



Native Vegetation Clearance

Bordertown Fuel Station

Data Report

Clearance under the *Native Vegetation Regulations 2017*

1 September 2026

Prepared by Dr Sabine Both, Tarryn Davies, Dr Timothy Paine



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Client: Tango Projects
Client contact: Sebastian Fransos
Client email: sf@tangoprojects.com.au

Succession Ecology contact: Dr Timothy Paine
Succession Ecology email: tim@successioneecology.com.au

Prepared by: Dr Sabine Both, Tarryn Davies, Dr Timothy Paine

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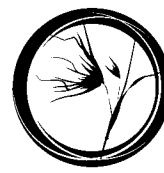
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ACKNOWLEDGEMENT OF COUNTRY

Succession Ecology acknowledges and pays respect to the past, present and future Traditional Custodians and Elders of this nation and the continuation of cultural, spiritual and educational practices of Aboriginal and Torres Strait Islander peoples.



Glossary

AoLA	Atlas of Living Australia
BAM	Bushland Assessment Method
BDBSA	Biological Database of South Australia (maintained by DEW)
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Commonwealth)
DEW	Department of Environment and Water (South Australia)
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
ha	Hectare
IBRA	Interim Biogeographical Regionalisation of Australia
MNES	Matters of National Environmental Significance
NVC	Native Vegetation Council
PMST	Protected Matters Tool
SEB	Significant Environmental Benefits
TEC	Threatened Ecological Community
VA	Vegetation Association

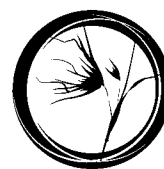


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1. Application information

1.1 Application details

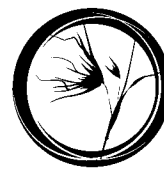
Applicant:	[REDACTED]		
Key contact:	[REDACTED] [REDACTED] [REDACTED]		
Landowner:	[REDACTED]		
Site Address:	875 Western Service Road, Bordertown SA		
Local Government Area:	Tatiara District Council	Hundred:	Tatiara
Title ID:	CT5660/371 CT5662/895	Parcel ID:	H400600 SE875 F204889AL553

1.2 Summary of proposed clearance

Purpose of clearance	Tango on behalf of iOR propose a fuel station development that includes a truck fuel station, EV charging station, solar farm, and a quick service restaurant.
Native Vegetation Regulation	Regulation 12, Schedule 1, clause 34, Infrastructure.
Description of the vegetation under application	1.081 ha of <i>Eucalyptus leucoxylon</i> ssp. <i>pruinosa</i> woodland with mature trees in good condition and a diverse native understory and 0.576 ha of a highly modified <i>E. leucoxylon</i> ssp. <i>pruinosa</i> woodland with one mature <i>E. leucoxylon</i> ssp. <i>pruinosa</i> and little native plant cover.
Total proposed clearance – area (ha) and number of trees	The proposed clearance is of 1.657 ha of native vegetation and 0 scattered trees.
Level of clearance	Level 4
Overlay (Planning and Design Code)	Native Vegetation Overlay



Map of proposed Clearance Area	 Produced by: Succession Ecology Coordinate system: GD42020 MGA Zone 54 Date: 14/08/2026 Copyright: Use or copying of this map in whole or in part without the written permission of Succession Ecology's client and Succession Ecology constitutes an infringement of copyright. VA1 - Eucalyptus leucoxylon ssp. pruinosa woodland with diverse understorey VA2 - Highly modified Eucalyptus leucoxylon ssp. pruinosa woodland Impact Area Project Area succession ecology <i>Native vegetation on site includes two vegetation associations (VAs). Impact footprint is shown in black hatching.</i>
Mitigation hierarchy	The proponent will contribute an SEB payment into the Native Vegetation Fund to support restoration and conservation works in the region.
SEB Offset proposal	A payment into the Native Vegetation Fund of \$43,201.08 (including admin fee).



2. Purpose of clearance

2.1 Description

Tango Projects on behalf of iOR is proposing a fuel and restaurant development in a 2.14 ha area west of Bordertown (Figure 1). The proposed development is adjacent to Dukes Highway, the highway connecting Adelaide to Melbourne. The fuel station development will include a truck fuel station, EV charging station, solar farm, and a quick service restaurant. There is remnant vegetation on site, most of which is proposed to be impacted by this development. An application for the clearance of native vegetation will therefore be required under the *Native Vegetation Act 1991* (SA; NV Act).

2.2 General location

The Project area is located on Western Service Road which is directly adjacent to Dukes Highway west of Bordertown (Figure 1). Bordertown is frequently used as a rest stop when driving on Dukes Highway as it is near the South Australian and Victorian border and is approximately a three hour drive from Adelaide.

2.3 Background

2.3.1 Administrative Boundaries

This Project is sited within the Tatiara District Council of Limestone Coast Landscape Board. It is located within the Murray Darling Depression Interim Biogeographic Regionalisation for Australia (IBRA) Region, Lowan Mallee Subregion, and the Cannawigara IBRA Association (Department of Environment and Water SA 2020).

2.3.2 Local and Regional Land Use

The surrounding land use predominantly consists of agricultural, livestock grazing and rural residential land. The Project area is directly adjacent to a vacant retail commercial land parcel, the Melbourne-Adelaide railway corridor. The project area is in a narrow grassy woodland, which continues to the west. The Bordertown township is approximately 2.5 km south-east from the Project area. Poocher Swamp Game Reserve is the closest conservation area and is situated ~6 km west of the Project area.

2.3.3 Native Vegetation Remnancy

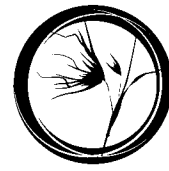
The local area has a low level of remnant native vegetation cover, with 3 per cent remnancy mapped within 5 km of the Project area (statistics derived from NatureMaps). The Cannawigara IBRA Association contains 10 per cent remnancy of which 41 per cent is protected (Native Vegetation Council 2024a). The Lowan Mallee IBRA Subregion contains 47 per cent remnancy of which 83 per cent of vegetation is protected (Native Vegetation Council 2024a).

2.3.4 Associated Development

There are no associated developments with this project.



Figure 1: Location of the Bordertown Fuel Station Project. Project area is comprised of two land parcels.



2.4 Details of the proposal

The proposed development will comprise a truck fuel station, a quick service restaurant, a solar farm and an electric vehicle charging station (Figure 2). The proposed development footprint spans most of the area except a small section in the northeast of the Project area.

2.5 Approvals required or obtained

The project is subject to the *Native Vegetation Act 1991*.

2.6 Native vegetation regulation

The proposed clearance will be assessed under Regulation 12, Schedule 1, clause 34, Infrastructure of the *Native Vegetation Act, 1991 (NV Act)*.

2.7 Development Application Information

This site is located within the Rural zone. The following Planning and Design Overlays apply to the Project Area:

- Hazards (Bushfire – General)
- Hazards (Bushfire – Urban Interface)
- Hazards (Flooding – Evidence Required)
- Key Outback and Rural Routes
- Native Vegetation
- Prescribed Wells Area
- Water Protection Area

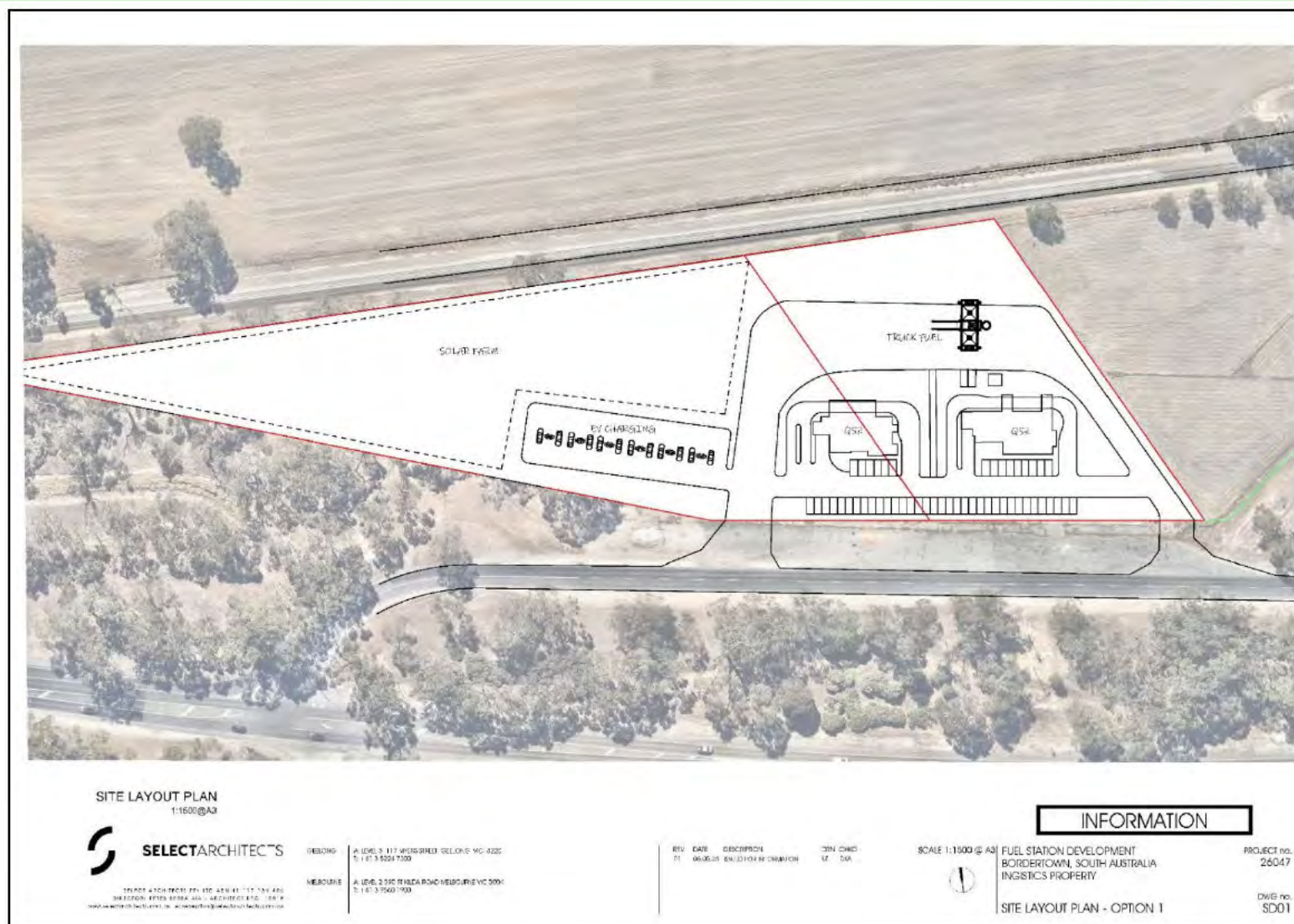
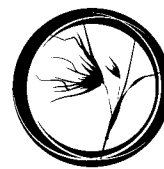


Figure 2: Proposed design for the development. Supplied by Tango Projects on 28/07/2026.



3. Method

3.1 Flora and Fauna assessment

3.1.1 Desktop assessment

A desktop assessment was conducted to undertake preliminary mapping of native vegetation protected under the *NV Act 1991* via the NatureMaps tool. This mapping was used to plan the assessment and inform the field methodology.

