Ecological Assessment

for
a proposed
farm expansion
at
3329 Oxley Highway, Somerton NSW 2340

Prepared by:

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Author	1st Edition- Zac Tisdale
Reviewer:	[redacted]

Terms & Abbreviations

Abbreviation	Meaning
API	Aerial Photograph Interpretation
BAM	Biodiversity Assessment Methodology
BC Act	*Biodiversity Conservation Act 2016*
DCP	Development Control Plan
APZ	Asset Protection Zone
DPIE	Department of Planning, Industry and Environment
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Commonwealth or NSW)
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
Ha	Hectare
KTP	Key Threatening Process
LHCCREMS	Lower Hunter and Central Coast Regional Environment Management Strategy
LEP	Local Environmental Plan
PFC	Projected Foliage Cover
OEH	Office of Environment and Heritage
ROTAP	Rare or threatened Australian Plants
SEPP	State Environmental Planning Policy
TEC	Threatened Ecological Community
WONS	Weed of National Significance

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1 INTRODUCTION

Background

Firebird ecoSultants Pty Ltd has been engaged by Benbow Environmental to provide an ecological assessment for a proposed expansion of a poultry farm at 3329 Oxley Highway, Somerton NSW 2340 (Lot 10 DP261839). This assessment aims to recognise the relevant requirements of the *Environmental Planning and Assessment Act 1979* (EP&A Act), *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), as well as other applicable legislation and planning frameworks.

A literature review and desktop research was combined with flora and fauna surveys, and a habitat assessment. Commonwealth, state and local government policies and guidelines formed the basis of project surveying and assessment methodology.

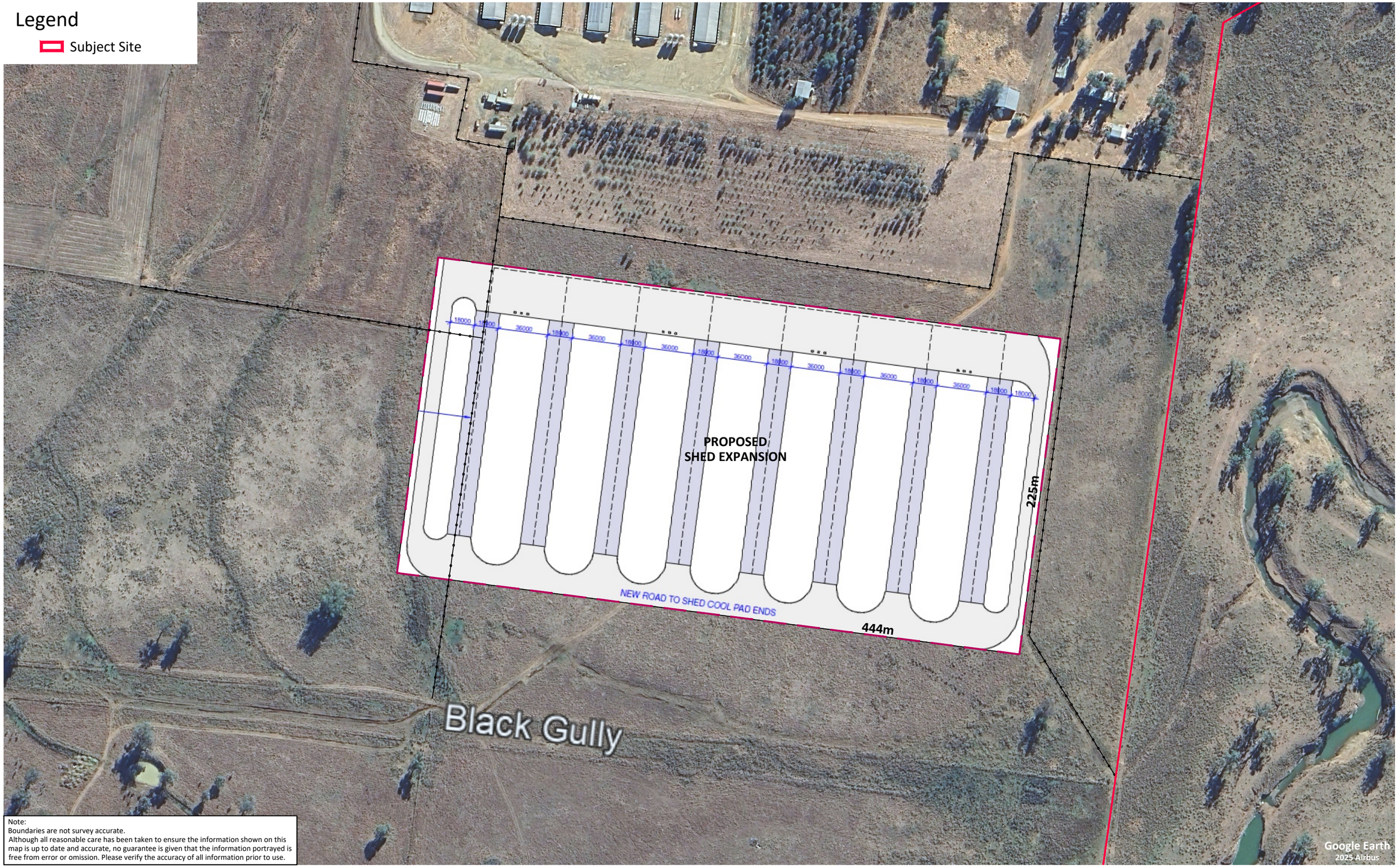
Site Particulars

Locality:	3329 Oxley Highway, Somerton 2340
LGA:	Tamworth Regional Council
Lot / DP:	(Lot 10 DP261839)
Land size:	215 ha
Zoning:	RU1 - Primary Production
Current Land Use:	Agricultural

Site Description

The site is situated at 3329 Oxley Highway, Somerton, and primarily consists of cleared land. Existing sheds are centrally located, with a few trees lining the roadside and concentrated in the southwestern corner. Sandy Creek crosses the northeastern corner, while Black Gully flows eastward across the southern part of the site. The terrain generally slopes downward from an elevation of approximately 350 metres in the southwest to the northeast and southeast boundaries, with a total drop of about 25–30 metres. Access is available via a sealed road that enters the site from the northeastern corner and connects to the Oxley Highway (B56).

Figure 1-1: Site Location



Note:
Boundaries are not survey accurate.
Although all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

F I G U R E 1 - 2 : SITE LAYOUT

Ref No 3478

SITE DETAILS No.3329 Oxley Highway Somerton
DATE 12 June 2025

NORTH

0 50 100 150
SCALE 2500 @ A3

PIXELDRAFTING

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firebird

Description of the Proposal

The existing site currently accommodates 240,000 birds. The proposed development is seeking to expand operations to accommodate 810,510 birds within a total of 14 sheds. The existing sheds have an internal floor area of 2,323 m^2 and the proposed sheds will have an internal floor area of 2,970 m^2. The stocking density of approximately 21.5 birds per square metre will apply to all 14 sheds. This corresponds to a maximum capacity of 49,945 birds for the existing sheds and 63,855 birds for the proposed sheds. The proposed layout of the sheds and other farm structures is shown in Figure 1-2, and Site plans are available in Appendix A.

Purpose and Scope of Study

The scope of this ecological assessment report is to:

- Identify vascular flora species on the site;
- Identify and map existing vegetation communities;
- Identify fauna species for the site through desk-top analysis, assuming presence for some marginal species. Any incidental fauna sightings were also noted.
- Identify existing habitat types on the site and assess the habitat potential for threatened species / populations, or Threatened ecological communities (TECs) known from the proximate area;
- Assess the status of identified or potentially occurring flora species, vegetation communities and fauna species under relevant legislation;
- Assess the potential impacts of the proposal on threatened species / populations or TECs, or their habitats;
- Identify the biodiversity values and constraints on the site; and
- Provide recommendations to ensure that the recorded biodiversity values on the site are adequately managed and/or protected.

Whilst survey work has been undertaken wholly within the bounds of the site, consideration has been afforded to areas off the site in order to appreciate the environmental context of the site.

The purpose of this report is to:

- Ensure planning, management and development decisions are based on sound scientific information and advice by documenting the presence of any biodiversity components or potential significant impacts that may exist on the site;
- Provide information to enable compliance with applicable assessment requirements contained within the EP&A Act, BC Act, EPBC Act and any other relevant state, regional and local environmental planning instruments; and
- Enable the provision and analysis of ecological data that is comparable with data for other sites within the region to ensure continuity and consistency for survey and results.

