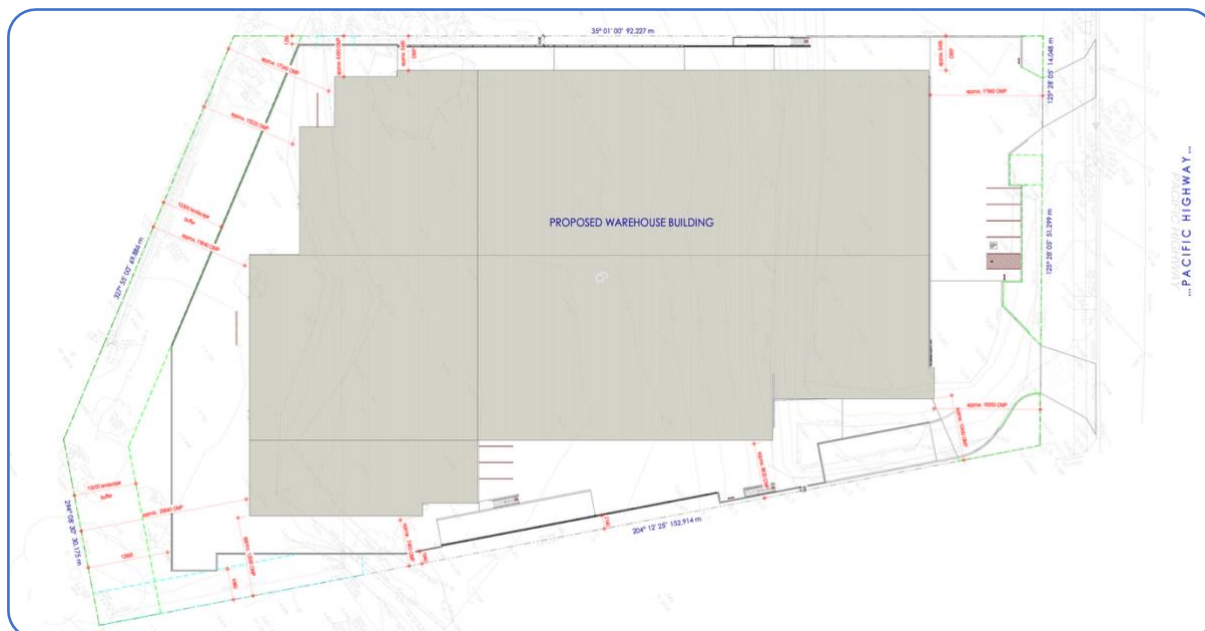


Figure 8.1 Plan of Development

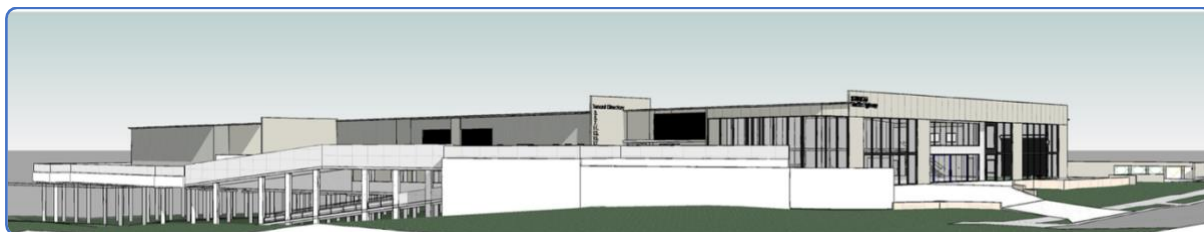


Figure 8.2 Design View (Source: Gary Grieve Design)



9 Impact Assessment and Mitigation

Matters of environmental significance within the development area have been identified through a desktop and field investigation as:

- Koala Habitat;
- Primary Vegetation Management Areas; and
- Waterway Corridor.

The following sections discuss the impacts on the matters listed above in greater detail and provide clarification on how impacts can be avoided, mitigated, or compensated.

9.1 Koala Habitat

9.1.1 Commonwealth Government Legislative Considerations

The website of the Department of Climate Change, Energy, the Environment and Water suggests that referral to the Commonwealth government is required where there will be a proposed disturbance to at least 1 ha of habitat or the creation of barriers where locally important Koala habitat trees occur or on land that provides a linkage between habitat patches.

As the clearing of Koala habitat will be less than 1 ha of isolated trees, it is not required to refer the development to the Commonwealth government for assessment against the provisions of the EPBC Act.

9.1.2 Queensland Government Legislative Considerations

Legislative considerations for the clearing of Koala habitat are limited to the mapped Koala Habitat areas. As such, no further assessment by or reporting to the Queensland State government is required.

However, it is recommended that a registered fauna spotter catcher be present during any vegetation clearing operations.

9.1.3 Koala Management During Clearing Operations

No clearing of vegetation is to commence without the presence of a suitably qualified Koala spotter. A person is considered to be suitably qualified as a Koala spotter if they have worked with Koalas in their natural habitat (e.g., by conducting Koala surveys, Koala monitoring, or by being involved with Koala rescue) or have experience in Koala habitat areas as a licensed fauna spotter catcher.

The key responsibility of the Koala spotter throughout the clearing operations is to ensure that no tree, described as follows, is felled, damaged, or interfered with until the Koala has moved of its own volition:

- A tree in which a Koala is present;
- A tree with a crown overlapping a tree in which a Koala is present; or
- A tree identified as being a risk to Koalas if felled.

A Koala spotter is not to physically move Koalas from a tree in which they are residing to another location to expedite clearing operations and cannot be asked to do so.



If a Koala is located before clearing or during clearing activities, the following procedures are to be followed:

- a) The tree containing the Koala (the primary tree) shall be marked with flagging tape;
- b) Any other trees with canopies touching the primary tree shall also be clearly marked;
- c) A corridor of trees that allows the Koala to disperse in the desired direction from the clearing area is to remain in place until the Koala has moved of its own volition;
- d) Machinery operators are to be informed of the location of the Koala, and the trees that must not be disturbed; and
- e) The trees must not be disturbed in any form until the Koala has moved of its own accord, and this has been confirmed by the Koala spotter.