The desktop assessment was also undertaken to determine the threatened ecological communities, flora species, and fauna species that potentially occur in the area. Communities and species were evaluated as threatened if they were listed under the *National Parks and Wildlife (NPW) Act 1972* and/or the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, as outlined below:

- **NPW Act 1972**
 - o Schedule 7 – Endangered Species
 - o Schedule 8 – Vulnerable Species
 - o Schedule 9 – Rare Species

- **EPBC Act 1999**

Part 13 – Species and communities – Division 1- Listed threatened species and ecological communities – Subdivision A – Listing – 178 Listings of threatened Species

- o Section 178 (c) – Critically Endangered
- o Section 178 (d) – Endangered
- o Section 178 (e) – Vulnerable

Threatened communities and species were evaluated if they had been recorded within 5 km of the project site since 1995 or were considered 'known' to occur within the search area via the Protected Matters Search Tool.

Databases searched during the desktop assessment included:

- Protected Matters Search Tool (PMST): to identify Matters of National Environmental Significance (MNES) under the *EPBC Act 1999*, including nationally threatened species and ecological communities, 'known' to occur in the search area.
- NatureMaps: to identify records of threatened flora and fauna listed under either the *NPW Act 1972* or *EPBC Act 1999*, recorded since 1995 within the search area.
- Biological Database of South Australia: to identify threatened flora and fauna listed under either the *NPW Act 1972* or *EPBC Act 1999*, recorded since 1995 within the search area that have restricted access to distribution data.
- Atlas of Living Australia (AoLA): to identify threatened flora and fauna listed under either the *NPW Act 1972* or *EPBC Act 1999*, recorded since 1995 within the search area. Records from 'citizen science' initiatives are excluded from results.
- Appendices in the NVC Bushland and Scattered Tree Assessment Manuals: to determine scattered trees species that provide suitable habitat for threatened fauna and threatened ecological communities protected under *NPW Act 1972*.



A likelihood of occurrence/habitat use assessment was carried out for threatened communities, fauna and flora species identified during the Desktop Assessment. The likelihood of these species using the site following the metric described in Table 1.

The distribution of vegetation associations was assessed using satellite imagery and vegetation community data obtained through NatureMaps. All maps were generated using ArcGIS Pro.

Table 1: Criteria for the likelihood of occurrence/habitat use of species within the survey area.

Likelihood	Criteria
Highly Likely/Known	Recorded in the last 10 years, the species does not have highly specific niche requirements, the habitat is present and falls within the known range of the species distribution or The species was recorded as part of field surveys.
Likely	Recorded within the previous 20 years, the area falls within the known distribution of the species and the area provides habitat or feeding resources for the species.
Possible	Recorded within the previous 20 years, the area falls inside the known distribution of the species, but the area provides limited habitat or feeding resources for the species. Recorded within 20–40 years, survey effort is considered adequate, habitat and feeding resources present, and species of similar habitat needs have been recorded in the area.
Unlikely	Recorded within the previous 20 years, but the area provides no habitat or feeding resources for the species, including perching, roosting or nesting opportunities, corridor for movement or shelter. Recorded within 20–40 years; however, suitable habitat does not occur, and species of similar habitat requirements have not been recorded in the area. No records despite adequate survey effort.

3.1.2 Field Survey

A vegetation survey was conducted on 22 and 23 June 2026. Ground truthing of vegetation communities identified in the desktop assessment was carried out and the vegetation subject to clearance was surveyed using the Bushland Assessment Methodology (Native Vegetation Council 2024a). Careful inspection was undertaken to identify any threatened flora and threatened fauna species known to occur in the region.

The level of clearance has been assessed as a Level 4. Three state listed species protected under the *NPW Act* were assessed as likely to occur on site:

- *Burhinus grallarius* (Bush Stone-curlew); *NPW Act* (R)
- *Corcorax melanorhamphos* (White-winged Chough); *NPW Act* (R)
- *Zanda funerea whiteae* (Western Yellow-tailed Black-cockatoo); *NPW Act* (V)

An opportunistic observation-based survey was conducted to identify fauna species using the vegetation in the Project area as habitat.

3.1.3 Limitations

Limitations are inherent in all field surveys, as seasonal timing can influence detectability, including whether plants are in flower and when fauna species are most active (e.g. during breeding periods). The survey was conducted on the 22 and 23 of June, an appropriate time to observe many threatened species; however, it did not occur at the optimal season for detection of some threatened species, such as *Caladenia lowanensis* (Wimmera Spider-orchid). No formal fauna survey was conducted and as such, there are likely fauna species that were present but not detected.



4. Assessment outcomes

4.1 Vegetation assessment

4.1.1 General description of the vegetation, the site and matters of significance.

IBRA Regions

The Project area falls within the Cannawigara IBRA Association, the Murray Darling Depression Region and the Lowan Mallee Subregion (Department of Environment and Water SA 2020). A description of the Murray Darling Depression Region is presented in Table 2.

The Murray Darling Depression IBRA Region is an extensive, gently undulating sand and clay plain of Tertiary and Quaternary age, often overlain by aeolian dunes. Vegetation includes semi-arid woodlands dominated by Black Oak/Belah, Bullock Bush/Rosewood and various *Acacia* species, along with mallee shrublands, heathlands and savanna woodlands.

Table 2: Description of the Murray Darling Depression IBRA Region (Thackway and Cresswell 1995).

Characteristic	Description
Landform	Plains with variable dune cover, from dune formations with relatively small plains between to plains with isolated tracts of dunes. Claypans, saline soils, swamps, and intermittent lakes in low-lying areas.
Geology	Exposed caliche & crusty loamy soils; colluvial sand, silt, clay & gravel along foot slopes of Olay Spur. Evaporite deposits; gypsum & halite
Soil	Brown calcareous earths, highly calcareous loamy earths, cracking clays, yellow grey, hard setting loamy soils with red clayey subsoils
Vegetation	Mallee Woodland and Shrubland
Climate	E6: Semi-arid climate that is too dry to support field crops. Soil moisture tends to be greatest in winter

Vegetation Overview

Vegetation in the Project area is comprised of two distinct grassy woodland communities. These two communities have been assigned to different two vegetation associations: VA1 – *Eucalyptus leucoxylon* ssp. *pruinosa* woodland with diverse understory on sandy loam/loam; and VA2 – a highly modified *E. leucoxylon* ssp. *pruinosa* woodland with little native plant cover on sandy loam/loam. The woodland with the diverse understory is in the central and western part of the project area and has high habitat value as it contains numerous mature trees with large (>5 cm) and small (<5 cm) hollows and a species-rich understory comprised mostly of native plants and low cover of exotic species. In contrast, the highly modified woodland in the eastern part of the project area does not have much habitat value as it is mostly cleared of trees and only habitat use is for foraging.

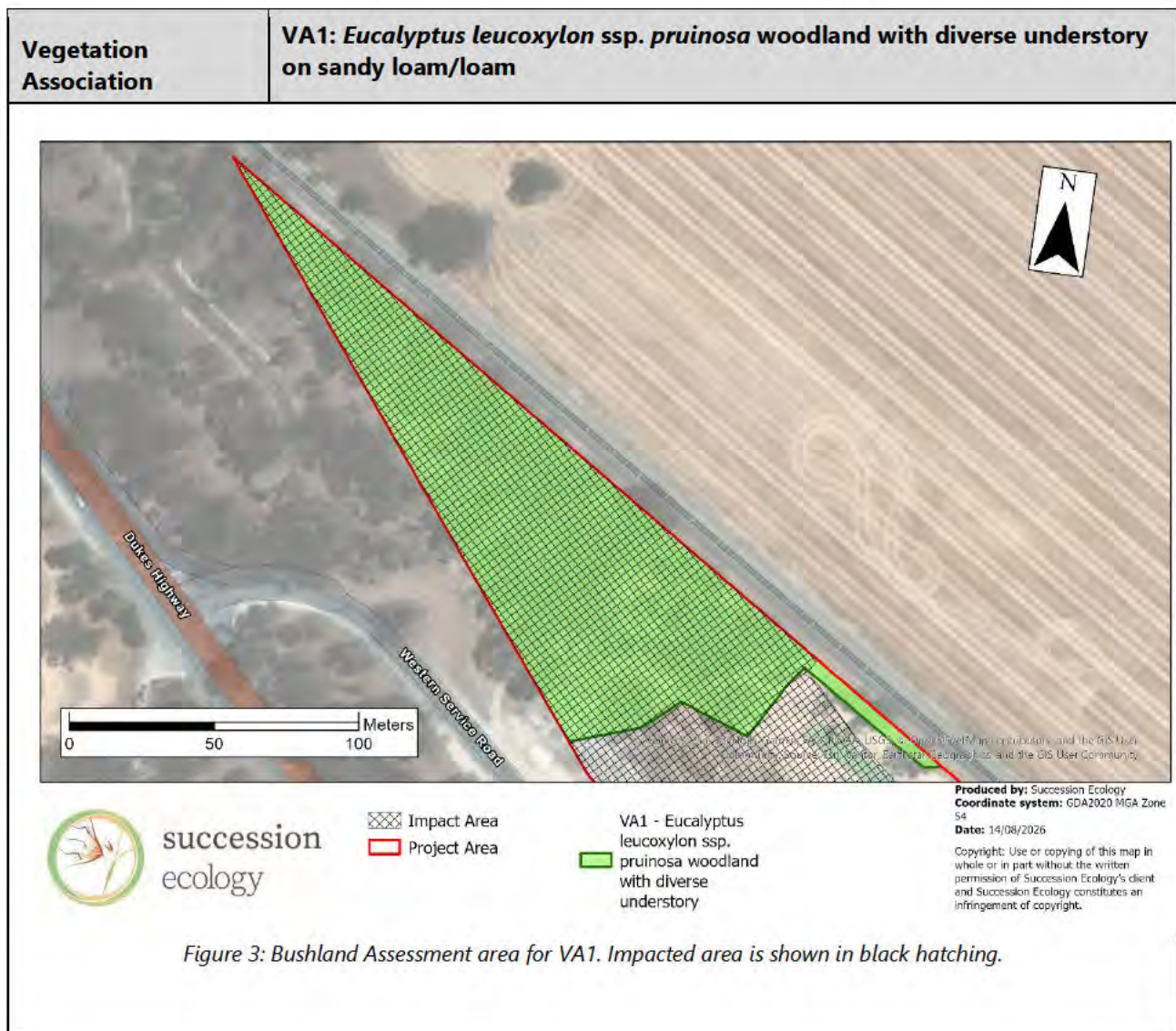
Two declared weeds, Bridal Creeper (*Asparagus asparagoides*) and Horehound (*Marrubium vulgare*) were observed in the Project area. Bridal Creeper was observed across VA1 whereas Horehound was only found in one area in VA2. Two environmental weeds, Coastal Galenia (*Aizoon pubescens*) and Cape Weed (*Arctotheca calendula*) were observed frequently in VA2.



Landscape context

Within the project area there was a significant amount of human disturbance across this site, including multiple artificial soil mounds, a dam and concrete slabs. These areas have not been included within either VA (Figure 11 in Appendix B.).