Qualifications and Licensing

Qualifications

Fieldwork for this project was undertaken by [redacted] Report writing was undertaken by [redacted] Qualifications are provided in **Appendix B.**

Licensing

Research was conducted under the following licences:

- NSW National Parks and Wildlife Service Scientific Investigation Licence SL100533;
- Animal Research Authority (Trim File No: TRIM 11/5655) issued by NSW Department of Primary Industries; and
- Animal Care and Ethics Committee Certificate of Approval (Trim File No: TRIM 11/5655) issued by Department of Primary Industries.

Certification

As the principal author, I, [redacted] make the following certification:

- The results presented in the report are, in the opinion of the principal author and certifier, a true and accurate account of the species recorded, or considered likely to occur within the site;
- Commonwealth, state and local government policies and guidelines formed the basis of project surveying methodology, or where the survey work has been undertaken with specified departures from industry standard guidelines, details of which are discussed and justified in Section 2;
- All research workers have complied with relevant laws and codes relating to the conduct of flora and fauna research, including the *Animal Research Act 1995, National Parks and Wildlife Act 1974* and the *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes*.

Signature of Principal Author and Certifier:

[redacted]

BPAD Bushfire Planning & Design Accredited Practitioner Level 3

B.Env.Sc., G.DIP.DBPA (Design for Bushfire Prone Areas)
Ecologist / Bushfire Planner

2 METHODOLOGY

Desktop Research

2.1.1 Database Searches

The following database searches were undertaken, in order to compile a list of threatened flora and fauna species and Matters of National Environmental Significance (MNES), predicted to occur in the area:

Review of threatened fauna and flora records within a 10 km radius of the site, contained in the OEH Atlas of NSW Wildlife (NSW BioNet).

Review of the Matters of National Environmental Significance (MNES) records within a 10 km radius of the site, using the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) EPBC Act Protected Matters Search Tool.

2.1.2 Literature Review

Information sources reviewed included, but were not limited to:

- The following database searches were undertaken, in order to compile a list of threatened flora and fauna species predicted to occur in the area:
    - Review of threatened fauna and flora records within a 10 km radius of the site, contained in the NSW DCCEEW BioNet Atlas.
    - Review of the MNES records within a 10 km radius of the site, using the Commonwealth DCCEEW, EPBC Act Protected Matters Search Tool.
- Aerial Photograph Interpretation (API)
- Relevant guidelines, including:
    - OEH *Biodiversity Assessment Method*, 2020
    - *Surveying Threatened Plants and their Habitats* (DPIE, 2020)
    - *'Species credit' threatened bats and their habitats: NSW survey guide for the Biodiversity Assessment Method* (OEH, 2018)
    - *NSW Survey Guide for Threatened Frogs: A guide for the survey of frogs and their habitats for the Biodiversity Assessment Method* (DPI&E, 2020)
- *Threatened Biodiversity Survey and Assessment: Guidelines for Developments* Environmental / planning reports and policies relevant to the site / area, including:
    - *Tamworth Regional Local Environmental Plan (TRLEP) 2010*
    - *Tamworth Development Control Plan (TRDCP) 2010*
    - *New England North West Regional Plan 2041 (Department of Planning & Environment)*
    - State Environmental Planning Policy (Koala Habitat Protection) 2020
    - Any environmental / ecological reports relevant to the site or area, including vegetation mapping
    - *and Activities* (Department of Environment and Conservation (DEC), 2004)

- Online tools and resources, including:
    - NSW DCCEEW BioNet Vegetation Information System
    - NSW DCCEEW BioNet Threatened Biodiversity Profile Data Collection
    - Commonwealth DCCEEW Directory of Important Wetlands in Australia)
    - NSW Government, Sharing and Enabling Environmental Data portal (SEED)
    - NSW Scientific Committee Final Determinations (NSW Scientific Committee various dates)
    - Commonwealth Threatened Species Scientific Committee (TSSC) Final Determinations for threatened species (TSSC Various Dates)
    - OEH Threatened Species, Populations and Ecological Communities website
    - Commonwealth DCCEEW Species, Profile and Threats Database
    - PlantNET NSW (Botanic Gardens Trust).

Flora Survey and Vegetation Mapping

Flora surveys were undertaken on 27th May 2025 by one ecologist, for a period of 4 hours to determine extent of native vegetation composition and structure. This was achieved by:

- The extent of native vegetation across the site was confirmed through visual inspection of vegetation composition and structure.
- The native composition of grassland communities was assessed through quadrat field assessment method to calculate the extent of native vegetation in the grassland area of the development.
- Vegetation communities within the site were identified, delineated, and mapped.

Opportunistic searches for threatened / significant flora species (specifically *Eucalyptus Nicholii)* were undertaken on the site to determine species of two trees located within the development area. A list of potentially occurring significant flora species from the locality (10 km radius) was compiled (see **Section 3.1.1**); these included threatened species listed under the BC Act, EPBC Act, Rare or Threatened Australian Plants (ROTAP) (Briggs and Leigh 1996), as well as any other species deemed to be of local importance.
A flora assessment and assessment of native grassland extent in grassland areas was conducted on 27th May 2025. This included using a quadrat field assessment method to calculate the extent of native vegetation in the grassland area of the development.

Survey Limitations

It is acknowledged that the survey methods used are unlikely to detect all species present or potentially occurring within the study area due to seasonal, temporal, and timing constraints. To account for these inherent limitations, the assessment included habitat evaluations and a review of local records for threatened species to assess the likelihood of their presence. Where appropriate, the precautionary principle of 'assumed presence' was applied.

3 RESULTS

Desktop Research

3.1.1 Database Searches

A number of threatened species and TECs have been recorded on the Atlas of NSW Wildlife database and EPBC Act Protected Matters Search Tool, within a 10 km^2 area of the site. These are listed in Table 3-1. Note that marine species have been excluded. See Appendix C for the full EPBC Protected Matters report.

Table 3-1: Threatened Species and TECs Identified Within a 10 km Radius of the Site by a Search of the NSW Atlas of Wildlife and the EPBC Act Protected Matters Search Tool

Scientific Name	Common Name	BC Act	EPBC Act
Threatened Flora			
Androcalva procumbens		V	V
Cadellia pentastylis	Ooline	V	V
Callistemon pungens		-	V
Dichanthium setosum	Bluegrass	V	V
Eucalyptus nicholii	Narrow-leaved Peppermint	V	V
Euphrasia arguta		CE	CE
Lepidium aschersonii	Spiny Peppercress	V	V
Lepidium monoplocoides	Winged Peppercress	E	E
Prasophyllum sp. Wybong (C.Phelps ORG 5269)	a leek-orchid	-	CE
Swainsona murrayana	Slender Darling-pea	V	V
Thesium australe	Austral Toadflax	V	V
Vincetoxicum forsteri		-	V
Threatened Birds			
Anthochaera phrygia	Regent Honeyeater	CE	CE
Aphelocephala leucopsis	Southern Whiteface	-	V
Botaurus poiciloptilus	Australasian Bittern	E	E
Calidris acuminata	Sharp-tailed Sandpiper	V	-
Calidris ferruginea	Curlew Sandpiper	E	CE

Scientific Name	Common Name	BC Act	EPBC Act
Calyptorhynchus lathami lathami	South-eastern Glossy Black Cockatoo	V	-
Circus assimilis	Spotted Harrier	V	-
Climacteris picumnus victoriae	Brown Treecreeper	V	-
Falco hypoleucos	Grey Falcon	E	-
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	V	-
Grantiella picta	Painted Honeyeater	V	V
Hirundapus caudacutus	White-throated Needletail	V	-
Lathamus discolor	Swift Parrot	E	CE
Melanodryas cucullata cucullata	Hooded Robin (south-eastern form)	V	-
Neophema chrysostoma	Blue-winged Parrot	V	V
Neophema pulchella	Turquoise Parrot	V	-
Polytelis swainsonii	Superb Parrot	V	V
Rostratula australis	Australian Painted Snipe	E	E
Stagonopleura guttata	Diamond Firetail	V	-
Threatened Mammals			
Chalinolobus dwyeri	Large-eared Pied Bat	V	V
Dasyurus maculatus subsp. *maculatus*	Spotted-tailed Quoll	V	E
Nyctophilus corbeni	Corben's Long-eared Bat	V	V
Phascolarctos cinereus	Koala	V	V
Pteropus poliocephalus	Grey-headed Flying-fox	V	V
Threatened Herpetofauna			
Aprasia parapulchella	Pink-tailed Worm-lizard	V	V
Anomalopus mackayi	Five-clawed Worm-skink	E	V
Hemiaspis damelii	Grey Snake	E	E
Uvidicolus sphyrurus	Border Thick-tailed Gecko	V	V
Ecological Communities			
New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands		CE	-
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and		CE	-

Scientific Name	Common Name	BC Act	EPBC Act
southern Queensland			
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland		CE	-
Weeping Myall Woodlands		E	-

Status: V: Vulnerable, E: Endangered, CE: Critically Endangered, M: Migratory

Flora Survey and Vegetation Mapping

The site predominantly consists of a highly disturbed paddock, currently occupied by grazing cattle. The results of the quadrate assessment show the paddock to consist of a mixture of approximately 61% exotic fodder species and pasture weeds and 40% native species. *Dichanthium sericeum* (Queensland Bluegrass) and *Chloris truncata* (Windmill Grass) are present however highly disturbed. Exotic species such as *Plantago lanceolata* (Narrow-leaf plantain), *Trifolium subterraneum* and *Cirsium discolor* (Field Thistle) are the predominant species present on site. Refer to the below Section 3.2.1 - Native Vegetation Extent in Grassland Area, and see figure 3-2 for plot locations.