In the event a Koala breaches a fenced area and wanders into the construction area, all activities in the vicinity of the Koala will be suspended until the Koala has moved out of the construction zone. Wherever practical, the animal will be encouraged to move of its own volition. However, to prevent immediate or potential threats that may cause death or harm, it will be prudent to capture and relocate the threatened animal. Capture and relocation are to be undertaken only by a licensed and experienced Koala spotter.

The Koala spotter will be required to possess appropriate equipment and cages and to immediately release all animals after capture unless veterinary attention is required.

9.2 Habitat for Threatened Species

Other than the Koala, no other threatened or near-threatened flora or fauna were recorded on the site.

While the canopy trees provide a seasonal foraging resource for Grey-headed Flying-foxes, there are no camps on or near the site. As such, impacts on this species are not considered to be significant.

It is recommended that a registered fauna spotter/catcher be present during any vegetation clearing operations to ensure that injury or death to wildlife is avoided.

9.3 Fauna Management

The principal management strategies regarding fauna are to:

- Identify wildlife and habitat features;
- Avoid impacting wildlife and habitat features where possible; and
- Mitigate and minimise these impacts.

Where wildlife is present, vegetation clearing is not to commence until fauna have been allowed to self-disperse, be relocated by a spotter-catcher (e.g., reptiles, gliders, and possums) or appropriate mitigation and management measures have been implemented.

All fauna management procedures shall be undertaken by a qualified wildlife specialist who holds a spotter-catcher licence issued by the Queensland Department of Environment, Tourism, Science and Innovation. The spotter-catcher must be engaged to manage fauna during construction activities.



Before the commencement of works for clearing, the spotter-catcher is to examine the canopy and area to be cleared for arboreal mammals, nests, and terrestrial habitat features, and remove and relocate fauna, nests or habitat features as required. All terrestrial fauna is to be flushed from the vegetation immediately before clearing.

It is the responsibility of the spotter-catcher to identify significant wildlife safety risks both for wildlife retained on-site, as well as wildlife in adjacent areas or widely ranging wildlife that may use, or move through, the site during operational works.

Terrestrial species captured during clearing shall be restrained using appropriate bags or traps and released into habitat at the discretion of the spotter-catcher. Any nocturnal species will be kept in a dark, well-ventilated, quiet area and released into suitable habitat within 1 km of the subject site at dusk.

Cleared vegetation, topsoil, mulch, and construction equipment are not to be stockpiled where they will impede fauna movement into adjacent habitat.

In some cases, wildlife captured by the spotter-catcher may require hand-rearing (in the case of dependent young) or rehabilitation because of injury or illness. In such cases, the animal shall be placed in the care of a suitably qualified wildlife carer or wildlife hospital.

Euthanasia shall not be undertaken unless the animal is severely injured, is feral, and/or a listed pest species under State or Commonwealth legislation.

Euthanasia of animals must be carried out in accordance with the provisions of the *Queensland Animal Care and Protection Act 2001*. This will generally involve euthanasia being performed by a registered veterinarian following the anaesthesia of the animal.

9.3.1 Hollow-bearing Trees

The following is to be undertaken where hollows are located in trees to be removed:

- Hollow-bearing trees are to be left standing for at least 24 hours after the surrounding vegetation has been cleared. This will allow any resident fauna a chance to move of their own volition.
- Trees with hollows are to be first 'shaken' using the blades of the machinery where possible. This is to allow any resident arboreal fauna to escape prior to the tree being felled.
- Where possible, trees are to be felled with the hollows/termitaria receiving minimal contact on impact. This may be achieved through the strategic excavation of select root structures and the weight of the machine incorporated to assist in the laying down of the tree on the ground. Adjacent felled trees may also be used to absorb the impact.
- Trees are to be inspected post-felling. If an animal remains within the hollow/termitaria, the spotter-catcher will decide to either remove the animal or remove the section of a tree containing the animal. The section of tree or animal will then be relocated to adjacent retained vegetation.

9.3.2 Timing of Tree Clearing

Trees with hollows are to be identified by a fauna spotter-catcher prior to site works. Clearing is to occur around trees with hollows, and these trees are left standing at least overnight to allow any resident fauna to leave of their own volition.



Where timing for construction works allows, vegetation clearing is not to occur during Spring and early Summer – the peak breeding season for native wildlife.

9.3.3 Direction of Clearing

Tree clearing is to begin in the east and proceed in a westerly direction. This will assist in encouraging fauna to move away from roads and built-up areas.

9.3.4 Lighting

Nocturnal species have evolved highly developed senses to be active during low-light conditions. Artificial light at night (ALAN) can interfere with natural light information, disrupting circadian rhythms and is known to adversely affect many species (Department of Energy and Environment, 2019).

The lighting associated with the development will not be the sole source of ALAN. Other sources include street lighting, vehicles, and light spill from security lighting within the waste transfer facility. Consequently, it is difficult to predict the light levels in areas of retained vegetation arising solely from the development and the impacts this would have on fauna. Responses to light are multifaceted and may be highly species dependent.

It is recommended that the development incorporate best practice lighting design. This includes:

- Use light for a specific and necessary purpose;
- Manage light timing;
- Light only the intended area, keep light directed and shielded to avoid light spill;
- Use the lowest intensity light appropriate; and
- Use lights with reduced or filtered blue, violet, and ultra-violet wavelengths.

9.4 Vegetation

9.4.1 Commonwealth Government Legislation Considerations

None of the vegetation communities present on the site is representative of a threatened ecological community regulated by the EPBC Act.

9.4.2 State Government Legislative Considerations

Clearing within a Category X area is Exempt Clearing.

9.4.3 Local Government Legislative Considerations

In assessing the impacts on vegetation, the locations of all native trees were plotted within the site.

Native trees were defined as those:

- Greater than four metres in height; or
- With a trunk circumference of 31.5 cm or greater measured at 1.3 metres from the ground.