4.1.2 Details of the vegetation associations and scattered trees proposed to be impacted





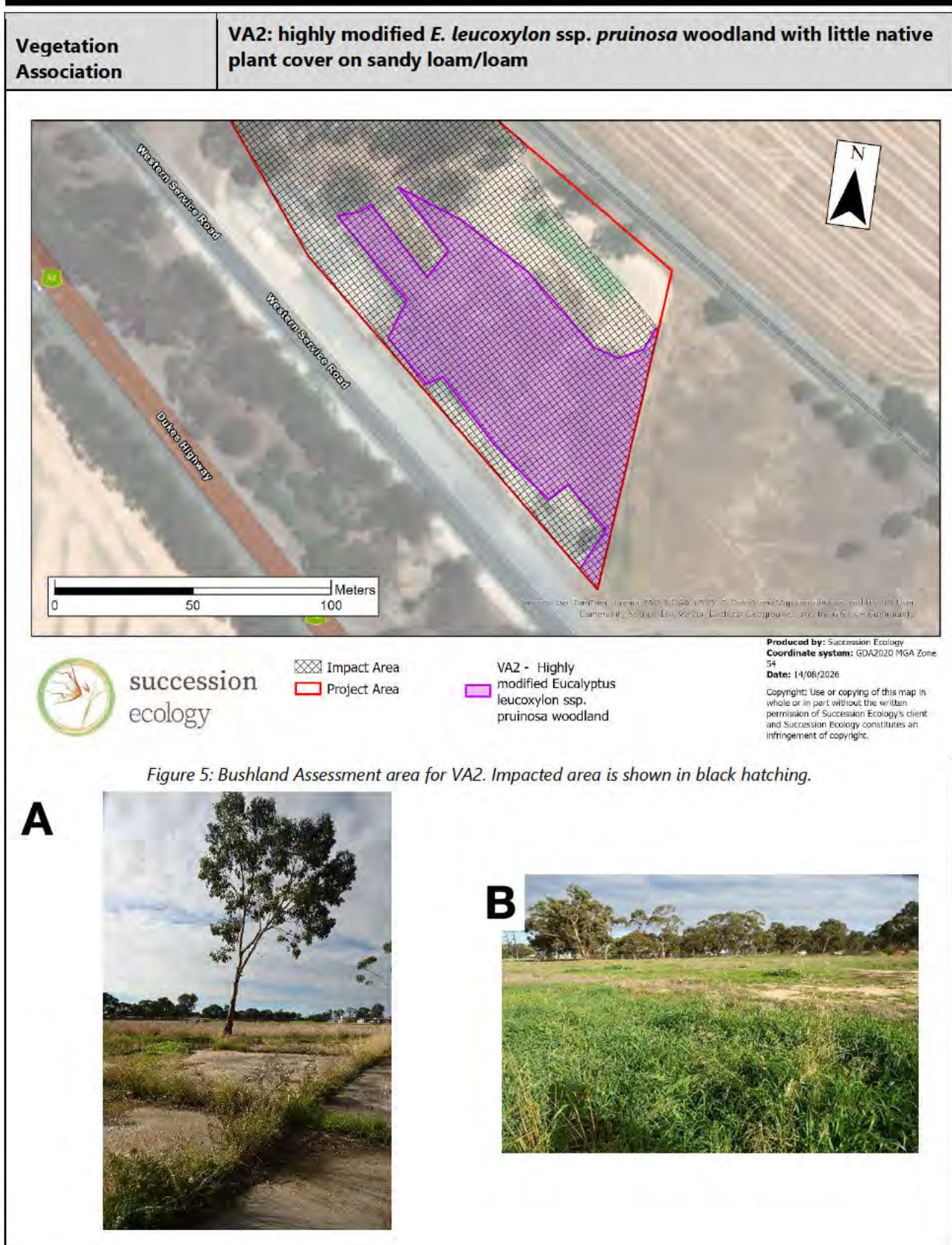
Vegetation Association	VA1: <i>Eucalyptus leucoxylon</i> ssp. <i>pruinosa</i> woodland with diverse understory on sandy loam/loam
A  C  E  G 	B  D  F  H 



Vegetation Association	VA1: <i>Eucalyptus leucoxylon</i> ssp. <i>pruinosa</i> woodland with diverse understory on sandy loam/loam
Figure 4: Photos from survey field of VA1. (A) Representative vegetation of the site (facing Northwest direction); (B) <i>Lepidosperma</i> sp.; (C) <i>Rytidosperma</i> sp.; (D) <i>Dianella revoluta</i>; (E) <i>Pimelea</i> sp.; (F) Wood ducks roosting; (G & H) hollows.	
General description	VA1 has a dominant overstory of <i>Eucalyptus leucoxylon</i> ssp. <i>pruinosa</i> with a small patch of <i>E. odorata</i>. The overstory is mostly comprised of mature trees, of which many have large and small hollows. These trees offer a considerable amount of nesting, roosting and refuge habitat for wildlife. Several Wood ducks and Galahs were observed utilising trees and roosting near hollows (Appendix A). Bird species such as Musk Lorikeets, Brown Treecreepers, White-Plumed Honeyeater, Eastern Rosella, Striated Pardalote, Australian Magpie, and Rainbow Lorikeet were observed foraging in the tree canopies. Whistling Kite, Sulphur-crested Cockatoo and Little Raven were observed flying above this VA. During breeding season, this woodland likely offers habitat to multiple bird species. There was a small stick nest observed in <i>E. leucoxylon</i> ssp. <i>pruinosa</i> (Appendix B). The understory is diverse and includes large patches of <i>Lepidosperma</i> sp., <i>Dianella revoluta</i> and <i>Rytidosperma</i> sp. There are also scattered native forbs and herbs which include <i>Wahlenbergia</i> sp., <i>Acaena echinata</i>, <i>Pelargonium rodneyanum</i> and <i>Pimelea</i> sp. The midstory is sparse and include only a few individual <i>Acacia farinosa</i>. Compared to the Benchmark Community, the native plant species diversity is moderate. Plant regeneration was observed for many of the understory species and for <i>E. leucoxylon</i> ssp. <i>pruinosa</i>. A <i>Pimelea</i> sp. (Rice flower) was observed on site. This specimen was unable to be identified at species level as there were no flowers (the key identification feature) and as such could be one of few species including <i>Pimelea hewardiana</i>, a species listed as Vulnerable under the NPW Act 1972. The closest record of this species is approximately 10 km to the northeast of the Project area and was observed in 2009. Alternative possible <i>Pimelea</i> species include <i>P. glauca</i> and <i>P. humilis</i>. <i>P. humilis</i> was observed in 2022, approximately 9 km from the project area. This species also requires flowers to be distinguished from <i>P. hewardiana</i> and may be the specimen observed on site. Weed density was variable within this VA and tended to be mostly in few small dense patches (e.g., <i>Oxalis pes-caprae</i> and <i>Ehrharta calycina</i>). Bridal Creeper (<i>Asparagus asparagoides</i>) was frequently observed across this VA. There were many rabbit warrens, scats and diggings observed across this VA.
Threatened species or community	Threatened Ecological Communities Four threatened ecological community (TEC) were identified during the desktop assessment: Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions; Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions; Mallee Bird Community of the Murray Darling Depression Bioregion; and Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia. No TEC was identified within this association during the field survey.



Vegetation Association	VA1: <i>Eucalyptus leucoxylon</i> ssp. <i>pruinosa</i> woodland with diverse understory on sandy loam/loam				
	Threatened Fauna The desktop search identified a total of 30 threatened fauna species within the search area. Ten are listed under the <i>EPBC Act 1999</i> and 20 further fauna listed as threatened under the <i>NPW Act 1972</i>. These species are discussed further in section 4.2.2. Of the threatened species, three were considered likely to occur within VA1: • <i>Burhinus grallarius</i> (Bush Stone-curlew); <i>NPW Act</i> (R) • <i>Corcorax melanorhamphos</i> (White-winged Chough); <i>NPW Act</i> (R) • <i>Zanda funerea whiteae</i> (Western Yellow-tailed Black-cockatoo); <i>NPW Act</i> (V) No threatened fauna species were recorded during the field survey. Threatened Flora The desktop search identified a total of eight threatened flora species within the search area; one listed under the <i>EPBC Act 1999</i> and seven further flora listed as threatened under the <i>NPW Act 1972</i>. These species are discussed further in section 4.2.3. None of these species are considered likely to occur within VA1. No threatened flora species were identified during the field survey but it is noted that the presence of <i>Pimelea hewardiana</i> cannot be unambiguously excluded.				
Landscape context score	1.07	Vegetation Condition Score	42.28	Conservation significance score	1.1
Unit Biodiversity Score	49.76	Area (ha)	1.081	Total Biodiversity Score	53.79
NPW Act; E= Endangered, V = Vulnerable, R= Rare EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable					





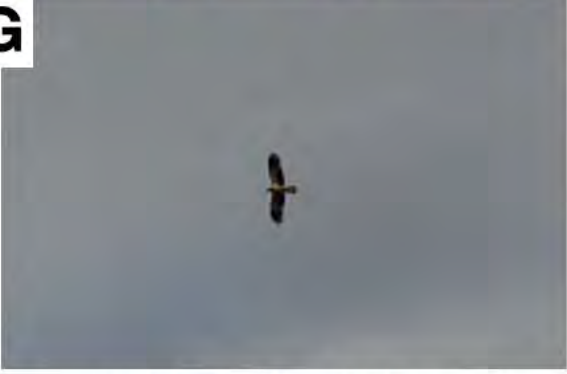
Vegetation Association	VA2: highly modified <i>E. leucoxylon</i> ssp. <i>pruinosa</i> woodland with little native plant cover on sandy loam/loam
C  D  E  F  G  H 	
General description	VA2 is a highly modified <i>Eucalyptus leucoxylon</i> ssp. <i>pruinosa</i> woodland that has little remnant vegetation. There is one mature tree (<i>E. leucoxylon</i> ssp. <i>pruinosa</i>) and two small <i>Eucalyptus</i> spp. (less than five metres tall) in this vegetation association. There is a sparse <i>Atriplex suberecta</i>, <i>A. eardleyae</i> and <i>Chloris truncata</i> understory. Most of the understory is comprised of weeds such as <i>Avena barbata</i>, <i>Piptatherum miliaceum</i> and <i>Scabiosa atropurpurea</i>. This site has little habitat value as there are no hollows for nesting or understory and midstory that could be used as refuge for fauna. Masked Lapwing, Crested Pigeon and Magpie Lark were observed foraging in this VA and Wood Duck, Eastern Rosella and Whistling Kite were observed flying

Figure 6: Photos from VA2: (A) The one mature tree on site (*Eucalyptus leucoxylon* ssp. *pruinosa*); (B) large patch of *Avena barbata*; (C); standing water with *Ficinia nodosa* and *Crassula helmsii*; (D) Small *Eucalyptus* spp.; (E) *Atriplex* sp. (F) one of two 1 m deep holes (~0.5 m in diameter), (G) Whistling Kite flying above site, (H) *Chloris truncata* growing between concrete slab.