Two mature trees are located on site and were identified as *Eucalyptus Melliodora* (Yellow box). One of these trees contained a medium sized branch hollow that may provide habitat for fauna species (See 3-2 for tree locations). There are 14 smaller regeneration trees of the same species present within the proposed expansion area. These trees could provide foraging and habitat for some threatened species identified in table 3.1.

3.1.2 – Native Vegetation Extent in Grassland Area

Table 3-2 Native Vegetation Extent in Grassland Areas

Cover Type														
Patch 1	Column A % Overall Groundcover						Column B % Native Groundcover						Totals	
	Q1 95	Q2 100	Q3 90	Q4 75	Q5 80	Total 890	Q1 30	Q2 0	Q3 40	Q4 40	Q5 60	Total 350	**Exotic** 540	**Native** 350
	Q6 90	Q7 70	Q8 100	Q9 90	Q10 100	Average 89	Q6 30	Q7 45	Q8 65	Q9 30	Q10 10	Average 35	**60.67%**	**39.33%**

Given, there is 39.33% native groundcover using the Native Vegetation Extent adjustment ruleset we can calculate the extent of native vegetation found within Derived Grassland. If there is between 15% and 75% native groundcover – the calculation of native vegetation extent is adjusted by multiplying the proportion (%) of native groundcover by the total area to be cleared Reviewing Biodiversity Values Map and Threshold Tool area clearing threshold results (DP&E, 2023).

Using this ruleset, the extent of native grass cover within the site was calculated by.

Derived Grassland:

9.9ha x 0.89 (total groundcover) = 8.8ha

4.06ha x 0.3933 (native cover%) = 3.5ha

Historical imagery provided in the scoping report provided by Benbow Environmental shows the site cleared of woody vegetation dating as far back as 1961 (see Appendix F for images). As per NSW Local Land Services Act 2013, the land is therefore considering category 1 - exempt land.

3.1.3 Threatened Ecological Communities and Threatened Flora

No threatened Ecological community or flora species were observed on the site. It is considered that the current disturbed state of the site would prevent the establishment and persistence of threatened flora species predicted to occur in the area. Thus, it is concluded that they are unlikely to be present.

Note:
Boundaries are not survey accurate.
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FIGURE 3-1: VEGETATION MAP

Ref No 3478

SITE DETAILS No.3329 Oxley Highway Somerton
DATE 12 June 2025

NORTH

0 50 100 200

SCALE 4000 @ A3

PIXELDRAFTING

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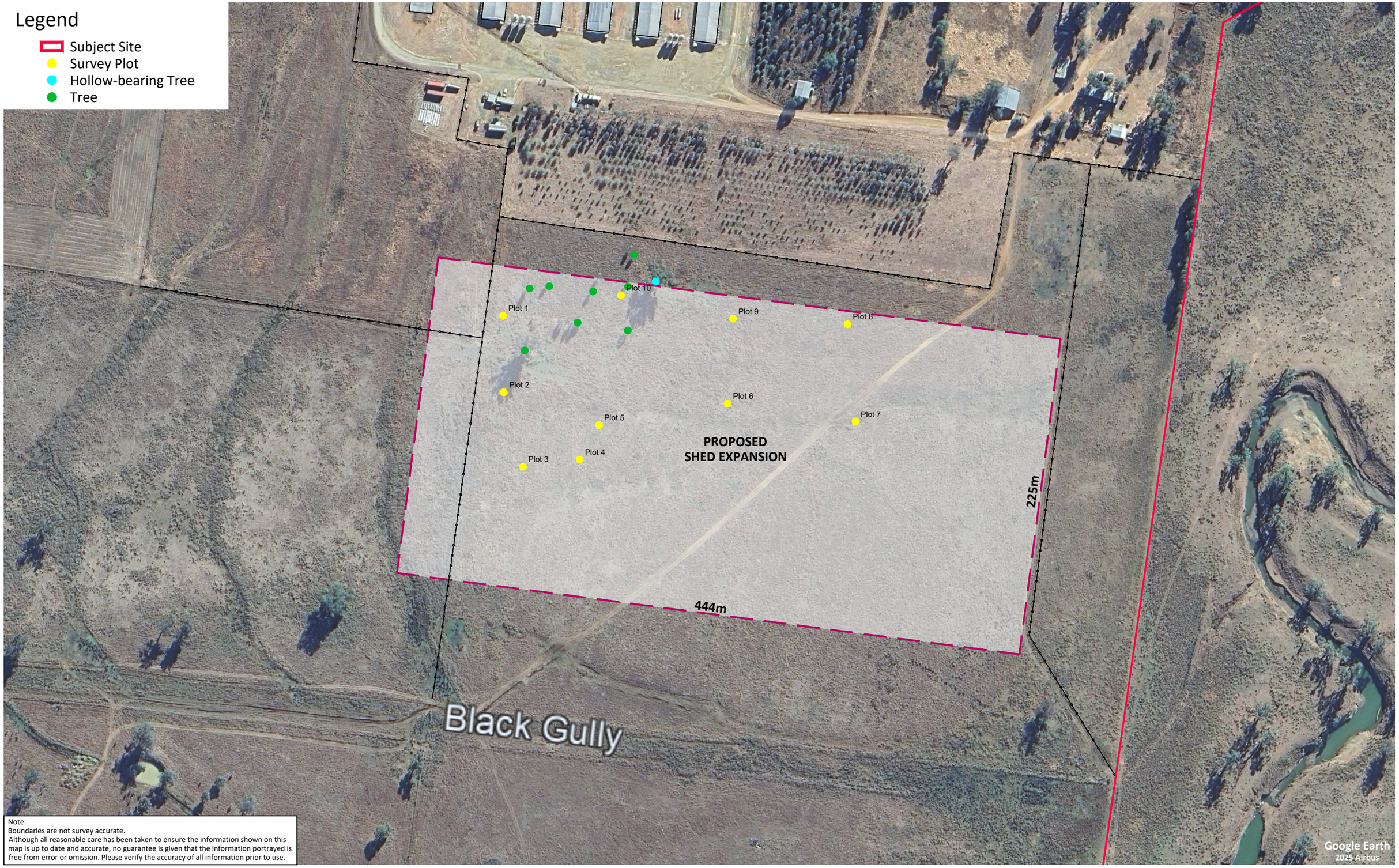

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FIGURE 2-3: GRASSLAND PLOTS & TREE LOCATION MAP

Ref No 3478

SITE DETAILS No.3329 Oxley Highway Somerton
DATE 11 June 2025

NORTH

0 50 100 150

SCALE 2500 @ A3

PIXELDRAFTING

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firebird

3.1.4 Site Photos

Photo 1: Grasslands facing south from existing sheds

Photo 2: Tree, facing east from western border of development area

Photo 3: Trees in building area

Fauna Assessment

Common bird species were observed on site, such as the Australian Magpie, Galah, Pied Butcherbird, Bell Miner, Sulphur Crested Cockatoo, and Whistling Kite (flying over the site).

Eastern Grey Kangaroos *(Macropus giganteus)* were also observed foraging in the outer areas of the grasslands upon arrival however vacated shortly after.

The site may provide some marginal habitat for some of the threatened fauna species predicted to occur in the area. The principle of assumed presence has been applied to all potentially occurring threatened fauna species. See **Section 4** of this report for further assessment of these potentially occurring species.