The locations of all native habitat trees were also recorded. These are defined as:

A tree, whether dead or alive, that is indigenous to Australia:



- With a trunk circumference of 220 cm or more measured at 1.3 metres above ground level; or
- That contains a hollow.

Details of all the trees surveyed are provided in the Tree Impact Assessment (Appendix A).

Development in the Primary Vegetation Management Areas is to protect the current extent of native vegetation, or where that is not possible, provide a net gain of biodiversity and ecosystem values. This is to be achieved through offsetting unavoidable clearing. The Planning Scheme Policy 6.2.3 – Environmental Management sets out the offset standards and how they are to be provided. The policy reflects the *Environmental Offsets Act 2014*.

As per the Planning Scheme Policy 6.2.3, environmental offsets may be proponent-driven (i.e. restoration offsets) or a financial settlement offset.

Planning Scheme Policy 6.2.3, Section 3.1.9.1 of the Logan City Council Planning Scheme states that environmental offsets are calculated on a per square metre basis for the area of native vegetation proposed to be cleared within the Primary Vegetation Management Area. Accordingly, it is interpreted that offset requirements relate only to the clearing of native vegetation and would therefore not apply to areas within the Primary Vegetation Management Area where native vegetation is absent.

Restoration offsets are to revegetate 2 m² for every 1 m² cleared in a primary vegetation management area, plus an additional 20 m² for every native habitat tree removed.

Native vegetation is defined in the planning scheme as a tree, a bush, a shrub, a grass or other vascular plant, and includes any part of the plant, which is indigenous to Australia.

A native habitat tree is an indigenous species with a trunk circumference of 220 cm or more measured at 1.3 metres above ground level (DSH) or contains a hollow.

Hollows are often difficult to detect from the ground. However, the demonstrated correlation between tree size and the presence of hollows is well established. Trees with a trunk diameter of more than 50 cm DSH, are more likely to contain hollows (Eyre et al., 2022).

Approximately 1,025 m² within the mapped extent of the Primary Vegetation Management Area will be affected. It is, however, noted that this area comprises actively managed/highly modified areas and two native trees and one native habitat tree within this area are proposed to be cleared.

Subject to agreement by Council, it is proposed that each of the impacted trees within the Primary Vegetation Management Area is offset based on a count of native/native habitat trees.

9.4.4 Management of Retained Vegetation

Tree protection fencing is to be erected before any vegetation clearing or change to ground-level works is undertaken. The fencing is to be installed at the limits of the drip zone of all retained vegetation adjacent to the development footprint and is to delineate the extent of earthworks to ensure adjacent vegetation remains undamaged. The fencing is to be installed following Australian Standard AS4970-2025: *Protection of trees on development sites*.

Activities excluded within the tree protection zone include, but are not limited to:

- Construction of unapproved pathways/trails;



- Earthworks;
- Storage of machinery and/or vehicles;
- Dumping of site waste;
- Liquid disposal;
- Stockpiling of mulch/chipped material/soil;
- Refuelling of machinery;
- Washing down and cleaning of equipment;
- Lighting of fires;
- Unauthorised application of pesticides, herbicides, or chemicals;
- Preparation of chemicals, including cement products; and
- Physical damage to the trees.

Signage is to be displayed on the tree protection fence identifying the area as a Tree Protection Zone and indicating that no entry is permitted.

All work in areas adjacent to retained vegetation must be carried out without causing damage to the vegetation.

Where a protected tree's root zone and/or trunk could be damaged by the proposed earthworks, a qualified arborist should be contracted to:

- Provide advice regarding the protection of the tree/s;
- Treat any roots that may be exposed during construction; and
- Treat any damage that may occur during construction.

Pruning of protected trees is to occur only where it is determined necessary by a qualified arborist, and any such work on the trunk, foliage, or root system of the tree must adhere to the Australian Standard *AS 4373-2007: Pruning of amenity trees*.

9.4.5 Hollow Salvage

In recognition of the importance of tree hollows for native fauna, salvage of hollow limbs will be undertaken during clearing operations. These hollows are to be reinstated within a restoration area, or an alternative location as deemed appropriate by the spotter catcher.

9.5 Waterway Corridor

The waterway corridor mapped over the site comprises a highly modified, shallow channel that directs runoff from the surrounding road network and adjacent properties through the site to a dam located on a neighbouring lot to the west. There is very little native vegetation within the waterway corridor, and it has relatively low ecological value.

As the warehouse building is proposed to be cantilevered over the lower-lying areas in the western portion of the site, the flow path of the waterway will not be altered.

It is acknowledged that the extent of ground vegetation beneath the proposed building footprint will be reduced as a result of shading. However, a moderate reduction in dense ground vegetation within the waterway may provide ecological benefits by improving water conveyance and reducing localised flow impedance during higher rainfall events. Furthermore, if conditioned, restoration works, such as the introduction of a rocky streambed and natural instream substrate, will increase habitat heterogeneity by creating a greater diversity of flow conditions, refugia and microhabitats. These features are expected to



enhance habitat values for aquatic and semi-aquatic fauna, including macroinvertebrates, amphibians, and small fish species, while also improving the overall ecological function and resilience of the waterway.



Figure 9.1 Waterway Flow Path and Development Impacts

9.6 Dewatering Protocols

While no aquatic wildlife was observed during the site inspection, fish, turtles, and eels may potentially inhabit the dam and the waterway. Fish salvage operations should be undertaken during the dewatering of the dam. The flow path of the waterway will remain unchanged.

Impacts of dewatering include entrapment of animals in shallow ponds, fauna being drawn into the pump, and transfer of alien species to release locations.

It is suggested that water from the dam is pumped to tankers for dust suppression during clearing works on the site.

9.6.1 Timing

To limit noise impacts to nearby residents, pumping will occur only between the hours of 7-5 weekdays.



Dewatering should be undertaken between March and August, unless there are seasonal constraints (e.g. unseasonal high rainfall events). Fish are less active in cooler weather, are easier to handle and will incur less stress. Warmer temperatures increase oxygen demand while the oxygen in the water decreases.