Vegetation Association	VA2: highly modified <i>E. leucoxyton</i> ssp. <i>pruinosa</i> woodland with little native plant cover on sandy loam/loam				
	over this VA (Appendix A). There was one <i>Atriplex</i> individual that was identified to likely be a hybrid of <i>A. suberecta</i> and <i>A. eardleyae</i>. This individual was listed as <i>Atriplex</i> sp. on the BAM scoresheet. There were environmental weeds observed on site in moderate to low density: Horehound (<i>Marrubium vulgare</i>), Cape weed (<i>Arctotheca calendula</i>) and Coastal Galenia (<i>Aizoon pubescens</i>). Much of the area is highly modified and shows signs of human disturbance, specifically a dam with dam wall, concrete slabs and soil and artificial soil mounds. The dam, areas covered in concrete and artificial soil mounds in the Project area are not included in either VA. However, there are additional areas of disturbance and rubbish in the southeast corner in this VA. At the time of survey there was standing water, which contained <i>Ficinia nodosa</i> and <i>Crassula helmsii</i> and exotic plants in and around it. Rabbit droppings but not warrens were observed on site.				
Threatened species or community	Threatened Ecological Communities Four threatened ecological community (TEC) were identified during the desktop assessment: Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions; Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions; Mallee Bird Community of the Murray Darling Depression Bioregion; and Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia. No TEC was identified within this association during the field survey. Threatened Fauna The desktop search identified a total of 30 threatened fauna species within the search area. Ten listed under the <i>EPBC Act 1999</i> and 20 further fauna listed as threatened under the <i>NPW Act 1972</i>. These species are discussed further in section 4.2.2. These species are discussed further in section 4.2.2. Of the threatened species, one was considered likely to occur within VA2: • <i>Burhinus grallarius</i> (Bush Stone-curlew); <i>NPW Act</i> (R) No threatened fauna species were recorded during the field survey. Threatened Flora The desktop search identified a total of eight threatened flora species within the search area; one listed under the <i>EPBC Act 1999</i> and seven further flora listed as threatened under the <i>NPW Act 1972</i>. No threatened flora species are considered likely to occur within VA2. No threatened flora species were identified during the field survey.				
Landscape context score	1.07	Vegetation Condition Score	6.30	Conservation significance score	1.04



Vegetation Association	VA2: highly modified <i>E. leucoxylon</i> ssp. <i>pruinosa</i> woodland with little native plant cover on sandy loam/loam				
Unit Biodiversity Score	7.01	Area (ha)	0.576	Total Biodiversity Score	4.04
NPW Act; E= Endangered, V = Vulnerable, R= Rare EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable					

Photo log

Additional photos of areas excluded around VA2 are presented in Appendix B..



4.2 Threatened species assessment

4.2.1 Threatened ecological communities

A Protected Matters Search identified four Threatened Ecological Communities (TEC) known or likely to occur within 5 km of the Project area. One TEC was identified as known to occur: Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions. Three TECs were identified as likely to occur: Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions; Mallee Bird Community of the Murray Darling Depression Bioregion; and Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia. No Threatened Ecological Communities were observed in the Project area during the field survey. The criteria used to assess if a TEC was present is outlined for each TEC, below.

Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions

The Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions is Endangered under the *EPBC Act*. This community was listed as Endangered due to a reduced geographic distribution and ongoing threats to remnants from grazing, invasive species, and incremental land clearing. There were no Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions observed in the Project area based on the key criteria of this threatened ecological community (Table 3).

Table 3: Key diagnostic criteria for the Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions and whether the Project area met the criteria. (DCCEEW 2023).

Key Diagnostic Criteria	Project Area
Within Riverina and Murray Darling Depression IBRA bioregions	Yes
Has a dominant tree canopy of <i>Allocasuarina luehmannii</i> (buloke) or has evidence of dead <i>A. luehmannii</i>	No
Typically contains native grasses, shrubs, and herbs. Note: Vegetation with <i>A. luehmannii</i> canopy and abundant weeds can also be considered as a part of the ecological community	Yes

Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions

The Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions is listed as Critically Endangered under the *EPBC Act*. This community is listed as Critically Endangered due to land clearing, climate change and invasive species. This TEC was not observed in the project area based on the key diagnostic criteria of this threatened ecological community (Table 4).

Table 4: Key diagnostic criteria for the Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions and whether the Project area met the criteria (DAWE 2020).

Key Diagnostic Criteria	Project Area
Within Riverina, Naracoorte Coastal Plains, and Murray Darling Depression IBRA bioregions	Yes
Has a dominant tree canopy of <i>Eucalyptus porosa</i> (black mallee box), <i>E. behriana</i> (bull mallee), <i>E. calycogona</i> (Square-fruited mallee) or <i>E. dumosa</i> (Dumosa mallee). Tree canopy is open and cover is typically 10-15%.	No
Mature trees are usually 5-10 m or up to 15 m	Yes
The ground layer often contains chenopods but can also include tussock grasses. <i>Triodia</i> spp. (spinifex) are typically absent	Yes



The Grey Box (*E. microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia.

The Grey Box (*E. microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia is *Endangered* under the *EPBC Act*. This TEC was not observed in the Project area based on the key diagnostic criteria of this threatened ecological community (Table 5).

Table 5: Key diagnostic criteria for the Grey Box (*E. microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia and whether the Project area met the criteria (DEHA 2010).

Key Criteria	Project Area
Occurs on low slopes and plains in South Australia, central NSW, and central and norther Victoria	Yes
Has a dominant tree canopy of <i>Eucalyptus macrocarpa</i> (Grey Box) or classifies as a Derived grassland, in which cases, the canopy and mid layers have been removed to less than 10 per cent but has a vegetation cover containing greater than 50 per cent native plants.	No
The ground layer contains a variety of grasses, herbs or small shrubs.	Yes

Mallee Bird Community of the Murray Darling Depression Bioregion

This Threatened Ecological Community is listed as *Endangered* due to the loss of functionally important species, loss of ecosystem integrity and ongoing threats such as habitat fragmentation, invasive animals and climate change. There were no Mallee Bird Community of the Murray Darling Depression Bioregion observed in the project area based on the key criteria of this threatened ecological community (Table 6).

Table 6: Key diagnostic criteria for the Mallee Bird Community of the Murray Darling Depression Bioregion and whether the Project area met the criteria (DAWE 2021a)

Key Criteria	Project Area
Within the Murray Darling Depression IBRA region	Yes
Within a patch of native vegetation of at least 10 hectares	No
The 10 hectare patch of native vegetation contains at least 5 hectares dominated by mallee	No

In summary, none of the four TECs were determined to occur in the Project Area.

4.2.2 Threatened fauna

The desktop search identified a total of 30 threatened fauna species within the search area. Ten are listed under the *EPBC Act 1999* and 20 further are listed under the *NPW Act 1972*. Of these species, four species listed under the *EPBC Act 1999* and 18 further species listed under the *NPW Act 1972* have been included in the likelihood of use assessment (Table 7), using the site following the metric described in Table 1. All other species identified, but not considered relevant to this assessment, are presented in Appendix C.



Table 7: A summary of the fauna species observed on site or recorded within 5 km of the application area since 1995, and those listed as known to occur in the PMST.

Species (common name)	State rating	National rating	Data source	Year of last record	Species known habitat preferences	Likelihood
AMPHIBIA						
<i>Litoria raniformis</i> (Southern Bell Frog)	V	VU	2,3,5	2020	Found in a wide variety of wetland habitats (DEH 2021a).	Unlikely – Six observations within 5 km since 1995. Most recent observation was 2.6 km to the southwest in 2020. Closest observation was 2 km to the west. No suitable habitat in project area.
AVES						
<i>Actitis hypoleucos</i> (Common Sandpiper)	R		2	2008	Preference for pebbly, sandy or rocky margins of fast-flowing rivers, as well as small ponds, pools and dams, clear freshwater lake shores, sheltered sea coasts with rocky or sandy beaches, tidal creeks and estuaries and often forages in patches of dry meadow (Birdlife Australia 2015).	Unlikely – Five observations within 5 km. Most recent observation was 1.4 km to the southeast in 2008. Closest observation was 1.3 km to the west. No suitable habitat in project area.
<i>Ardeotis australis</i> (Australian Bustard)	V		2	2011	Dry plains, grasslands and in open woodland, favouring tussock and hummock grasslands (DEWNR 2019).	Possible – Two observations within 5 km. Closest and most recent observation was 2.3 km to the southeast in 2011. Some suitable habitat in project area.
<i>Burhinus grallarius</i> (Bush Stone-curlew)	R		3	2022	Inhabits grassy woodlands of low, sparse grassy or herb understorey. Prefers habitat covered in fallen timber and debris. Occurs also in parkland and gardens in urban areas (Landscape SA 2022).	Likely – Most recent observation within 5 km was in 2022. Suitable habitat in project area.
<i>Calyptorhynchus banksii graptogyne</i> (South-Eastern Red-tailed Black Cockatoo)	E	EN	2, 3, 5	2020	Stringybark and buloke woodlands for foraging and red gum for nesting. It is most likely to use large contiguous forest where possible (DEWNR 2007).	Possible – Two observations within 5 km. Closest and most recent observation was 4.3 km to the east in 2020. Some suitable habitat in project area.
<i>Corcorax melanorhamphos</i> (White-winged Chough)	R		2, 3	2025	Woodland and tall mallee, with a preference for wetter areas with leaf-litter for feeding and mud for building nests (DEH 2014).	Likely – Seven observations within 5 km. Most recent observation was 2.7 km to the south in 2025. Suitable habitat in project area.



Species (common name)	State rating	National rating	Data source	Year of last record	Species known habitat preferences	Likelihood
<i>Egretta garzetta nigripes</i> (Little Egret)	R		3	2004	Habitat varies widely, and includes the shores of lakes, rivers, canals, ponds, lagoons, marshes and flooded land, the bird preferring open locations to dense cover (Hancock and Kushland 1984).	Unlikely – Two observations within 5 km. Closest and most recent observation was 2.9 km to the southwest in 2004. No suitable habitat in project area.
<i>Entomyzon cyanotis cyanotis</i> (Eastern Blue-faced Honeyeater)	R		2, 3	2008	Found in tropical, sub-tropical and wetter temperate or semi-arid zones. It is mostly found in open forests and woodlands close to water, as well as monsoon forests, mangroves and coastal heathlands. It is often seen in banana plantations, orchards, farm lands and in urban parks, gardens and golf courses (Australian Museum 2020).	Possible – 8 observations within 5 km. Most recent observation was 2.1 km to the southeast in 2008. Closest observation was 0.6 km to the west. Some suitable habitat in project area.
<i>Falco peregrinus macropus</i> (Peregrine Falcon)	R		3	2022	Found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites, and prefers coastal and inland cliffs or open woodlands near water (DEH 2009).	Possible – Two records within 5 km. Most recent observation was 4.8 km to the west in 2022. Closest observation was 4.3 km to the west. Some suitable habitat in project area.
<i>Falco subniger</i> (Black Falcon)	R		2	2021	Partly nomadic, favouring sparse woodlands, scrubby grasslands and farmlands in the drier areas and can sometimes be seen following fires, farm machinery, shooters and other raptors in search of flushed prey (Birds SA 2023).	Possible – Three observations within 5 km. Most recent observation was 2.7 km to the south in 2021. Closest observation was 2.7 km to the southwest. Some suitable habitat in project area.
<i>Hieraaetus morphnoides</i> (Little Eagle)	V		2	2025	Seen over woodland, forested land and open country. Nests in tall living trees. Avoids heavy forest (Birdlife Australia 2021a).	Possible – 5 observations within 5 km. Most recent observation was 2.7 km to the south in 2025. Closest observation was 2.7 km to the south. Some suitable habitat in project area.
<i>Lathamus discolor</i> (Swift Parrot)	E	CR	2, 3	2002	On the mainland they occur in areas where eucalypts are flowering profusely or where there	Unlikely – Four observations within 5 km. Closest and most recent observation was 2.5 km to the southeast in