The following provides a summary of the site's habitat values:

- Native canopy species which could provide foraging habitat for forest birds, arboreal mammals, and microbats.
- 1 hollow bearing tree (*Eucalyptus melliodora)* occurs within the proposed expansion area
- The site contains limited roosting and breeding possibilities for many species
- No stick nests were present at time of survey
- The site contains limited natural ground timber.
- The site is not mapped as having Biodiversity Values
- The vegetation within the site lacks any significant mid stratum, which would limit the site's value for species that require dense mid stratum vegetation

Arboreal Mammals

While arboreal mammals could pass through the site, the site does not have any hollow bearing trees, and so targeted surveys for arboreal mammals were not undertaken. Further, the proposed expansion would not remove any habitat that would affect how arboreal mammals could pass through the site.

Amphibians

The site also does not contain any water bodies or wet areas and therefore targeted amphibian surveys were not undertaken. The development footprints are located in the high elevation, exotic grassland area, which would not support amphibian species.

Megabats

Assumed presence is applied for all potentially occurring species.

Microbats

Assumed presence is applied for all potentially occurring species.

3.1.5 Koala Survey and Habitat Assessment

The targeted survey found no direct or indirect (e.g. scats and scratch marks on trees) evidence of *P. cinereus* (Koala) on or near the site. Secondary Feed Trees were observed on site however due to fragmented characteristics of the site and lack of significant habitat connectivity it is unlikely Koalas would be foraging in the area. Brief searches were undertaken for indirect evidence (scats and scratch marks) and in the tree canopy, for direct sightings, and at the base of the trees. No evidence of koala use was found on the site.

An assessment under the SEPP 'Koala Habitat Protection' 2020 is provided in **section 5.4** of this report.

Corridors and Connectivity

The site is situated in an area which is dominated by rural agricultural lands. Mobile species may be found foraging or passing through the site, however, the site does not form part of any wildlife corridors. The proposal will not sever any existing wildlife corridor functionality across the site or the surrounding area. .

4 THREATENED SPECIES / COMMUNITIES LIKELIHOOD OF OCCURRENCE ASSESSMENT

Several threatened species and TECs were identified in **Section 3** of this report, as potentially occurring in the area. An assessment of the likelihood of occurrence for each of these threatened species and TECs was conducted; see **Table 4-1**. This assessment deals with the following heads of consideration in tabulated form:

'**Species / Community'** – Lists each threatened species / community known from the vicinity. The status' of each, under the BC Act and EPBC Act, are also provided.

'Habitat Description and Known Populations' – Provides a brief account of the preferred habitat attributes required for the existence / survival of each species / community and information on known populations in the area.

'Likelihood of Occurrence' – Assesses the likelihood of each species / community to occur in or within the immediate vicinity of the study area in terms of the aforementioned habitat description and taking into account local habitat preferences, results of current field investigations, data gained from various sources (such as OEH Atlas of NSW Wildlife, herbariums, etc.) and previously gained knowledge via fieldwork undertaken within other ecological assessments in the locality.

'Potential for Impact'– Assesses the likely level / significance of impacts to each species / community that would result from the proposed development, taking into account direct and indirect short and long-term impacts.

Note; Species highlighted in grey will be assessed under section 7.3 of the BC Act (i.e. five-part test) in section 5 of this report.

Table 4-1: Threatened Species Chance of Occurrence & Potential for Impact

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Threatened Flora			
Androcalva procumbens (V, V*)	Prostrate shrub with slender trailing stems to 30 cm long. Plants covered with star-shaped hairs on all parts. Endemic to NSW, mainly confined to the Dubbo-Mendooran-Gilgandra region, but also known in the Pilliga, Mount Kaputar National Park, north east of Gulgong and near Denmen. Additional populations have been found in Goonoo SCA in response fires. Grows in sandy sites, often along roadsides.	**Very Low** Not recorded on or near the site. No recorded on site during field surveys.	**Very Low** Excluded through tarted field surveys.
Cadellia pentastylis Ooline (V, V*)	Extensively cleared and now known from only seven main locations on the North West Slopes in NSW, between Narrabri and the Queensland border, and also in Queensland. Usually occurs on undulating terrain on a variety of soil types, between 300-450 m altitude.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Callistemon pungens (V*)	*Callistemon pungens* is a distinct shrub or small tree ranging from 2-5 m tall. The species is characterised by its purple stamens and small, pungent leaves. In NSW, the species occurs from near Inverell to the eastern escarpment in New England National Park. It also occurs in the northern tablelands of south-eastern Queensland, mainly in the Stanthorpe area. Often in rocky watercourses, usually with sandy granite (occasionally basalt) creek beds.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Dichanthium setosum Bluegrass (V, V*)	Bluegrass is an upright grass less than 1 m tall. The flowers are densely hairy and are clustered together along a stalk in a cylinder-shape. Bluegrass occurs on the New England Tablelands, Northwest Slopes and Plains and the Central Western Slopes of NSW, extending to northern Queensland. Associated with heavy basaltic black soils and red-brown loams with clay subsoil.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Eucalyptus nicholii Narrow-leaved Peppermint (V, V*)	A medium-sized tree 10-20 m tall with rough, thick, grey-brown bark which extends to the larger branches. This species is sparsely distributed but widespread on the New England Tablelands from Nundle to north of Tenterfield, being most common in central portions of its range. Planted as urban trees, windbreaks and corridors. Typically grows in dry grassy woodland, on shallow soils of slopes and ridges. Found primarily on infertile soils derived from granite or metasedimentary rock.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Euphrasia arguta (CE, CE*)	An erect, semi-parasitic annual herb, growing between 20-45cm in height. It has 18-30pairs of leaves along each stem. The leaf surface can be rough or smooth and flowers are white to lilac in color, with yellow markings. It is known to occur in eucalypt forests with mixed grass and shrub understory within Nundle State Forest and adjacent private land, in NSW. It was sighted in 2008, where previously it had not been sighted since 1904.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Lepidium aschersonii Spiny Peppercress (V, V*)	Erect perennial herb to 30 cm high, hairy and intricately branched, with the smaller branches spinescent. Plants become woody and more spinose in dry conditions. Flowers small, borne in elongated clusters terminating in a spine. Not widespread, occurring in the marginal central-western slopes and north-western plains regions of NSW (and potentially the southwestern plains). The species grows as a component of the ground flora, in grey loamy clays. Vegetation structure varies from open to dense, with sparse grassy understorey and occasional heavy litter.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Lepidium monoplocoides Winged Peppercress (E, E*)	Erect annual herb or perennial forb, 15-20 cm high, with angular and striped stems roughened with small warts. Flowers small, borne in elongated clusters, the petals minute or absent. Widespread in the semi-arid Western Plains region of NSW. Occurs on seasonally moist to waterlogged sites on heavy fertile soils.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Prasophyllum sp. Wybong (C.Phelps ORG 5269) a leek-orchid (CE*)	*Prasophyllum* sp. Wybong (C. Phelps ORG 5269) is a terrestrial orchid that grows to approximately 30 cm high. It has a single dull-green basal leaf that is tubular and fleshy. The single flower spike has numerous fragrant flowers. Endemic to NSW, it is known from near Ilford, Premer, Muswellbrook, Wybong, Yeoval, Inverell, Tenterfield, Currabubula and the Pilliga area. Known to occur in open eucalypt woodland and grassland.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Swainsona murrayana Slender Darling-pea (V. V*)	A sparsely-downy forb with greyish, thin or tapered, stiffly leathery pods. The pea-like flowers are pink or purple with red stripes on densely and darkly hairy slender stalks. A sparsely-downy forb with greyish, thin or tapered, stiffly leathery pods. The pea-like flowers are pink or purple with red stripes on densely and darkly hairy slender stalks. The species has been collected from clay-based soils, ranging from grey, red and brown cracking clays to red-brown earths and loams.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Thesium australe Austral Toadflax (V, V)	A small straggling herb to 40cm tall, with pale green to yellow leaves. It has minute, white flowers that emerge where the leaves meet the stem. Occurs in grassland on coastal headlands or grassland and grassy woodland away from the coast. Often found in association with Kangaroo Grass (*Themeda australis*). Found in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. It is also found in Tasmania and Queensland and in eastern Asia.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Vincetoxicum forsteri (V*)	A twining vine found in central NSW; very slender with small leaves, tends to twine up dense shrubs or coppicing trees, so is easily lost to sight among coarser vegetation. Favours open forests dominated by eucalypts and dense shrubland.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Threatened Birds			
Anthochaera Phrygia Regent Honeyeater (CE, CE*)	Inhabits dry open forest and woodlands that support a high abundance and species richness of birds; these areas have large numbers of mature trees, high canopy cover and abundance of mistletoes. A shrubby understorey is an important source of insects and nesting material. Distributed in NSW is very patchy but mainly confined to breeding areas in the Capertee Valley and the Bundarra-Barraba regions (OEH, 2017a).	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not recorded and the site lacks adequate habitat
Aphelocephala leucopsis Southern Whiteface (V*)	The southern whiteface is a small stocky thornbill-like bird with a brown dorsum, white belly, dark brown wings and a black tail with narrow white tip. The species displays the characteristic facial markings of the genus: a white band across the forehead, with a darker streak along the top edge. They occur across most of mainland Australia south of the tropics, from the north- eastern edge of the Western Australian wheatbelt, east to the Great Dividing Range. They live in a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both. These areas are usually in habitats dominated by acacias or eucalypts on ranges, foothills and lowlands, and plains.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not recorded and the site lacks adequate habitat
Botaurus poiciloptilus Australasian Bittern (E, E*)	The Australasian Bittern is a large, stocky bird, reaching up to 75 cm in length. It has a long, thick neck and a straight, brownish-yellow bill. They are widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes and spikerushes.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not recorded and the site lacks adequate habitat
Calidris acuminata Sharp-tailed Sandpiper (V)	Sharp-tail sandpipers are a small to medium sized sandpiper with a potbelly and rather drawn-out rear end. They have a small, flat head on top of a short neck. Though present in all Australian states, they are found mostly in the south-east and are widespread in both inland and coastal locations. The species also occurs in both freshwater and saline habitats. The species utilises fresh and hypersaline environments, feeding along the edge of water on mudflats, coastal and inland wetlands, and sewage ponds. After rainfall events, the species may also feed on areas of agricultural pasture	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not recorded and the site lacks adequate habitat