9.6.2 Pump

The pump intake is to be fitted with a screen to ensure animals do not get entrapped. Pump start-up procedures are to involve initial slow water velocity intake to reduce the likelihood of aquatic biota being drawn into the pump.

Should water from the lake be released directly into the stormwater network, a specialised fish egg filtration unit to prevent the transfer of fish can be attached to the discharge pipe. The filter includes a screen that will prevent anything larger than 0.5 mm from passing through. This will effectively remove fish eggs, juvenile fish, and the majority of aquatic species or their eggs from entering the release location.

9.6.3 Management of Fauna

A qualified fauna specialist must be engaged to carry out the procedures outlined below.

The fauna specialist is to hold the following permits/authorisations:

- General fisheries permit (for fish salvage);
- Damage mitigation permit; and
- Rehabilitation permit (spotter catcher).

The proposed capture methods are as follows:

- While the water levels are relatively high, bait, cast or scoop nets are to be used at the discretion of the fauna expert.
- Trained staff will traverse ponded areas where the remaining water is approximately 10-20 cm deep and will collect aquatic fauna using dip nets or gloved hands.
- Gloves will be worn, particularly when handling amphibians.
- The margins of the lake, especially where emergent aquatic vegetation is present, are to be carefully examined for amphibians within and under the vegetation.
- Native animals will be transferred to aerated holding containers (fish) or, where possible, transferred directly to the release area (reptiles/amphibians/crayfish).
- Native fishes are to be transported in aerated containers of lake water and gradually mixed with release-site water to allow acclimatisation to the new environment. If large numbers of predatory fishes (e.g. eels) are recovered, additional release points are to be considered so that the increased risk of predation on existing fauna at release sites is minimised. The container is to be placed in the water at the release site to allow the fish to swim away; they are not to be tipped into the water.
- The holding containers are to have smooth surfaces and a lid to provide a darkened environment.
- The holding containers will be kept shaded to prevent harmful increases in water temperature. The health of the animals within the containers should be monitored closely.
- Care will be taken not to overcrowd holding containers; a limit of 0.2 kg of fish per tank is appropriate.
- To avoid predation, put similar sized fish in the same container.



- The holding containers will be filled with water from the wetland.
- Holding containers are to be appropriately sized.
- All animals should be held for the shortest possible time before release.
- Frogs will be captured in aerated plastic bags (used as a glove) and kept as one per bag for release.
- Frogs are to be released into appropriate habitat (e.g. species usually associated with ponded water are not to be released into flowing streams). It is preferable if frogs are released after sunset to disadvantage predators; however, if this is not feasible, they should be released into dense pool/pond side vegetation.
- Reptiles will be captured using gloves and placed in a plastic tub for transport.

9.6.4 Transfer of Alien Species

The *Fisheries Act 1994* prevents the release of noxious fish species into natural waterways. The transfer of water does have the potential to transfer alien pest species, particularly Mosquito Fish (*Gambusia holbrooki*), Carp (*Cyprinus carpio*) and Tilapia (*Tilapia mariae* and *Oreochromis mossambicus*).

Introduced fish will be humanely destroyed using an ice slurry and disposed of at a landfill site.

9.6.5 Unexpected Finds Procedure

In the event that any new conservation significant species is encountered during dewatering, all work is to cease immediately. The Department of Environment, Tourism, Science, and Innovation is to be notified.

9.6.6 Methods to Prevent Injury to Fauna

The following details methods to be employed to prevent injury to aquatic fauna:

- Gloves are to be worn to limit the spread of disease;
- Work slowly and methodically through the waterbody to limit trampling of aquatic fauna;
- Limit holding time in aerated containers to as short a time as possible;
- One frog per bag to minimise disease spread and possible toxin impact of one species on another;
- Continually monitor holding tanks for signs of deterioration in the health of aquatic fauna;
- Do not leave the holding container in direct sunlight;
- Have a release point nearby to minimise transportation time and stress to aquatic fauna;
- The pump intake should be fitted with a screen to ensure animals do not get entrapped and safeguard against the transport of alien species off-site; and
- Allow for pump start-up procedures to involve initial slow water velocity to reduce the likelihood of aquatic biota being drawn into the pump.

9.6.7 Protocol for Dealing with Injured Native Fauna

If an injured or juvenile animal or eggs are discovered on the study site, the following procedures will be implemented:

- If the animal is seriously injured and requires immediate attention, as determined by the fauna specialist, the animal is to be taken to a wildlife veterinary specialist;



- If the fauna specialist is not present when an injured/juvenile animal is found, a rescue agency should be called immediately;
- If the animal appears unharmed, yet is reluctant to move away, the animal is to be assessed by a wildlife veterinary specialist;
- Once the rescue agency arrives at the site, they will be responsible for the animal. Any decisions regarding the care of the animal would be made by the rescue agency; and
- The site supervisor, or their delegate on-site, will hold the contact details of fauna rescue services and local veterinary surgeons.

9.6.8 Euthanasia

Euthanasia will be consistent with the *Animal Care and Protection Act 2001*.

Exotic fish will be euthanised as per the standards in Section 5 of the *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes and ANZCART Guidelines For Euthanasia of Animals Used for Scientific Purposes (2001)*.

Non-native fish will be euthanised in an ice slurry.

The Standard Operating Procedure for the Humane Field Euthanasia of Cane Toads lists three methods as conditionally acceptable. These are:

- Spraying with Hopstop®;
- Stunning followed by decapitation; and
- Prolonged exposure to carbon dioxide.

Other non-native species will be euthanised by a trained practitioner.

9.7 Erosion and Sediment Control

The installation and maintenance of adequate erosion and sediment control measures are important to protect downstream waterways. An Erosion and Sediment Control Plan is required to identify the minimum control measures for the works. This plan is to be amended as necessary and additional erosion control measures installed where dictated by site conditions.