Species (common name)	State rating	National rating	Data source	Year of last record	Species known habitat preferences	Likelihood
					are abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such as Swamp Mahogany <i>Eucalyptus robusta</i> , Spotted Gum <i>Corymbia maculata</i> , Red Bloodwood <i>C. gummifera</i> , Forest Red Gum <i>E. tereticornis</i> , Mugga Ironbark <i>E. sideroxylon</i> , and White Box <i>E. albens</i> (DEH 2022).	2002. No suitable habitat in project area.
<i>Myiagra inquieta</i> (Restless Flycatcher)	R		2,3	2025	Open forests, woodlands and mallee, associated with species such as <i>Eucalyptus camaldulensis</i> , <i>E. leucoxylon</i> , <i>E. oleosa</i> and <i>E. gracilis</i> (DEH 2021b).	Possible – 12 observations within 5 km. Most recent observation was 2.7 km to the south in 2025. Closest observation was 2.7 km to the south. Some suitable habitat in project area.
<i>Neophema chrysostoma</i> (Blue-winged Parrot)		VU	5	2024	Woodlands, coastal heaths and grasslands (ALA 2023).	Possible – Two observations within 5 km. Closest and most recent observation was 2.4 km to the southeast in 2024. Some suitable habitat in project area.
<i>Neophema elegans elegans</i> (Elegant Parrot)	R		2	2020	Wide range of open habitats, including grasslands, shrublands, mallee, woodlands and thickets, bluebush plains, heathlands, saltmarsh and farmland (Birdlife Australia 2021b).	Possible – Three observations within 5 km. Most recent observation was 2.4 km to the southeast in 2020. Closest observation was 2.4 km to the northwest. Some suitable habitat in project area.
<i>Oxyura australis</i> (Blue-billed Duck)	R		2, 3	2025	The Blue-billed Duck is almost wholly aquatic, and is seldom seen on land. Non-breeding flocks, often with several hundred individuals, congregate on large, deep open freshwater dams and lakes in autumn.	Unlikely – 48 observations within 5 km. Most recent observation was 2.7 km to the south in 2025. Closest observation was 1.3 km to the southwest. No suitable habitat in project area.
<i>Parvipsitta pusilla</i> (Little Lorikeet)	E		2	2013	Mainly inhabit dry, open sclerophyll forests and woodlands, usually dominated by tall eucalypts, especially box-ironbark species, where they forage in the canopy of flowering trees. Sometimes occur in	Possible – One observation within 5 km. Closest and most recent observation was 2.3 km to the southeast in 2013. Some suitable habitat in project area.



Species (common name)	State rating	National rating	Data source	Year of last record	Species known habitat preferences	Likelihood
					mallee associations, and forests vegetated with trees similar to eucalypts, such as bloodwoods and <i>Angophora</i> (Birdlife Australia 2024).	
<i>Petroica boodang</i> <i>boodang</i> (Eastern Scarlet Robin)	R		2	2002	Occurs predominantly in Eucalypt woodlands and forests. Sufficient amount of leaf litter, perches in the height range 1-2 m, and fallen logs are important components of habitat.	Possible – One observation within 5 km. Closest and most recent observation was 4.4 km to the west in 2002. Some suitable habitat in project area.
<i>Petroica phoenicea</i> (Flame Robin)	V		3	2005	Eucalypt forests and woodlands, with access to open areas during breeding season, and feeds in open areas such as pastures (Birdlife International 2020).	Possible – Four observations within 5 km. Closest and most recent observation was 4.4 km to the west in 2002. Some suitable habitat in project area.
<i>Spatula rhynchotis</i> (Australasian Shoveler)	R		2, 3	2025	Found in shallow wetlands with abundant emergent vegetation throughout the wetter south and east of the state, and on ephemeral lakes and wetlands inland. They can be found on freshwater, brackish and saline waters including inshore waters and estuaries (Birds SA 2022).	Unlikely – 59 observations within 5 km. Most recent observation was 2.7 km to the south in 2025. Closest observation was 1.3 km to the southwest. No suitable habitat in project area.
<i>Stictonetta naevosa</i> (Freckled Duck)	V		2, 3	2021	Prefers permanent fresh water swamps and creeks with heavy growth of bullrushes, lignum or tea-tree. During drier times, it moves to waters such as lakes, reservoirs, farm dams and sewerage ponds. They generally rest in dense cover (Australian Museum 2021).	Unlikely – Six observations within 5 km. Most recent observation was 2.7 km to the south in 2021. Closest observation was 1.3 km to the southwest. No suitable habitat in project area.
<i>Zanda funerea whiteae</i> (Western Yellow-tailed Black-cockatoo)	V		2	2024	Inhabits a variety of habitats, favours eucalypt woodland and pine plantations (Birdlife Australia 2021c).	Likely – Five observations within 5 km. Most recent observation was 4.3 km to the east in 2024. Closest observation was 4.2 km to the west. Suitable habitat in project area.
Sources 1- BDBSA, 2- AoLA, 3- NatureMaps, 4- Observed/recorded in the field, 5- Protected matters search tool, 6- Other NP&W Act: E- Endangered, V- Vulnerable, R- Rare EPBC Act: Ex- Extinct, CR- Critically endangered, EN- Endangered, VU- Vulnerable						

Previous records of threatened species with a likelihood of occurrence as Likely or above are discussed below.

***Burhinus grallarius* (Bush Stone-curlew); NPW Act (R)**

Bush Stone-curlew is a nocturnal, ground-dwelling bird that typically occurs in grasslands, grassy woodlands and open forests. This species can also occur in parklands, gardens and urban areas. They have a broad diet which can include insects, seeds, small lizards, molluscs and small mammals. This species can travel large distances though typically forages for food near their nesting site during breeding season. Bush Stone-curlew is found across Australia (Figure 7). Breeding season is from July to January (Birdlife Australia 2026).

Threats

The primary threats to Bush Stone-curlew are predation by foxes and cats, vegetation clearance, trampling of nests and climate change (Birdlife Australia 2026).

Local populations

The project site contains habitat suitable for this species. Most nearby observations have been recorded in the Bordertown Wildlife Park and other parks and gardens in Bordertown township. The nearest observation was approximately 1 km southeast from the Project area in an area of eucalypts, surrounded by agricultural land.

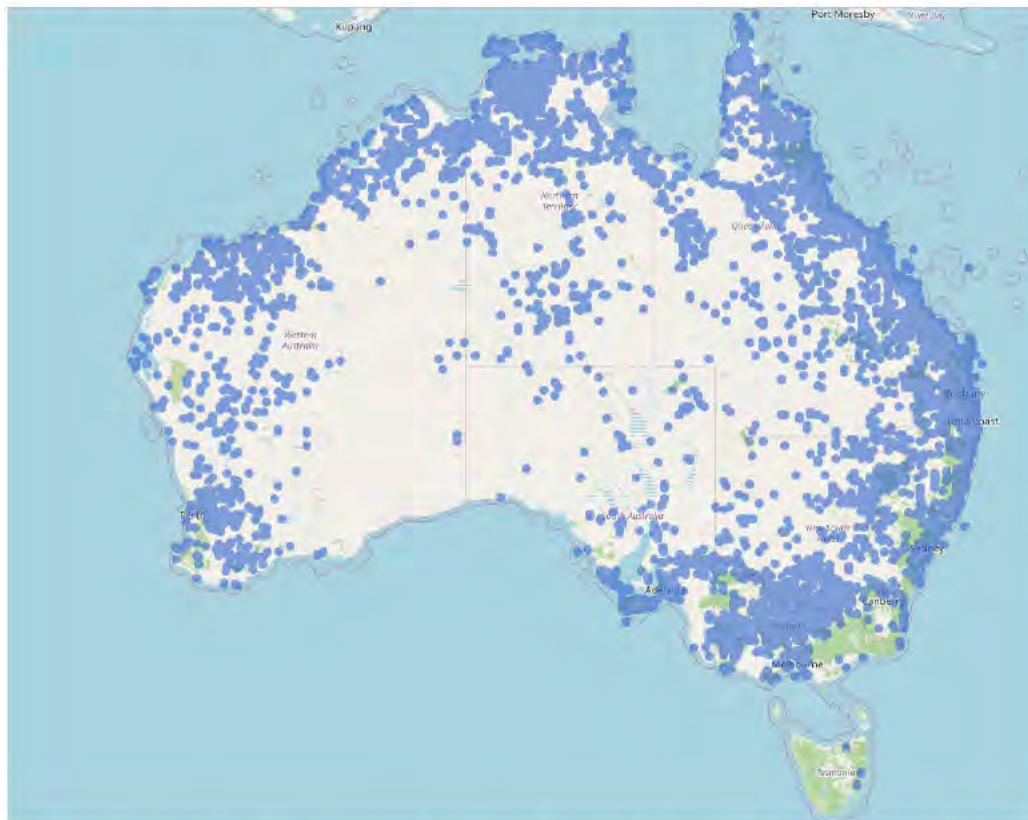


Figure 7: The distribution of Bush Stone-curlew. Records obtained from Atlas of Living Australia on 13/08/2026.

***Corcorax melanorhamphos* (White-winged Chough); NPW Act (R)**

White-winged Chough are large black birds with a distinctively curved beak, a red eye, and a large white wing patch, which is visible in flight. The species is strongly social, often occurring in flocks of up to 20 birds. Flocks can comprise breeding adults as well as non-breeding helpers, which can be young from previous years' broods (DEH 2014). The species is widespread across the east and southeast of Australia (Figure 8). They inhabit



woodland areas including mallee and prefer areas with leaf litter where they forage for insects, suitable native shrubs with seeds for feeding as well as mud for nest building (DEH 2014).

Threats

White-winged Chough is threatened by predation from invasive predators as well as removal of habitat and feeding resources (DEH 2014). The species persists in remnant woodland areas within a farmland matrix, indicating that the species is capable of dispersing across open areas (DEH 2014).

Local populations

The project site contains habitat suitable for this species. Most observations near the Project area have been recorded in conservation parks or roadside vegetation. The species is known to inhabit agricultural areas with remnant scattered trees that represent an open woodland.

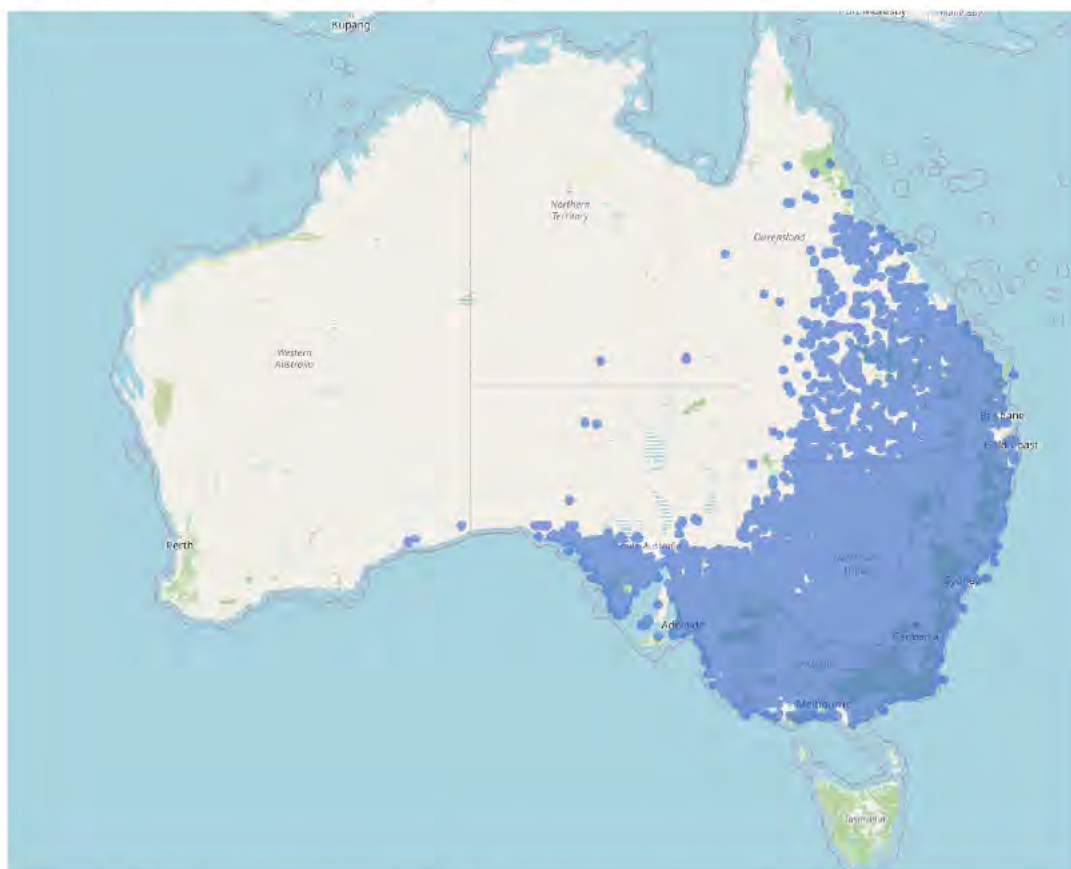


Figure 8: The distribution of White-winged Chough. Records obtained from Atlas of Living Australia on 13/08/2026.