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Calidris ferruginea Curlew Sandpiper (E, CE*)	The Curlew Sandpiper is a small, highly gregarious, migratory shorebird with a medium-length, down-curved bill and longish black legs. The Curlew Sandpiper is distributed around most of the Australian coastline (including Tasmania). It occurs along the entire coast of NSW, particularly in the Hunter Estuary, and sometimes in freshwater wetlands in the Murray-Darling Basin. Inland records are probably mainly of birds pausing for a few days during migration. It generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes inland.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not recorded and the site lacks adequate habitat
Calyptorhynchus lathami lathami South-eastern Glossy Black Cockatoo (V)	The South-eastern Glossy Black-Cockatoo is a small brown-black cockatoo with a massive, bulbous bill and a short crest. The species is uncommon although widespread throughout suitable forest and woodland habitats, from the central Queensland coast to East Gippsland in Victoria, and inland to the southern tablelands and central western plains of NSW, with a small population in the Riverina. Inhabits open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Circus assimilis Spotted Harrier (V)	The Spotted Harrier is a medium-sized, slender bird of prey having an owl-like facial ruff that creates the appearance of a short, broad head, and long bare yellow legs. The Spotted Harrier occurs throughout the Australian mainland, except in densely forested or wooded habitats of the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population. Occurs in grassy open woodland including *Acacia* and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is most commonly found in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands.	**Very Low** One record of sighting confirmed in year of 2000.	**Very Low** Unlikely to impact this species as it has not been recorded in 25 years.
Climacteris picumnus victoriae Brown Treecreeper (V)	The Brown Treecreeper, Australia's largest treecreeper, is a grey-brown bird with black streaking on the lower breast and belly and black bars on the undertail. It is endemic to eastern Australia and occurs in eucalypt forests and woodlands of inland plains and slopes of the Great Dividing Range. It is less commonly found on coastal plains and ranges. Found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Falco hypoleucos Grey Falcon (E)	The Grey Falcon is a medium-sized, compact, pale falcon with a heavy, thick-set, deep-chested appearance. It is sparsely distributed in NSW, chiefly throughout the Murray-Darling Basin, with the occasional vagrant east of the Great Dividing Range. Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Gallinago hardwickii Latham's Snipe, Japanese Snipe (V)	Latham's Snipes are a medium sized wader with a long, straight bill; rather short, broad, pointed wings; a long tail, and short legs. The species has been recorded along the east coast of Australia from Cape York Peninsula through to south-eastern South Australia, including the Adelaide plains, Mount Lofty Ranges, and the Eyre Peninsula. The range extends inland over the eastern tablelands in south-eastern Queensland, and occasionally from Gallinago hardwickii (Latham's snipe) Conservation Advice 4 Rockhampton in the north, and west of the Great Dividing Range in New South Wales. They shelter during the day in small wetlands including urban water bodies, saltmarshes, as well as creek edges, where there is adequate shallow flooded or inundated substrate. They also use crops and pasture. They mostly are found among dense cover comprising sedges, grasses, lignum, reeds, and rushes.	**Very Low** The site lacks suitable wetland habitat to support the species.	**Very Low** The species is unlikely to occur within the site.
Grantiella picta Painted Honeyeater (V, V*)	The Painted Honeyeater is small (16 cm) and distinctive, with a black head and back and white underparts with dark streaks on the flanks. It is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland. Nest from spring to autumn in a small, delicate nest hanging within the outer canopy of drooping eucalypts, she-oak, paperbark or mistletoe branches.	**Very Low** The site lacks woodland habitat to support the species.	**Very Low** The species is unlikely to occur within the site.
Hirundapus caudacutus White-throated Needletail (V)	White-throated needletails are swifts with a large wingspan and short, square tail. Predominantly dark, with white throat, forehead and undertail coverts. They are Migratory and usually seen in eastern Australia from October to April. Most often seen in eastern Australia before storms, low pressure troughs and approaching cold fronts and occasionally bushfire.	**Very Low** Not recorded on or near the site**.**	**Very Low** Unlikely to impact this species as it has not been recorded.
Lathamus discolor Swift Parrot (E, CE)	Occurs where eucalypts are flowering profusely or where there are abundant lerp (from sap sucking bugs) infestations. Favoured feed trees include winter flowering species such as *E. robusta* (Swamp Mahogany), *C. maculata* (Spotted Gum), *E. gummifera* (Red Bloodwood), *E. sideroxylon* (Mugga Ironbark) and *E. albens* (White Box). Commonly used lerp infested trees include Grey Box *E. macrocarpa* (Grey Box), *E. moluccana* (Grey Box) and *E. pilularis* (Blackbutt). Breeds in Tasmania during spring and summer and migrates to south-eastern Australia during autumn and winter. In NSW, it mostly occurs on the coast and south west slopes (OEH, 2017a).	**Very Low** Not recorded on or near the site**.**	**Very Low** Unlikely to impact this species as it has not been recorded.