Erosion and sediment control measures shall include, but not be limited to:

- Control and/or diversion of upstream surface runoff through or around works areas;
- The construction of bunds to control/divert surface runoff following clearing of vegetation, where necessary;
- The construction of geotextile lined diversion drains and detention contours before and during earthworks operations;
- Take care not to concentrate surface runoff that will result in damage to the works and/or the environment;
- Construction of sediment/silt fences, sediment basins, rock check dams, shake-down pads at site entry/exit points, etc;
- The protection of batters from erosion and scour by diverting surface runoff away from the batters until vegetation is established; and
- Regular inspection and maintenance of all erosion and sediment control measures.



9.7.1 Dust Suppression

To minimise impacts from dust during construction, all exposed areas are to be watered or covered with mulch. Shake-down pads are to be provided at the site exit.



10 Summary

The proposed development has been evaluated against relevant environmental planning legislation. Table 10.1 provides a summary of this information.

Table 10.1 Summary of Legislative Assessment

Legislation	Applicability to Development
<i>Environmental Protection and Biodiversity Conservation Act 1999</i>	No referral is considered necessary for this development. It is considered that there will not be a significant residual impact on threatened species occurring on the subject site.
<i>Planning Regulation 2017</i>	No assessment by the State government is required.
<i>Vegetation Management Act 1999</i>	Clearing vegetation can be undertaken as Exempt Clearing Work.
Biodiversity Areas Overlay Code	Through the provisions of offsets for impacts on native trees within the Primary Vegetation Management Area, compliance with the Biodiversity Areas Overlay Code can be achieved.
Waterway Corridors and Wetlands Overlay Code	The development will comply with, or provide alternative solutions to, the Waterway Corridors and Wetlands Overlay Code.



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Appendix A

Tree Impact Plan



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Project: BC-26117



SCHEDULE OF DRAWINGS	
Drawing No.	Drawing Title
TIP-1.0	Tree location plan
TIP-2.0	Native and Habitat Trees
TIP-3.0	Clearing plan
TIP-4.0	Tree information table



LEGEND

Property Boundary

Tree locations

NRZ

Notional Root Zone (NRZ) is shown.
Tree locations not supplied were plotted using a hand-held GPS with an error of +/- 2m.

DATE :
21.07.2026

PROJECT No. :
BC-26117

DRAWING No. :
TIP-1.0

REVISION No. :
A

PROJECT :
TREE IMPACT PLAN

DRAWING TITLE :
TREE LOCATION PLAN

ADDRESS :
3733-3735 PACIFIC HIGHWAY, SLACKS CREEK

DRAFTED BY :
NL

DESIGNED BY :
NL

CHECKED BY :
AB

PAPER SIZE :
A3

SCALE :
1:850

APPROVED FOR AND ON BEHALF OF BIOME CONSULTING PTY LTD
ACN 166 087 476

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ORIGINAL SCALE BEFORE REDUCTION
0 10 20 30 40 m

1:850 (AT A3) (meters)



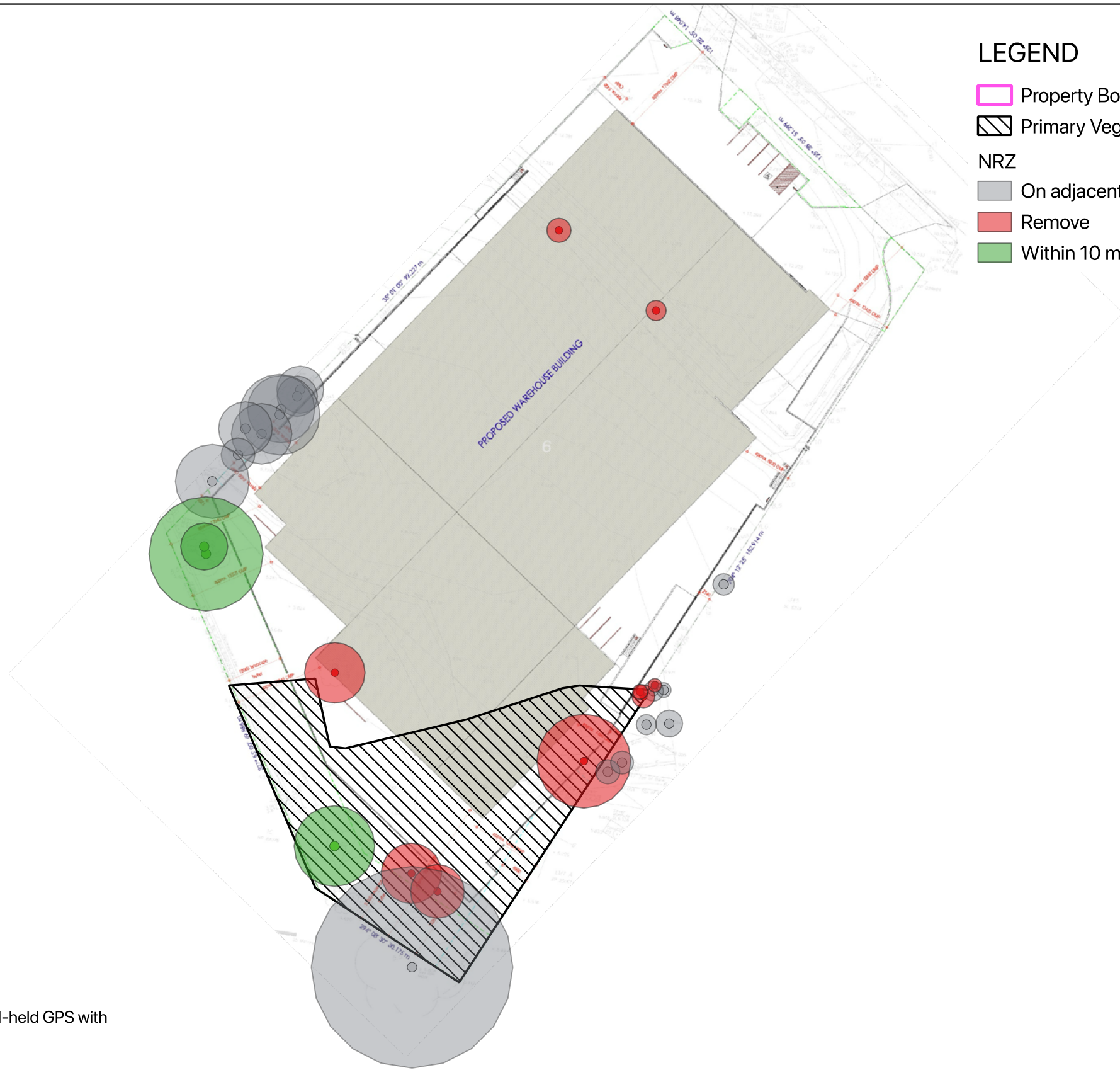


LEGEND

- Property Boundary
- Habitat Trees
- Native Trees

Notional Root Zone (NRZ) is shown.
Tree locations not supplied were plotted using a hand-held GPS with an error of +/- 2m.