***Zanda funerea whiteae* (Western Yellow-tailed Black-cockatoo); NPW Act (V)**

Yellow-tailed Black Cockatoo (*Zanda funerea whiteae*) is recognised as Vulnerable in South Australia (NPW Act). They inhabit a variety of woodland and open forest areas but prefer vegetation with a dense understory and rely on large hollows from old trees to nest and breed (Natural Resources, Adelaide and Mount Lofty Ranges n.d.). This species is found in the southern part of South Australia and Victoria (Figure 9). Breeding season occurs from October to March in South Australia (Birds SA 2024). Yellow-tailed Black Cockatoo will strip bark to forage for insects and extract seed from the cones of *Allocasuarina* spp. (Sheoak), but are also known to feed on *Eucalyptus*, *Acacia*, *Banksia*, *Xanthorrhoea* and *Hakea* species (Natural Resources, Adelaide and Mount



Lofty Ranges n.d.). Due to habitat loss the species have also adjusted to feed on seeds from introduced pine species; *Pinus radiata* and *Pinus halepensis* (Natural Resources, Adelaide and Mount Lofty Ranges n.d.).

Threats

Climate change, predation from introduced species (primarily cats), and fire are considered the major threats to *Z. f. whiteae*. Likewise, urban development, and resource competition from other native species are also considered to impact populations (Willson and Bignall 2009).

Local populations

There are five observations of this species recorded within 5 km of the Project area. This species utilises large remnant gum trees which are present within the site. This species is likely to utilise some of the *Eucalyptus* trees present on site for foraging.



Figure 9: The distribution of Western Yellow-tailed Black-cockatoo. Records obtained from Atlas of Living Australia on 13/08/2026.



4.2.3 Threatened flora

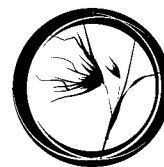
The desktop search identified a total of eight threatened flora species within the search area; one listed under the *EPBC Act 1999* and seven further flora listed as threatened under the *NPW Act 1972*. All eight species are presented in the likelihood of occurrence assessment in Table 8 following the metric described in Table 1. None of the threatened flora species identified within the desktop search were identified within the Project area. A *Pimelea* sp. (Rice flower) was observed on site. This specimen was unable to be identified at species level as there were no flowers (the key feature) and as such could be one of few species including *Pimelea hewardiana*, a species listed as Vulnerable under the *NPW Act 1972*.

Table 8: A summary of the flora species observed on site or recorded within 5 km of the application area since 1995, or those listed as known to occur in the PMST.

Species (common name)	State rating	National rating	Data source	Year of last record	Species known habitat preferences	Likelihood
<i>Acacia trineura</i> (Three-nerve Wattle)	E		2,3	1996	Sometimes near inland water, growing in red earths and clay, often in mallee communities (Atlas of Living Australia 2021a).	Unlikely – Two observations within 5 km. Closest and most recent observation was 3.4 km to the south in 1996. No suitable habitat in project area.
<i>Bothriochloa macra</i> (Red-leg Grass)	R		2, 3	2000	Found mainly south of Port Augusta but with a few scattered records further north in grasslands and grassy woodland communities but often in degraded sites (NSW Government 2024).	Possible – Two observations within 5 km. Closest and most recent observation was 3 km to the southeast in 2000. Some suitable habitat in project area.
<i>Caladenia lowanensis</i> (Wimmera Spider-orchid)		EN	2	2010	Found mainly in <i>Callitris</i> sp. and <i>Eucalyptus leucoxylon</i> woodland and <i>Melaleuca uncinata</i> communities on sandy loams. Flowering occurs in September to October (Threatened Species Scientific Committee 2016).	Possible – Two observation within 5 km. Closest and most recent observation was 4.8 km to the west in 2010. Some suitable habitat in project area.
<i>Caleana minor</i> (Small Duck-orchid)	V		2	2010	Usually found on slopes in sclerophyll forest on sandy or gravelly soil amongst low shrubs and grasses (Atlas of Living Australia 2026)..	Unlikely – Two observations within 5 km. Closest and most recent observation was 4.3 km to the east in 2010. No suitable habitat in project area.
<i>Grevillea angustiloba</i> ssp. <i>wirregaensis</i> (Dissected Holly-leaf Grevillea)	E		3	2001	Found mainly in mallee, heath and <i>Melaleuca uncinata</i> communities (VicFlora 2019).	Unlikely – One observation within 5 km. Closest and most recent observation was 3 km to the southeast in 2001. No suitable habitat in project area.
<i>Swainsona procumbens</i>	V		2, 3	2018	Typically found on water logged soils or on sand	Unlikely – Three observations within 5 km. Closest and most recent observation was 4.3 km



Species (common name)	State rating	National rating	Data source	Year of last record	Species known habitat preferences	Likelihood
(Broughton Pea)					dunes (Atlas of Living Australia 2026a).	to the east in 2018. No suitable habitat in project area.
<i>Templetonia stenophylla</i> (Leafy Templetonia)	V		2, 3	1995	Found mostly in dry sclerophyll forests (Atlas of Living Australia 2026b).	Unlikely – Four observations within 5 km. Closest and most recent observation was 4.8 km to the south. No suitable habitat in project area.
<i>Thelymitra holmesii</i> (Blue Star Sun-orchid)	V		3	2003	Sandy heathlands around swamp margins in high rainfall areas. Also associated with <i>Leptospermum continentale</i> shrubland with sedge and fern understorey and creek lines (Seeds of SA 2021).	Unlikely – One observation within 5 km. Closest and most recent observation was 4.3 km to the east in 2003. No suitable habitat in project area.
Sources 1- BDBSA, 2- AoLA, 3- NatureMaps, 4- Observed/recorded in the field, 5- Protected matters search tool, 6- Other NP&W Act: E- Endangered, V- Vulnerable, R- Rare EPBC Act: Ex- Extinct, CR- Critically endangered, EN- Endangered, VU- Vulnerable						



4.3 Cumulative impact

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must consider the potential cumulative impact, both direct and indirect, that is reasonably likely to result from a proposed clearance activity.

The cumulative impact of clearing is the gradual reduction of remnants in the area, a loss of connectivity between remnant patches and reduction of available habitat to threatened flora and fauna. Patches of remnant vegetation provide important habitat for native flora and fauna and are at high risk of degradation from clearance and other impacts such as weed incursion. This data report considers all sources of impact to native vegetation posed by the project.

The vegetation remnancy in the region is low, with approximately 3 % of native vegetation remaining within 5 km of the proposed site. The Cannawigara IBRA Association contains 10 % remnancy of which 41 % is protected.

Direct Impacts

The Project area encompasses 2.14 ha of which 1.68 ha comprise native vegetation. The proposed development will require clearance of 1.657 ha (1.081 ha from VA1 and 0.576 ha from VA2). The current proposal utilises most of the project area and there are currently no plans for future works within the undeveloped area.

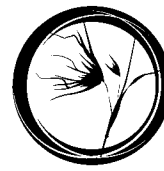
Indirect Impacts

Potential indirect or offsite impacts of infrastructure construction projects can include the alteration of hydrological processes, weed invasion or spread, dust impacts on neighbouring vegetation, and contamination from waste.

Weed species tend to be specialists at colonising disturbed soils. As such, any disturbance caused by construction activities is susceptible to weed invasion, which can impact habitat for fauna and flora, and may spread to neighbouring habitat. Management actions will be implemented to ensure no new weed infestations occur within the Project area, and project activities do not cause a spread of weeds to neighbouring habitat.

Construction activities are likely to cause an increase in dust levels in the local area for the duration of earthworks and vehicular travel on un-surfaced tracks. Dust can coat vegetation, potentially interfering with plant growth and reproduction. Dust emissions will be confined to construction activities only, and as such any impacts will be temporary. Further, dust suppression activities will be employed during all stages of construction to assist in limiting dust impacts on neighbouring vegetation.

Construction activities can generate waste products, both hazardous and non-hazardous, that can impact flora and fauna or their habitat within and adjacent to the Project area. Such impacts may include soil contamination and smothering by litter or other waste materials. Management actions will be implemented to ensure all waste is appropriately managed on-site and disposed of in accordance with regulatory requirements.



4.4 Address the mitigation hierarchy

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations (NV) 2017, the NVC must have regard to the mitigation hierarchy. The NVC will also consider, with the aim to minimize, impacts on biological diversity, soil, water and other natural resources, threatened species or ecological communities under the EPBC Act or listed species under the NPW Act.

a) Avoidance – outline measures taken to avoid clearance of native vegetation

The proposed development covers most of the Project area. There are no measures taken to avoid clearance of native vegetation.

b) Minimization – if clearance cannot be avoided, outline measures taken to minimize the extent, duration and intensity of impacts of the clearance on biodiversity to the fullest possible extent (whether the impact is direct, indirect or cumulative)

There are no measures taken to minimise clearance of vegetation.

c) Rehabilitation or restoration – outline measures taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been degraded, or destroyed by the impact of clearance that cannot be avoided or further minimized, such as allowing for the re-establishment of the vegetation.

There are no measures taken to rehabilitate or restore native vegetation in this area.

d) Offset – any adverse impact on native vegetation that cannot be avoided or further minimized should be offset by the achievement of a significant environmental benefit that outweighs that impact.

This proponent will contribute an SEB payment into the Native Vegetation Fund to support restoration and conservation works in the region.

The NVC will only consider an offset once avoidance, minimization and restoration have been documented and fulfilled. The NVC Policy for a Significant Environmental Benefit explains the biodiversity offsetting principles that must be met (Native Vegetation Council 2024b).