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Melanodryas cucullata cucullata Hooded Robin (south-eastern form) (V)	The Hooded Robin is a large Australian robin; the male is strikingly marked in black and white, with a bold black hood extending down a white breast. The back is black with distinct white shoulder and wing-bar. The tail is black, with prominent white side-panels. Females and immatures are duller, with light brownish-grey upperparts, but the same striking black and white wings. The south-eastern form (subspecies *cucullata*) is found from Brisbane to Adelaide and throughout much of inland NSW. They prefer lightly wooded country, usually open eucalypt woodland, acacia scrub and mallee, often in or near clearings or open areas and require structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Neophema chrysostoma Blue-winged Parrot (V, V*)	The blue-winged parrot is a slender parrot with an olive-green head and upper body, grading to light green on the fore-neck (Higgins 1999). The upper tail is green-blue, with yellow sides. The underparts are yellow, and there may be orange in the centre of the belly. They breed on mainland Australia south of the Great Dividing Range in southern Victoria from Port Albert in Gippsland west to Nelson, and sometimes in the far south-east of South Australia, and the north-western, central and eastern parts of Tasmania. Blue-winged parrots inhabit a range of habitats from coastal, sub-coastal and inland areas, through to semi-arid zones. They tend to favour grasslands and grassy woodlands and are often found near wetlands both near the coast and in semi-arid zones	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Neophema pulchella Turquoise Parrot (V)	The Turquoise Parrot's range extends from southern Queensland through to northern Victoria, from the coastal plains to the western slopes of the Great Dividing Range. Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Prefers to feed in the shade of a tree and spends most of the day on the ground searching for the seeds or grasses and herbaceous plants or browsing on vegetable matter.	**Very Low** One record of sighting confirmed in 1999.	**Very Low** Unlikely to impact this species as it has not been recorded in 25 years.
Polytelis swainsonii Superb Parrot (V, V*)	The Superb Parrot is a distinctive medium-sized, bright grass-green parrot with a long, narrow tail and sharply back-angled wings in flight. It is found throughout eastern inland NSW. They Inhabit Box-Gum, Box-Cypress-pine and Boree woodlands and River Red Gum forest, nesting in small colonies, often with more than one nest in a single tree.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Rostratula australis Australian Painted Snipe (E, E*)	The Australian Painted Snipe is small freshwater wader, with a long bill that droops slightly at the tip. It is restricted to Australia; most records are from the southeast, particularly the Murray Darling Basin, with scattered records across northern Australia and historical records from around the Perth region in Western Australia. They prefer fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber, and nest on the ground amongst tall vegetation, such as grasses, tussocks or reeds.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Stagonopleura guttata Diamond Firetail (V)	The Diamond Firetail is a large (length 10 to 12 cm, weight 17 grams), striking finch with a bright red bill, and red eyes and rump. It is endemic to south-eastern Australia, extending from central Queensland to the Eyre Peninsula in South Australia. It is widely distributed in NSW, with a concentration of records from the Northern, Central and Southern Tablelands, the Northern, Central and Southwestern Slopes and the Northwest Plains and Riverina. They are found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum *Eucalyptus pauciflora* Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Threatened Mammals			
Chalinolobus dwyeri Large-eared Pied Bat (V, V*)	Roosts in caves, crevices in cliffs, old mine workings. Frequents low to mid-elevation dry open forest and woodland close to these features. Requires a canopied habitat (OEH, 2017a).	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Dasyurus maculatus subsp. *maculatus* Spotted-tailed Quoll (V, E*)	Found in a variety of forested habitats from sclerophyll forests, rainforests and coastal woodlands. Creates a den in fallen hollow logs or among rocky outcrops and is an opportunistic hunter of a variety of prey. Generally, does not occur in otherwise suitable habitats that are in close proximity to urban development. Hunter Region records are largely confined to the surrounding ranges and larger vegetation remnants (OEH, 2017a).	**Low-Moderate** One record observed in 2021 near site at roadkill	**Low-Moderate** A recent record indicates local population that may be affected by human activity
Nyctophilus corbeni Corben's Long-eared Bat (V, V*)	The southeastern form of the Greater Long-eared Bat is also known as Eastern Long-eared Bat and has recently been described as new species Corben's Long-eared Bat *(N. corbeni*). It is uniformly dark grey-brown. The ears are about 3 cm long and larger than the head. It has a low ridge of skin running between the eyes and across the nose. the distribution of the southeastern form coincides approximately with the Murray Darling Basin with the Pilliga Scrub region being the distinct stronghold for this species. It Inhabits a variety of vegetation types, including mallee, bulloke *Allocasuarina leuhmanni* and box eucalypt dominated communities, but it is distinctly more common in box/ironbark/cypress-pine vegetation that occurs in a north-south belt along the western slopes and plains of NSW and southern Queensland.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Phascolarctos cinereus Koala (E, E)	Occurs in forests and woodlands where it requires suitable feed trees (particularly *Eucalyptus* spp.) and habitat linkages. Will occasionally cross open areas, although it becomes more vulnerable to predator attack and road mortality during these excursions. Within the Greater Hunter Region it is largely confined to the Port Stephens area, the Lake Macquarie hinterland and the Watagan Mountains (OEH, 2017a).	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Pteropus poliocephalus Grey-headed Flying-Fox (V, V*)	Occurs along the east coast from Bundaberg, Queensland to Melbourne, Victoria. Utilises a range of habitats including rainforests, sclerophyll forests and woodlands, heaths, swamps and mangroves. Considered an important pollinator and seed disperser of native trees. Colonies usually formed in gullies with a dense vegetation canopy and a water source nearby (OEH, 2017a).	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Threatened Herpetofauna			
Aprasia parapulchella Pink-tailed Worm-lizard (V, V*)	The Pink-tailed Legless Lizard (also known as the Pink-tailed Worm-lizard) is worm-like, with a dark-brown head and nape, gradually merging with the pale grey or grey-brown body. The tail, nearly as long as its body, is pink or reddish-brown towards the tip. The Pink-tailed Legless Lizard is primarily known from the Central and Southern Tablelands and the Southwestern Slopes, with a confirmed outlier record on the Hay Plains north of Hay. It Inhabits sloping, open woodland areas with predominantly native grassy ground layers, particularly those dominated by Kangaroo Grass.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Anomalopus mackayi Five-clawed Worm-skink (E, V*)	The Five-clawed Worm Skink is a brown-coloured burrowing lizard up to 27 cm long, that has a long worm-like body and very short limbs. The front limbs have three toes while the hind limbs have two toes. It has a Patchy distribution on the Northwest Slopes and Plains of north-east NSW and south-east Queensland, from the Ashford area west to Mungindi and Walgett in NSW and north to Dalby in Queensland. They live in permanent deep tunnel-like burrows and deep soil cracks, coming close to the surface under fallen timber and litter, especially partially buried logs.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Hemiaspis damelii Grey Snake (E, E*)	The Grey Snake is a relatively small, venomous, front-fanged (proteroglyphous)snake that can be confused with several other similar-looking elapid species; the body colour is a uniform pale or dark grey to olive grey with the top of the head and a few scale rows on the nape being black in juveniles, and more of a crescent or absent in adults. The Grey Snake has a wide overall range from inland southern NSW to central Queensland, though the distribution is not continuous across this full range and consists of several isolated subpopulations. Floodplains and ephemeral wetlands associated with heavy clay soils are key habitat features for the Grey Snake. In NSW, the Grey Snake's habitat includes the margins of ephemeral wetlands within River Red Gum (*Eucalyptus camaldulensis*) and Black Box (*E. largiflorens*) vegetation communities and Tangled Lignum (*Duma florulenta*) swamps.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Uvidicolus sphyrurus Border Thick-tailed Gecko (V, V*)	The Border Thick-tailed Gecko is a small lizard up to 10 cm long. It is fawn to brown above with faint darker brown flecks and many small white spots arranged in rows across the head, back and sides and on the legs. Found only on the tablelands and slopes of northern NSW and southern Queensland, reaching south to Tamworth and west to Moree. Most common in the granite country of the New England Tablelands. This species often occurs on steep rocky or scree slopes, especially granite. Recent records from basalt and metasediment slopes and flats indicate its habitat selection is broader than formerly thought and may have extended into areas that were cleared for agriculture.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
Ecological Communities			
New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands (CE)	On the eastern Australian mainland, temperate eucalypt woodlands occupy a transitional zone between the higher rainfall forested margins, associated with the ranges and slopes of the Great Dividing Range, and the shrublands and grasslands on the plains of the arid interior (Beadle, 1981; AUSLIG, 1990). Grassy eucalypt woodlands formerly covered an extensive, continuous belt of vegetation from southern Queensland through New South Wales and northern Victoria to eastern South Australia (Moore, 1970; Yates and Hobbs, 1997). This belt covered several floristic associations, many of which intergraded with each other and with other vegetation types (Prober and Thiele, 1995). The New England Peppermint (Eucalyptus nova-anglica) Grassy Woodlands ecological community is a type of temperate grassy eucalypt woodland to open forest in which the tree canopy is dominated or co-dominated by Eucalyptus nova-anglica (New England Peppermint) and the ground layer is mostly grassy. Eucalyptus nova-anglica is a tree species that is restricted to northeastern NSW and the far south of Queensland (Brooker et al., 2002).	**Very Low** The vegetation on site was not consistent with the described TEC.	**Very Low** Presence excluded through flora survey.

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland (CE)	The Natural Grasslands on basalt and fine-textured alluvial plains of northern NSW and southern Queensland ecological community occurs in a climatic zone with a wet summer and low winter rainfall pattern. The Darling Downs and Liverpool Plains components generally lie within the 550-750 mm mean annual rainfall isohyets whilst the Moree Plains component has a lower mean annual rainfall of about 400-550 mm. The Darling Downs has a predominantly summer rainfall pattern whilst the Liverpool Plains has a mainly winter rainfall pattern. Landform and soil The distribution of the ecological community is strongly reliant on soil type as it is associated with fine textured, often cracking clays derived from either basalt or quaternary alluvium. The clay minerals in these soils are generally expanding i.e. upon wetting, water is absorbed into the clay particles causing them to expand. On drying, the water is released and the clay particles shrink. This expansion and contraction means that these soils are cracking or selfmulching. The high water-holding capacity of the clay soil inhibits deep penetration during most rainfall events. The development of deep cracks as the soils dry, and the tearing of tap roots during the soil contraction and expansion cycle are possible reasons why trees and large woody shrubs are typically lacking in these grasslands (Beadle 1981; Fensham 2003; Whalley pers. comm. 2007). The ecological community generally occurs on flat to low slopes, of no more than 5 percent (or less than 1 degree) inclination. As slope increases, grassy woodlands dominated by trees such as Acacia pendula (Weeping Myall), Eucalyptus coolabah Coolabah), E. populnea (Poplar Box) or E. melliodora (Yellow Box) occur. The ground layer component of these woodlands may be similar to the grassland but the soils will not be the same cracking clays as on the plains (Benson et al. 2006).	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (CE)	White Box Yellow Box Blakely's Red Gum Woodland (commonly referred to as Box-Gum Woodland) is an open woodland community (sometimes occurring as a forest formation), in which the most obvious species are one or more of the following: White Box Eucalyptus albens, Yellow Box E. melliodora and Blakely's Red Gum E. blakelyi. Intact sites contain a high diversity of plant species, including the main tree species, additional tree species, some shrub species, several climbing plant species, many grasses and a very high diversity of herbs. The community also includes a range of mammal, bird, reptile, frog and invertebrate fauna species. Intact stands that contain diverse upper and mid-storeys and ground layers are rare.	**Very Low** Not recorded on or near the site.	**Very Low** Unlikely to impact this species as it has not been recorded.