DATE : 21.07.2026 PROJECT No. : BC-26117 DRAWING No. : TIP-2.0 REVISION No. : A	PROJECT : TREE IMPACT PLAN DRAWING TITLE : NATIVE & HABITAT TREES ADDRESS : 3733-3735 PACIFIC HIGHWAY, SLACKS CREEK	APPROVED FOR AND ON BEHALF OF BIOME CONSULTING PTY LTD ACN 166 087 476 <table><tr><th>REV.</th><th>DESCRIPTION</th><th>APPR.</th><th>DATE</th></tr><tr><td>A</td><td>ORIGINAL ISSUE</td><td></td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr></table>	REV.	DESCRIPTION	APPR.	DATE	A	ORIGINAL ISSUE																							COPYRIGHT Designs and information presented in these drawings are copyright and the property of BIOME Consulting Pty Ltd. They are not to be reproduced or used without permission from BIOME Consulting Pty Ltd. Drawings are only to be used for the purpose of which they were intended and BIOME Consulting will not accept liability for any unauthorised use or for any purpose by a third party for which they were not intended. Unless the checked section of the document are signed and approved, the drawings are uncontrolled and issued for information purposes only. Drawings are not for construction purposes.	 BIOME WATER AND ENVIRONMENTAL CONSULTING BIOME Consulting Pty Ltd PO Box 3469, Southport Q 4215 admin@biomeconsulting.com.au ABN 86 166 087 476	ORIGINAL SCALE BEFORE REDUCTION 0 10 20 30 40 m 1:850 (AT A3) (meters)  N
REV.	DESCRIPTION	APPR.	DATE																														
A	ORIGINAL ISSUE																																



LEGEND

- Property Boundary
- Primary Vegetation Management Area
- NRZ
 - On adjacent property - not subject to this assessment
 - Remove
 - Within 10 m landscape buffer - retain

Notional Root Zone (NRZ) is shown.
Tree locations not supplied were plotted using a hand-held GPS with an error of +/- 2m.

DATE :
21.07.2026

PROJECT No. :
BC-26117

DRAWING No. :
TIP-3.0

REVISION No. :
A

PROJECT :
TREE IMPACT PLAN

DRAWING TITLE :
CLEARING PLAN

ADDRESS :
3733-3735 PACIFIC HIGHWAY, SLACKS CREEK

DRAFTED BY : NL	DESIGNED BY : NL	CHECKED BY : AB	PAPER SIZE : A3	SCALE : 1:850
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ORIGINAL SCALE BEFORE REDUCTION
0 10 20 30 40 m
1:850 (AT A3) (meters)



No.	Scientific Name	Common Name	DSH	NRZ	SRZ	Action
0	Acacia disparrima	Hickory Wattle	0.18	2.16	1.61	Remove
1	Acacia disparrima	Hickory Wattle	0.15	1.80	1.49	Remove
2	Eucalyptus tereticornis	Forest Red Gum	0.35	4.20	2.13	On adjacent property - not subject to this assessment
3	Eucalyptus tereticornis	Forest Red Gum	0.30	3.60	2.00	On adjacent property - not subject to this assessment
4	Eucalyptus tereticornis	Forest Red Gum	0.50	6.00	2.47	On adjacent property - not subject to this assessment
5	Eucalyptus tereticornis	Forest Red Gum	0.60	7.20	2.67	On adjacent property - not subject to this assessment
6	Eucalyptus tereticornis	Forest Red Gum	0.45	5.40	2.37	On adjacent property - not subject to this assessment
7	Eucalyptus tereticornis	Forest Red Gum	0.40	4.80	2.25	On adjacent property - not subject to this assessment
8	Eucalyptus tereticornis	Forest Red Gum	0.25	3.00	1.85	On adjacent property - not subject to this assessment
9	Eucalyptus tereticornis	Forest Red Gum	0.55	6.60	2.57	On adjacent property - not subject to this assessment
10	Eucalyptus tereticornis	Forest Red Gum	0.85	10.20	3.09	Within 10 m landscape buffer - retain
11	Eucalyptus tereticornis	Forest Red Gum	0.35	4.20	2.13	Within 10 m landscape buffer - retain
12	Eucalyptus tereticornis	Forest Red Gum	0.45	5.40	2.37	Remove
13	Eucalyptus tereticornis	Forest Red Gum	0.60	7.20	2.67	Within 10 m landscape buffer - retain
14	Pinus elliotii	Slash Pine	0.30	3.60	2.00	Exotic species - remove
15	Pinus elliotii	Slash Pine	0.45	5.40	2.37	Remove
16	Pinus elliotii	Slash Pine	0.40	4.80	2.25	Remove
17	Eucalyptus tereticornis	Forest Red Gum	1.50	18.00	3.92	On adjacent property - not subject to this assessment
18	Eucalyptus tereticornis	Forest Red Gum	0.70	8.40	2.85	Remove
19	Corymbia torelliana	Cadaghi	0.18	2.16	1.61	On adjacent property - not subject to this assessment
20	Corymbia torelliana	Cadaghi	0.17	2.04	1.57	On adjacent property - not subject to this assessment
21	Acacia disparrima	Hickory Wattle	0.15	1.80	1.49	On adjacent property - not subject to this assessment
22	Acacia disparrima	Hickory Wattle	0.20	2.40	1.68	On adjacent property - not subject to this assessment
23	Eucalyptus tereticornis	Forest Red Gum	0.11	1.32	1.31	On adjacent property - not subject to this assessment
24	Eucalyptus tereticornis	Forest Red Gum	0.15	1.80	1.49	On adjacent property - not subject to this assessment
25	Eucalyptus tereticornis	Forest Red Gum	0.17	2.04	1.57	Remove
26	Acacia disparrima	Hickory Wattle	0.10	1.20	1.26	Remove
27	Acacia disparrima	Hickory Wattle	0.11	1.32	1.31	Remove
28	Pinus elliotii	Slash Pine	0.16	1.92	1.53	On adjacent property - not subject to this assessment