4.5 Principles of clearance (*Schedule 1, Native Vegetation Act 1991*)

Principle of clearance	Considerations
Principle 1(a) - it comprises a high level of diversity of plant species	<u>Relevant information</u> Bushland Plant Diversity Score – VA1 – 12 VA2 – 8
	<u>Assessment against the principles</u> <u>At Variance</u> VA1 and VA2
	<u>Moderating factors that may be considered by the NVC</u> There are no moderating factors. The proposed amount of vegetation clearance from this Project is equivalent to a loss of 0.70 % of remnant vegetation within 5 km of the Project.
Principle 1(b) - significance as a habitat for wildlife	<u>Relevant information</u> No threatened species were observed during the field survey. There are three threatened fauna species considered likely use habitat within the Project area: • <i>Burhinus grallarius</i> (Bush Stone-curlew); <i>NPW Act</i> (R) • <i>Corcorax melanorhamphos</i> (White-winged Cough); <i>NPW Act</i> (R) • <i>Zanda funerea whiteae</i> (Western Yellow-tailed Black-cockatoo); <i>NPW Act</i> (V) A further 12 species were considered possible to use habitat in the Project area. VA1 has many hollow bearing trees which offer potential habitat to many fauna species. Threatened Fauna Score: VA1 – 0.1 VA2 – 0.04 Unit Biodiversity Score: VA1 – 49.76 VA2 – 7.01
	<u>Assessment against the principles</u> <u>Seriously at Variance</u> – VA1 <u>At Variance</u> – VA2
	<u>Moderating factors that may be considered by the NVC</u> There are no moderating factors.
Principle 1(c) - plants of a rare, vulnerable or endangered species	<u>Relevant information</u> No threatened flora species were recorded during the field survey. There were no species identified in the desktop assessment that were considered likely to occur in this area. However, there were three orchid species identified in the desktop assessment that may have been undetected as the time of the survey: • <i>Caladenia lowanensis</i> (Wimmera Spider-orchid); <i>EPBC Act</i> (EN); Possible • <i>Caleana minor</i> (Small Duck-Orchid); <i>EPBC Act</i> (V); Unlikely • <i>Thelymitra holmesii</i> (Blue Star Sun-orchid); <i>NPW Act</i> (V); Unlikely Threatened Flora Scores: VA1 – 0 VA2 – 0



	<u>Assessment against the principles</u> <u>Not at Variance</u> – VA1 and VA2
	<u>Moderating factors that may be considered by the NVC</u> N/A
Principle 1(d) - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered:	<u>Relevant information</u> A Protected Matters Search identified four Threatened Ecological Communities (TEC) known or likely to occur within 5 km of the Project area. One TEC was identified as known to occur: Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions. Three TECs were identified as likely to occur: Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions; Mallee Bird Community of the Murray Darling Depression Bioregion; and Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia. No threatened Ecological Communities were observed in the Project area during the field survey. Threatened Community Score – VA1 – 1 VA2 – 1
	<u>Assessment against the principles</u> <u>Not at Variance</u> VA1 and VA2
	<u>Moderating factors that may be considered by the NVC</u> N/A
Principle 1(e) - it is significant as a remnant of vegetation in an area which has been extensively cleared.	<u>Relevant information</u> The local area has a low level of remnant native vegetation cover, with 3 per cent remnancy mapped within 5 km of the Project area (statistics derived from NatureMaps). The Cannawigara IBRA Association contains 10 per cent remnancy of which 41 per cent is protected (Native Vegetation Council 2024a). Total Biodiversity Score – VA1 – 53.79 VA2 – 4.04
	<u>Assessment against the principles</u> <u>Not at Variance</u> VA1 and VA2
	<u>Moderating factors that may be considered by the NVC</u> N/A
Principle 1(f) - it is growing in, or in association with, a wetland environment.	<u>Relevant information</u> This vegetation is not associated with a wetland.
	<u>Assessment against the principles</u> <u>Not at Variance</u> – VA1 and VA2
	<u>Moderating factors that may be considered by the NVC</u> N/A



Principle 1(g) - it contributes significantly to the amenity of the area in which it is growing or is situated.	<u>Relevant information</u>
	This is privately owned land and as such does not contribute significantly to the amenity of the area.
	N/A
	<u>Moderating factors that may be considered by the NVC</u>
	N/A

Principles of Clearance (h-m) will be considered by comments provided by the local Landscape Board or relevant Minister. The Data Report should contain information on these principles where relevant and where sufficient information or expertise is available.

4.6 Risk assessment

Determine the level of risk associated with the application

Total clearance	No. of Trees	0
	Area (ha)	1.657
	Total Biodiversity Score	57.83
Seriously at variance with principle 1(b), 1(c) or 1 (d)		VA1 is Seriously at Variance with principle 1(b).
Risk assessment outcome		Level 4

4.7 NVC guidelines

Provide any other information that demonstrates that the clearance complies with any relevant NVC guidelines related to the activity.

NA



5. Clearance summary

Clearance area(s) summary table

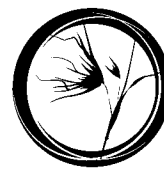
Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
1	VA1	12	1	0	0.10	49.76	1.081	53.79	1	0	0	59.17	\$38,090.82	\$2,095
1	VA2	8	1	0	0.04	7.01	0.576	4.04	1	0	0	4.44	\$2,858.26	\$157
Total							1.657	57.83				63.61	\$40,949.08	\$2,252

Total summary table

Economies of Scale Factor	0.35	SEB Uplift Factor	1.10
Rainfall (mm) Factor	452		
SEB Points of Gain/ha Factor	6.5	Management Cost (\$/ha)	\$26,450

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	57.83	63.61	\$40,949.08	\$2,252	\$43,201.08

NOTE: The minimum payment for this clearance will be \$500.



6. Significant Environmental Benefit

A Significant Environmental Benefit (SEB) is required for approval to clear under Division 5 of the Regulations. The NVC must be satisfied that as a result of the loss of vegetation from the clearance that a SEB will result in a positive impact on the environment that is over and above the negative impact of the clearance.

6.1 Achieving a SEB

Indicate how the SEB will be achieved by ticking the appropriate box and providing the associated information:

- ☐ Establish a new SEB Area on land owned by the proponent.
- ☐ Use SEB Credit that the proponent has established. Provide the SEB Credit Ref. No. _____
- ☐ Apply to have SEB Credit assigned from another person or body. The [application form](#) needs to be submitted with this Data Report.
- ☐ Apply to have a SEB to be delivered by a Third Party. The [application form](#) needs to be submitted with this Data Report.
- ☒ Pay into the Native Vegetation Fund.

6.2 Payment SEB

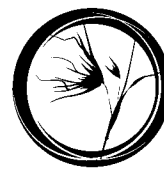
6.2.1 Investigation into On-ground SEB

The SEB Policy states that if a SEB is required as a result of an approved activity undertaken under the Regulations, the applicant has a choice of either providing an on-ground SEB or a Payment SEB. However, if a proposed clearance has an offset obligation of greater than 150 SEB Points Required, the NVC will first request that a reasonable attempt be made to identify an on-ground SEB before a payment will be accepted.

Most of the Project area will be used for the development. Establishing an SEB offset area within the Project area is not feasible. The proponent will make a payment to the Native Vegetation Fund to support and improve vegetation in the surrounding area.

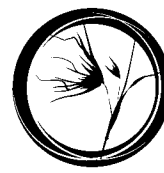
6.2.2 Payment SEB

The proponent will make a total payment of \$43,201.08 (including admin fee) into the Native Vegetation Fund.

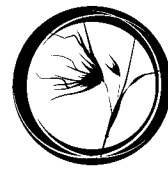


7. References

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8. Appendices & Attachments

Appendices

Appendix A: Complete species lists of species recorded during field surveys.

Appendix B: Additional site photos.

Appendix C: Threatened fauna and flora species excluded from assessment

Attachments

Attachment 1: Bushland assessment scoresheets associated with the proposed clearance

Attachment 2: Site maps as shape files



Appendix A – Flora and fauna species

SPECIES NAME	COMMON NAME	SITE	
Native Flora		VA1	VA2
Acacia farinosa	Mealy Wattle	✓	
Acaena echinata	Sheep's Burr	✓	
Allocasuarina luehmannii	Bull Oak	✓	
Atriplex eardleyae	Eardley's Saltbush		✓
Atriplex sp.	Saltbush		✓
Atriplex suberecta	Lagoon Saltbush		✓
Austrostipa sp.	Spear-grass	✓	
Chloris truncata	Windmill Grass		✓
Clematis microphylla	Old Man's Beard	✓	
Crassula helmsii	Swamp Crassula		✓
Dianella revoluta var.		✓	
Enchylaena tomentosa var.	Ruby Saltbush	✓	✓
Eucalyptus leucoxydon ssp. pruinosa	Inland South Australian Blue Gum	✓	✓
Eucalyptus odorata	Peppermint Box	✓	
Eucalyptus sp.			✓
Eucalyptus sp.			✓
Ficinia nodosa	Knobby Club-rush		✓
Heliotropium europaeum	Common Heliotrope		✓
Lepidosperma sp.	Sword-sedge/Rapier-sedge	✓	
Lomandra micrantha ssp.	Small-flower Mat-rush	✓	
Pelargonium rodneyanum	Magenta Pelargonium	✓	
Pimelea sp.	Riceflower	✓	
Rytidosperma sp.	Wallaby-grass	✓	
Wahlenbergia sp.	Native Bluebell	✓	
Exotic Flora		VA1	VA2
Agave sp.		✓	
Aira sp.	Hair-grass		✓
Aizoon pubescens	Coastal Galenia		✓
Anagallis sp.		✓	
Arctotheca calendula	Cape Weed		✓
Asparagus asparagoides	Bridal Creeper	✓	
Avena barbata/fatua	Wild Oat	✓	✓
Brassica tournefortii	Wild Turnip		✓
Briza maxima	Large Quaking-grass	✓	
Bromus diandrus	Great Brome	✓	
Cynodon dactylon var. dactylon	Couch		✓
Cyperus eragrostis	Drain Flat-sedge		✓
Dactylis glomerata	Cocksfoot	✓	
Ehrharta calycina	Perennial Veldt Grass	✓	
Ehrharta erecta	Panic Veldt Grass	✓	
Heliotropium europaeum	Common Heliotrope		✓
Helminthotheca echioides	Ox-tongue		✓
Lagurus ovatus	Hare's Tail Grass	✓	✓
Lepidium africanum	Common Peppercross	✓	✓
Lolium sp.	Ryegrass		✓
Malva parviflora	Small-flower Marshmallow		✓
Marrubium vulgare	Horehound		✓
Melilotus officinalis	Common Melilot		✓



SPECIES NAME	COMMON NAME	SITE	
<i>Olea europaea</i>	Olive	✓	
<i>Oxalis pes-caprae</i>	Soursob	✓	✓
<i>Phalaris aquatica</i>	Phalaris	✓	✓
<i>Piptatherum miliaceum</i>	Rice Millet	✓	✓
<i>Plantago lanceolata</i> var.	Ribwort		✓
<i>Polygonum aviculare</i>	Wireweed		✓
<i>Populus</i> sp.	Poplar		✓
<i>Rumex crispus</i>	Curled Dock		✓
<i>Salvia verbenaca</i> var.	Wild Sage	✓	
<i>Siixalix atropurpurea</i>	Pincushion		✓
<i>Solanum nigrum</i>	Black Nightshade		✓
<i>Sonchus oleraceus</i>	Common Sow-thistle		✓
<i>Urtica urens</i>	Small Nettle	✓	
<i>Vicia sativa</i> ssp.	Common Vetch	✓	✓
Native Fauna		VA1	VA2
<i>Climacteris picumnus picumnus</i>	Brown Treecreeper	✓	
<i>Platycercus eximius eximius</i>	Eastern Rosella	✓	✓
<i>Aquila audax audax</i>	Wedge-tailed Eagle	✓	
<i>Ptilotula penicillata</i>	White-plumed Honeyeater	✓	
<i>Pardalotus striatus</i>	Striated Pardalote	✓	
<i>Haliastur sphenurus</i>	Whistling Kite	✓	✓
<i>Corvus mellori</i>	Little Raven	✓	
<i>Gymnorhina tibicen</i>	Australian Magpie	✓	
<i>Chenonetta jubata</i>	Maned Duck	✓	✓
<i>Eolophus roseicapilla</i>	Galah	✓	
<i>Trichoglossus moluccanus</i>	Rainbow Lorikeet	✓	
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	✓	
<i>Grallina cyanoleuca cyanoleuca</i>	Magpielark		✓
<i>Ocyphaps lophotes lophotes</i>	Crested Pigeon		✓
<i>Vanellus miles</i>	Masked Lapwing		✓