Species / Population	Habitat Description & Known Populations	Likelihood of Occurrence	Potential for Impact
Weeping Myall Woodlands (E)	The Weeping Myall Woodlands occur in a range from open woodlands to woodlands, generally 4-12 m high, in which Weeping Myall (Acacia pendula) trees are the sole or dominant overstorey species. Weeping Myall goes through regular cycles of senescence (aging and death) and regeneration. Weeping Myall trees are also susceptible to defoliation by Bag-shelter Moth (Ochrogaster lunifer) caterpillars and are often lopped for domestic stock fodder. Therefore, the ecological community can be dominated by Weeping Myall trees that are in a living, defoliated or dead state. The understorey of Weeping Myall Woodlands often includes an open layer of shrubs above an open ground layer of grasses and herbs, though the ecological community can exist naturally either as a shrubby or a grassy woodland (Beadle 1948; Keith 2004). In many areas, however, the shrub layer has disappeared through overgrazing and dieback events and the woodland now has a primarily grassy understorey (Beadle 1948). The ground layer includes a diversity of grasses and forbs, and varies in species composition and cover depending on past and current grazing regimes, and the occurrence of recent rain (NSW Scientific Committee 2005).	**Very Low** Not recorded on or near the site**.**	**Very Low** Unlikely to impact this species as it has not been recorded.

Notes: V = Vulnerable (BC Act), **V* =** Vulnerable (EPBC Act), **E** = Endangered (BC Act), **E*** = Endangered (EPBC Act), **CE** = Critically Endangered (BC Act), **CE*** = Critically, **M** = Migratory (EPBC Act)

5 IMPACT ASSESSMENTS

Description of Potential Impacts

The area of vegetation within the development footprint is highly disturbed and consists of exotic grasses. The development will result in thirteen (13) trees being removed. These trees being 13x *Eucalyptus Melliodora* (Yellow Box). This equates to 0.2ha of native vegetation. One hollow bearing tree was recorded.

No evidence of koalas was found within the site; Also the recent BioNet Atlas has shown zero records of the species within a 10km radius of the site from 1986 to 2023. No primary feed trees were recorded on the site i.e. *Eucalyptus robusta* (Swamp mahogany). Brief searches were undertaken at the base of all trees within the site, for indirect evidence (scats and scratch marks) and in the tree canopy, for direct sightings. No koala evidence was found on site.

Further, it is considered unlikely that the proposal will sever any existing wildlife corridor functionality across the site. Overall, it is considered that the area of vegetation to be removed would represent an insignificant portion of habitat due to the degraded nature of the site

Potential direct impacts to flora and fauna include:

- The loss of 0.2 ha of native vegetation
- The loss of 13 trees which could provide foraging habitat for some species
- Temporary disturbance to fauna during construction work.

Potential indirect impacts to flora and fauna include:

- Possible introduction or dispersal of invasive species (although it is noted that the site already weed species).
- Risk of runoff, erosion and sedimentation, during construction; and
- Long and short-term edge effects resulting from the clearing of vegetation (e.g. change in light filtration, increase in edge effect);

Section 5.2 outlines proposed mitigation measures. If these are adhered to, it is considered unlikely that the proposal would significantly impact any threatened species, or populations.

5.2 Avoidance and Minimisation

The proposed subdivision would see the removal of 0.2ha of native vegetation comprising of 13 trees due to the proposed building envelopes and APZs.

The following measures of avoidance have been or are required to be undertaken (and will be conditioned as part of any development consent);

- Habitat revegetation within the site, including replanting of 13 trees.
- Any removal of hollow bearing trees will be offset by salvaging and/or replacing the hollow with artificial nest boxes on site at a ratio of 2:1
- A qualified ecologist present for the removal of any Hollow Bearing Trees and the relocation of any fauna present to a suitable retained vegetation area
- Implement weed control on the invasive species present on site to mitigate the spread of weeds throughout and beyond the site
- Any significant dead wood / fallen timber within development footprint should be retained and moved to adjacent vegetated areas.
- Areas of native vegetation adjacent to the development footprint should be protected during construction works, by the use of appropriate temporary fencing, signposting and tree protection measures.
- Hydrological and erosion / sediment controls should be implemented during construction, to maintain the quality and quantity of pre-development water flows into downstream areas.

- Constructions works should include appropriate protocols and procedures to prevent spread of weeds and disease (e.g. all weeds removed from a site should be transported in a sealed container or bag and disposed of at a licenced waste disposal facility).
- All rubbish is to be removed from the site.
- Materials, plant and equipment must not be stored within the drip-lines of any retained trees.

5.3 Biodiversity Conservation Act 2016

The site is not mapped as having high biodiversity value in the Biodiversity Values Map and any vegetation removal associated with the proposal would be under the relevant clearing threshold (i.e. <1ha for a minimum lot size of <40ha).

An assessment under section 7.3 of the BC Act (i.e. five-part test) needs to be undertaken to identify whether the proposal will significantly impact on the following threatened species and TECs. The threatened species test of significance is used to determine if a development or activity is likely to significantly affect threatened species or ecological communities, or their habitats. It is applied as part of the Biodiversity Offsets Scheme entry requirements and for Part 5 activities under the Environmental Planning and Assessment Act 1979.

However, no such assessment has been done in this case as the proposal will not impact any threatened species and TECs.

5.1.1 Biodiversity Offset Scheme

The BC Act sets out the Biodiversity Offsets Scheme (BOS) framework, which aims to avoid, minimise and offset impacts on biodiversity from development and clearing, and to ensure land that is used to offset impacts is secured in-perpetuity. The types of developments that the BOS applies to, include local development (under Part 4 of the EP&A Act) that is likely to significant affect threatened species / TECs, as determined by:

- BOS development threshold; or
- Assessment of Significance; or
- Development on Areas of Outstanding Biodiversity Value (AOBV) (note, at this stage AOBVs include areas of declared critical habitat under the *Threatened Species Conservation Act 1995*. This site does not contain any such areas).

The BOS development threshold has two elements:

- Area Criteria – whether the amount of native vegetation being cleared exceeds a threshold area set out below; and
- Biodiversity Values Map (BVM) – whether the impacts occur on an area mapped on the BVM.

Consideration of the site, under the BOS development threshold is discussed below.

5.1.2 Area Criteria

The minimum lot size associated with the property is 40ha and the threshold for vegetation clearance is 1ha. The proposed shed development will remove approximately 214m^2. Thus, the proposal would not trigger the area threshold of >1ha.

All the vegetation within the proposed building envelope will be removed. Refer to Figure 3-1 for proposed shed devlopment. Further the land in question has been classified as exempt land under the local land services act 2013.