DATE :
21.07.2026
PROJECT No. :
BC-26117
DRAWING No. :
TIP-4.0
REVISION No. :
A

PROJECT :
TREE IMPACT PLAN
DRAWING TITLE :
TREE DETAILS
ADDRESS :
3733-3735 PACIFIC HIGHWAY, SLACKS CREEK

DRAFTED BY : NL	DESIGNED BY : NL	CHECKED BY : AB	PAPER SIZE : A3	SCALE :
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Appendix B

Code Responses

8.2.2 Biodiversity areas overlay code

8.2.2.1 Application

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

8.2.2.2 Purpose

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

8.2.2.3 Requirements for assessment

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

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

Performance outcomes	Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development		
Biodiversity corridors		
PO1 Development in a Biodiversity corridor identified on Biodiversity areas overlay map OM-02.02 is designed and located to: a. provide for habitat links; b. facilitate safe wildlife movement; c. facilitate wildlife refuge; d. enhance habitat values; e. rehabilitate degraded areas with native vegetation. Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	AO1 Development is located outside a Biodiversity corridor identified on Biodiversity areas overlay map OM-02.02.	NOT APPLICABLE The subject site is not within a biodiversity corridor
Primary vegetation management area		
PO2 Development in the Primary vegetation management area identified on Biodiversity areas overlay map OM-02.01 is designed and located: a. to: i. protect the current extent of native vegetation; or ii. achieve a net gain of native vegetation; b. to rehabilitate degraded areas with native vegetation. Note - The Primary vegetation management area includes the locally significant vegetation identified on Biodiversity	AO2.1 Development is located to avoid the need to clear any native vegetation in the Primary vegetation management area identified on Biodiversity areas overlay map OM-02.01, unless: a. if identified as a Matter of local environmental significance and not Both matters of local and state environmental significance on Biodiversity areas overlay map OM-02.04, an offset is provided in accordance with section 3.1 - Environmental offset standards in Planning scheme policy 3 - Environmental	CAN COMPLY WITH AO2.1 An offset has been proposed for impacts on Primary Vegetation within the MLES overlay.

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

PO3 Development in the Secondary vegetation management area identified on Biodiversity areas overlay map OM-02.01 is designed and located to either: a. protect the current extent of native trees and native habitat trees; or b. achieve a net gain of native trees and native habitat trees. Note - Compliance with this performance outcome is to be demonstrated by a basic ecological assessment report [for paragraph (a)] and environmental offset report [for section (b)] prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	AO3 Development is located to avoid the need to clear any native trees and native habitat trees in the Secondary vegetation management area identified on Biodiversity areas overlay map OM-02.01, unless: a. if clearing less than 10 native trees, compensatory planting is provided of: i. two trees of the same species for every native tree cleared in a secondary vegetation management area; ii. four trees of the same species for every native habitat tree cleared in a secondary vegetation management area; b. if identified as a Matter of local environmental significance and not Both matters of local and state environmental significance on Biodiversity areas overlay map OM-02.04, an offset is provided in accordance with section 3.1 - Environmental offset standards in Planning scheme policy 3 - Environmental management; or c. if identified as Both Matters of local and state environmental significance or Matters of State environmental significance on Biodiversity areas overlay map OM-02.04, an offset is provided in accordance with the Queensland Environmental Offset Policy and the <i>Environmental Offsets Act</i> Note - Compliance with AO3(b) is to be demonstrated by an	NOT APPLICABLE Secondary Vegetation Management Areas are not mapped over the subject site.
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	environmental offset report prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management. 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 within a Koala corridor
Locally significant vegetation area		
PO5 Development in a Locally significant vegetation area identified on the Biodiversity areas overlay map OM-02.03 protects <i>Melaleuca irbyana</i>, vine forest, <i>Gossia gonoclada</i> and significant remnant	AO5 Development is located outside of a Locally significant vegetation area as identified on Biodiversity areas overlay map OM-02.03.	ALTERNATIVE SOLUTION TO PO5 A small area of the site is mapped within a <i>Gossia gonoclada</i> area. This species was not identified on the site during the field assessment and suitable habitat is not present. The

vegetation areas from: a. encroachment; b. edge effects. Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.		development footprint is located far enough away from known locations where this species occurs to avoid indirect impacts.
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.	A06 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.	NOT APPLICABLE The subject site is not within a Biodiversity Corridor or a Koala Corridor.
Locally significant Melaleuca irbyana buffer area		
PO7	A07	NOT APPLICABLE The subject site is not within a <i>Melaleuca</i>

Development within the Locally significant Melaleuca irbyana buffer area identified on Biodiversity areas overlay map OM-02.03 protects the Locally significant Melaleuca irbyana area identified on Biodiversity areas overlay map OM-02.03 from: a. edge effects; b. adverse changes to the local hydrology. Note - Compliance with this performance outcome is to be demonstrated by a detailed ecological assessment report prepared in accordance with Part 2 of Planning scheme policy 3 - Environmental management.	Development within the Locally significant Melaleuca irbyana buffer area identified on Biodiversity areas overlay map OM-02.03 provides for a vegetated buffer within 50 metres of the Locally significant Melaleuca irbyana area identified on Biodiversity areas overlay map OM-02.03.	<i>irbyana</i> area.
Landscape values		
PO8 Development is designed and located to protect and enhance the landscape values of: a. a ridgeline; b. native vegetation.	AO8 No acceptable outcome provided.	COMPLIES WITH PO8 The development site is not located on a ridgeline. The development site is mostly cleared of woody native vegetation. A landscape buffer is incorporated into the development design. Native vegetation within this buffer can be retained. Impacted native vegetation where they are also within the vegetation management overlay will be offset.
Lighting		
PO9 Development in a Biodiversity corridor or Koala corridor identified on Biodiversity areas overlay map OM-02.02 is designed to minimise adverse light impacts on native fauna.	AO9 Lighting associated with development in a Biodiversity corridor or Koala corridor identified on Biodiversity areas overlay map OM-02.02: a. complies with the dark surrounds lighting levels in AS4282-1997 - Control of the obtrusive effects of outdoor lighting; b. is directed away from areas identified on	NOT APPLICABLE The subject site is not within a Biodiversity Corridor or a Koala Corridor.