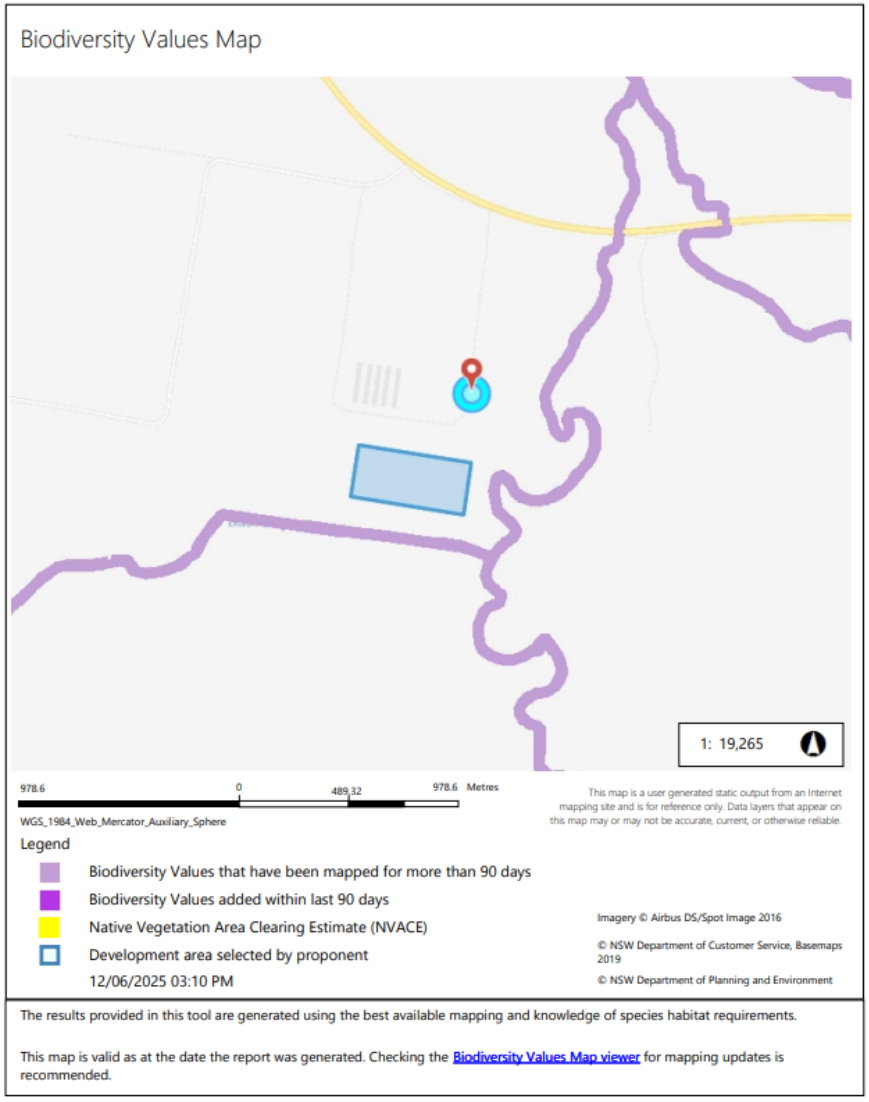
5.1.3 Biodiversity Values Map

The site is not mapped as having high biodiversity value in the BVM. Refer to Appendix E for the Biodiversity Values Map and Threshold Report for the site.

5.1.4 Tamworth Regional Development Control Plan

The proposed expansion has been considered under the control plan and recommendations made that any significant trees will be retained in accordance with Tamworth Regional Control Plan.

Figure 5-1: Extract from the Biodiversity Values Map and Threshold Report for the site



5.1.5 BC Act Conclusion

The proposal being less than 1ha of clearing of native vegetation would not meet the BOS development threshold (based on the area criteria), has not been mapped on the BV Map nor will the proposal impact any threatened species and TECs.

5.4 SEPP Koala Habitat Protection 2021

This policy applies to each local government area listed in Schedule 2 and includes Tamworth Regional Council.

First Consideration – Is the Land 'Potential Koala Habitat'?

Schedule 1 of the Koala Habitat Protection SEPP lists numerous 'Feed Tree' species that are considered indicators of 'Potential Koala Habitat'. The presence of any of the species listed on a site proposed for development triggers the requirement for an assessment for 'Potential Koala Habitat'.

There are no koala feed trees identified within the site.

"Areas of native vegetation where the trees of the types listed in Schedule 1 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component".

The site is not considered to constitute 'Potential Koala Habitat' as defined by the Koala Habitat Protection SEPP 2021. In any case, searches for signs of koala by scat and scratch marks have been undertaken. No signs of koalas within the site were noted. No further provisions of Koala Habitat Protection SEPP apply.

5.5 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act focuses Commonwealth interests on MNES. The MNES identified in the EPBC Act, which require assessment and approval by the Commonwealth, include:

- World Heritage Properties;
- National Heritage Places;
- Wetlands of International Importance (declared Ramsar wetlands);
- Listed threatened species and ecological communities;
- Listed migratory species;
- Commonwealth marine areas;
- Commonwealth land; and
- The Great Barrier Reef Marine Park.

The assessment and approval process applies to any action that has, will have, or is likely to have, a significant impact on MNES. The MNES and study area-specific responses are as follows.

World Heritage Areas

The study area is not a World Heritage area and is not in close proximity to any such area.

National Heritage Places

The study area is not part of a National Heritage Place and is not in close proximity to any such area.

Wetlands of International Importance (declared Ramsar wetlands)

There are no Wetlands of International Importance is located within 10km of the site. The proposed development would not have any impact on this Ramsar wetlands.

Listed Threatened Species and Ecological Communities

The development site was chosen because it is already predominately cleared and disturbed. The proposal is unlikely to significantly impact any MNES and would not require referral to the Commonwealth Department of Environment and Energy (DEE).

Listed Migratory Species

The proposal will not have a significantly adverse effect on any Listed migratory species, as these do not occur within the region.

Commonwealth Marine Area

The proposal will not have a significantly adverse effect on any Commonwealth marine area, as there are no such marine areas occur within the region.

Commonwealth Land

The proposal will not have a significantly adverse effect on any Commonwealth lands, as there are no such lands occur within the region.

The Great Barrier Reef Marine Park

The proposal will not have a significantly adverse effect on any Great Barrier Reef Marine Park, as there are no such parks occur within the region.

EPBC Act Assessment Conclusion

Based on the above, it is considered the current proposal would be unlikely to impact on any MNES under the EPBC Act. Refer to Thus referral to the Commonwealth DoE is not considered necessary.

6 CONCLUSION/RECOMMENDATIONS

This assessment aims to recognise the relevant requirements of the Environmental Planning and Assessment Act 1979 (EP&A Act), Biodiversity Conservation Act 2016 (BC Act) and the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act).

A literature review and desktop research were combined with flora and fauna surveys, and a habitat assessment. Commonwealth, state and local government policies and guidelines formed the basis of project surveying and assessment methodology.

This Ecological Assessment has shown that the proposal is unlikely to place any viable local populations / communities at risk of extinction.

It is concluded that the BOS is not required. It is also concluded that an EPBC Act Referral and approval of DEE is not required. Finally, the provisions of SEPP Koala Habitat Protection have also been considered and it is concluded that the site no impact posed on Koalas by this development.

The following recommendations should be conditioned as part of the consent;

- Habitat revegetation within the site, including replanting of 13 trees.
- If any hollow-bearing trees require removal, the hollows will be salvaged and/or replaced by artificial nest boxes on site at a ratio of 2:1
- Implement weed control on the invasive species present on site to mitigate the spread of weeds throughout and beyond the site
- Any significant dead wood / fallen timber within development footprint should be retained and moved to adjacent vegetated areas.
- Areas of native vegetation adjacent to the development footprint should be protected during construction works, by the use of appropriate temporary fencing, signposting and tree protection measures.
- Hydrological and erosion / sediment controls should be implemented during construction, to maintain the quality and quantity of pre-development water flows into downstream areas.
- Constructions works should include appropriate protocols and procedures to prevent spread of weeds and disease (e.g. all weeds removed from a site should be transported in a sealed container or bag and disposed of at a licenced waste disposal facility).
- All rubbish is to be removed from the site.
- Materials, plant and equipment must not be stored within the drip-lines of any retained trees.

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APPENDIX A: SITE PLANS

APPENDIX B: QUALIFICATIONS

APPENDIX C: EPBC PROTECTED MATTERS SEARCH

APPENDIX D: RECORDED SPECEIS LIST

List of Flora Species recorded

Eucalyptus Melliodoara (Yellow Box)
Dichanthium sericeum (Queensland Bluegrass)
Chloris truncate (Windmill Grass)
Vulpia myuros (Rat's Tail Fescue)
Calamagrostis acutiflora (Feather Reed Grass)
Bromus hordeaceus (Soft Broome)
Verbena brasiliensis
Plantago lanceolata (Narrow-leaf plantain)
Trifolium subterraneum
Camphor inula (Stinkwort)
Geranium maculatum
Rapistrum rugosum (Bastard Cabbage)
Silybum marianum (Milk Thistle)
Nassella neesiana (Chilean Needlegrass)
Hypochaeris radicata (Catsear flatweed)
Cirsium discolor (Field Thistle)
Scandix pecten-veneris (Shepherd's needle)

List of Fauna Species recorded

Cracticus tibicen (Australian Magpie)

Trichoglossus moluccanus (Rainbow Lorikeet)

Eolophus roseicapilla (Galah)

Macropus giganteus (Eastern Grey Kangaroo)

APPENDIX E: BIODIVERSITY VALUES MAP AND THRESHOLD REPORT

APPENDIX F: SCOPING REPORT HISTORICAL IMAGES