	Biodiversity areas overlay map OM-02.00.	
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8.2.12 Waterway corridors and wetlands overlay code

8.2.12.1 Application

1. This code applies to accepted development (subject to requirements) and assessable development for which the Waterway corridors and wetlands overlay code is identified in Table 5.10.14.1 - Waterway corridors and wetlands overlay map OM-14.00 in Part 5 - Tables of assessment.
2. When using this code, reference should be made to section 5.3.2 - Determining the criteria of development and category of assessment and, where applicable, section 5.3.3 - Determining the requirements for accepted development and assessment benchmarks and other matters for assessable development located in Part 5 - Tables of assessment.

8.2.12.2 Purpose

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

8.2.12.3 Assessment benchmarks for assessable development and requirements for accepted development

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

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

development

Performance outcomes	Acceptable outcomes	Comments
For accepted development (subject to requirements) and assessable development		
Design and location		
PO1 Development is designed and located to protect the ecosystem processes, water quality, function, scenic amenity and landscape values of a Waterway corridors and wetlands area identified on Waterway corridors and wetlands overlay map OM-14.00.	AO1 Development is located outside the: - waterway areas identified on Waterway corridors and wetlands overlay map OM-14.01; - wetlands and wetland buffers identified on Waterway corridors and wetlands overlay map OM-14.02.	ALTERNATIVE SOLUTION TO PO1 The waterway on the site has low ecological value. While the flow path of the waterway will not be altered, the warehouse building will be cantilevered over the lower-lying areas of the site. This will increase shading and as a consequence, result in reduced vegetation cover. The reduction in vegetation within the waterway may provide ecological benefits by improving water conveyance and reducing localised flow impedance during higher rainfall events.
For assessable development only		
Location and ecosystem processes		
PO2 Development is: - designed and located such that a waterway area or wetlands and wetland buffer is protected; - designed, constructed and managed to protect and enhance: - in-stream and riparian habitat values of a Waterway corridors and wetlands area identified on Waterway corridors and wetlands	AO2 Development: - demonstrates that locating outside the waterway area of wetland and wetland buffer is not reasonably possible; - 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	ALTERNATIVE SOLUTION TO PO2 The warehouse building will be cantilevered over the waterway. This will enable the existing flow path to be maintained. It is considered reasonable that Council condition the creation of a rocky streambed to assist in reducing erosion while creating habitat diversity for aquatic and semi-aquatic organisms.

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.	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.	At present, wildlife movement and fish passage along the waterway/drainage channel is hindered by dense vegetation cover.
Natural hydrological and geomorphological processes		
PO3 Development is designed, constructed and managed to ensure: a. the natural hydrological and geomorphological processes of a Waterway corridors and wetlands area identified on Waterway corridors and wetlands overlay map OM-14.00 are maintained; b. where the natural hydrological and geomorphological processes are modified, the near natural hydrology is re-instated.	AO3 Development is designed, constructed and managed to protect the natural hydrological and geomorphological processes of a Waterway corridors and wetlands area by: a. stabilising banks using native vegetation in accordance with section 3.3.1 - Riparian corridor revegetation and weed control and section 3.3.3 - Near-natural hydrology 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.	COMPLIES WITH PO3 The warehouse building will be cantilevered over the waterway. This will enable the existing flow path and hydrological processes to be maintained.
Erosion prone areas		
PO4 Development in an erosion prone area identified on Waterway corridors and wetlands overlay map	AO4 Development is not located in an erosion prone area identified on Waterway corridors and	NOT APPLICABLE The development site is not located in an erosion prone area.

OM-14.03 is for coastal dependent development, or temporary, readily relocatable or able-to-be-abandoned development.	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.	
Water quality		
PO5 Development is designed, constructed and managed to protect water quality of a Waterway corridors and wetlands area identified on Waterway corridors and wetlands overlay map OM-14.00 by: a. providing vegetated buffers; b. incorporating water sensitive urban design principles having regard to: i. protecting water quality of surface and ground waters; ii. minimising sewage discharges to the natural environment; c. limiting discharge of sediments and pollutants into a Waterway corridors and wetlands area.	AO5 Development: a. provides a vegetated riparian buffer in accordance with section 3.3.1 - Riparian corridor revegetation and weed control of Planning scheme policy 3 - Environmental management; b. provides effective erosion and sediment control in accordance with section 3.3 - Filling and excavation standards of Planning scheme policy 5 - Infrastructure; 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.	CAN COMPLY WITH PO5 VIA CONDITIONS It is considered reasonable that Council condition the creation of a rocky streambed to assist in reducing erosion while creating habitat diversity for aquatic and semi-aquatic organisms. Stormwater will be appropriately collected from the warehouse and connected to the stormwater network.
Access		
PO6 Development provides for an integrated and publicly accessible network of waterways and	AO6 Development provides: a. road access in the form of an access road	NOT APPLICABLE The waterway is not a river or part of a major wetland

wetlands to facilitate activation and maintenance of: a. a River waterway identified on Waterway corridors and wetlands overlay map OM-14.01, being the Albert River or Logan River where located within the urban footprint; b. a Major wetland identified on Waterway corridors and wetlands overlay map OM-14.02.	- 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.	
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 It is not proposed to change the tenure of the land. The landscape buffer will be managed by the body corporate of the development.