Appendix B – Additional site photos

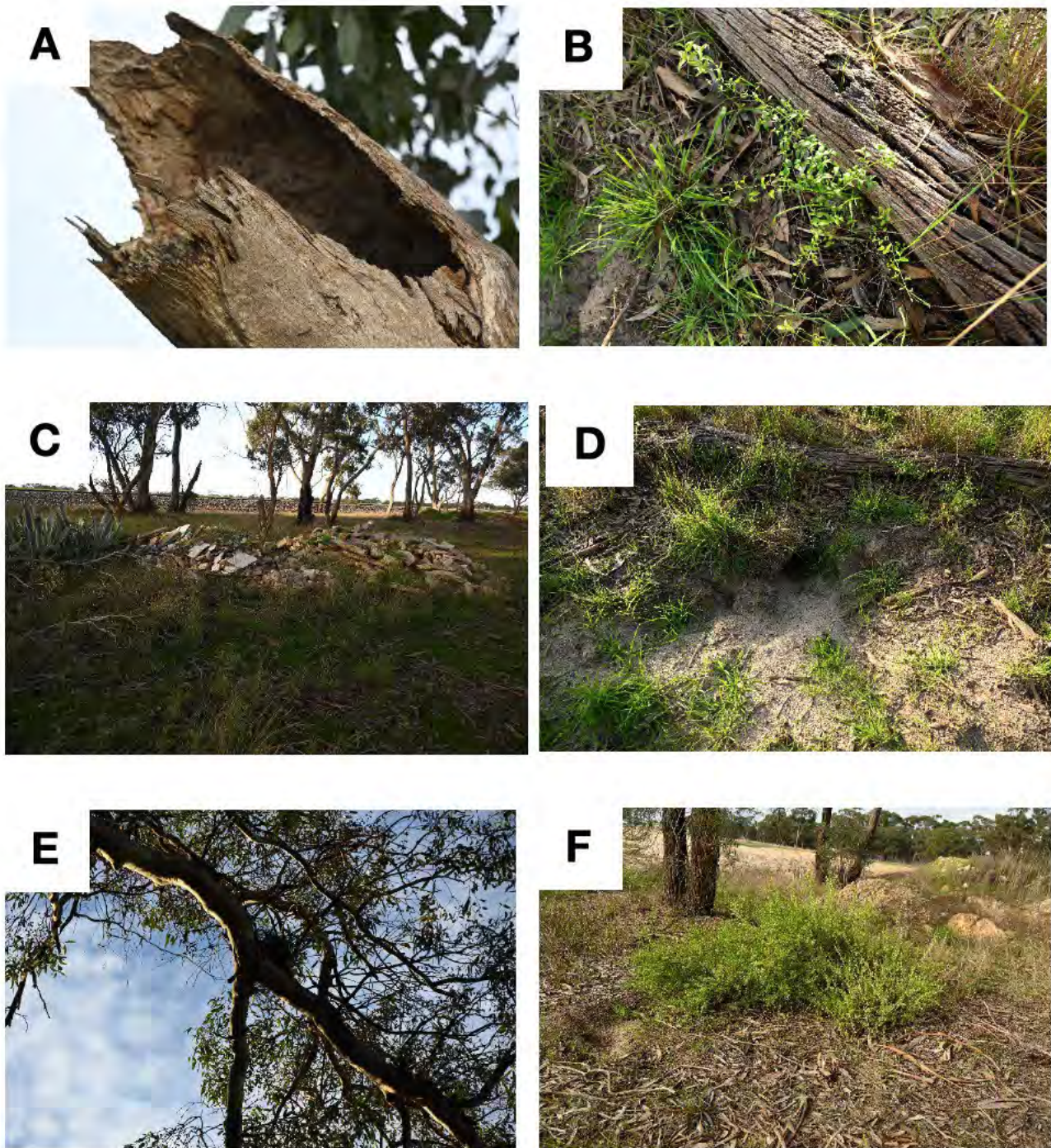


Figure 10: Additional site photos for VA1. (A) Example of a large hollow in *Eucalyptus leucoxylon* ssp. *pruinosa*. (B) Bridal Creeper (*Asparagus asparagoides*). (C) Piles of rubble and rubbish. (D) Rabbit warren observed in VA1. (E) Small stick nest observed in *E. leucoxylon* ssp. *pruinosa*. (F) Medium-sized Ruby Saltbush (*Enchylaena tomentosa*) with numerous small Ruby Saltbush seedlings scattered around it.

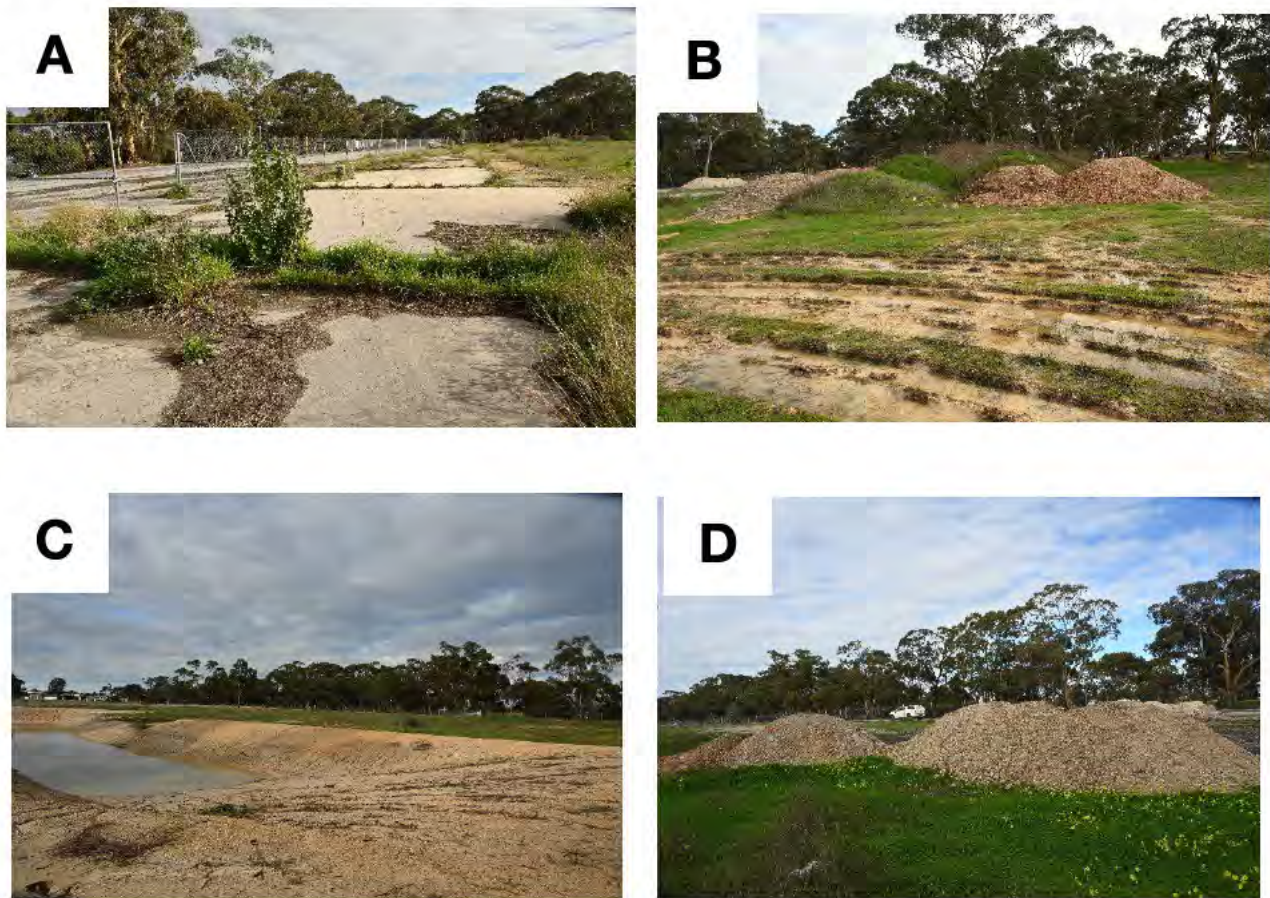


Figure 11: Photos of areas excluded from around VA2. (A) Concrete slab with Poplar and mostly exotic grasses growing between slabs. (B) artificial soil mounds. (C) Dam. (D) artificial soil mounds



Appendix C – Threatened fauna and flora species excluded from assessment

A number of species which were identified in the threatened species search have been excluded from assessment here, as the habitat under application was considered completely unsuitable and would not support the species, or the threatened subspecies does not occur within the vicinity of the application area. Such species include:

Species (common name)	State rating	National rating	Data source	Year of last record	Species known habitat preferences	Likelihood
AVES						
<i>Anthochaera chrysoptera</i> (Little Wattlebird)		ssp	2	2024	Mostly inhabit heathlands, shrublands and dry sclerophyll forests with heath understorey, especially in communities dominated by banksias. The subspecies can be found in coastal or subcoastal areas, as well in sand-dunes and on headlands. It can also be found in urban areas such as parks and gardens (DAWE 2021b).	This subspecies, <i>Anthochaera chrysoptera halmaturina</i> , is found exclusively on Kangaroo Island.
<i>Corcorax melanorhamphos melanorhamphos</i> (Eastern White-winged Chough)	ssp		2	2012	Woodland and tall mallee, with a preference for wetter areas with leaf-litter for feeding and mud for building nests (DEH 2014).	Listed as Rare at Species level. <i>Corcorax melanorhamphos</i> is included in Table 2.
<i>Dromaius novaehollandiae</i> (Emu)	ssp	ssp	2	2018	Refers to subspecies <i>Dromaius novaehollandiae baudinianus</i> , that was endemic to Kangaroo Island and determined to be extinct in 1836 (DCCEEW 2009).	This subspecies was exclusively on Kangaroo Island and was determined to be extinct in 1836.
<i>Melithreptus brevirostris</i> (Brown-headed Honeyeater)		ssp	2	2019	Mainly inhabits temperate assemblages, especially those dominated by eucalypts, as well as forests, mallee, and stringybark scrub. Can also be found within urban environments, including on golf courses and in gardens (DAWE 2021c).	This subspecies, <i>Melithreptus brevirostris magnirostris</i> , is found exclusively on Kangaroo Island.
<i>Manorina flavigula</i> (Yellow-throated Miner)	ssp	ssp	2	2024	Restricted to old growth mallee eucalypt woodland (DEH 2021c).	Unlikely – Threatened subspecies is <i>Manorina flavigula melanotis</i> . No records of this species in 5 km radius from project area and the project



Species (common name)	State rating	National rating	Data source	Year of last record	Species known habitat preferences	Likelihood
						area is outside the geographic extent of this species. No suitable habitat in project area.
<i>Nesoptilotis leucotis leucotis</i> (South-eastern White-eared Honeyeater)		ssp	2	2002	Mainly found in dry eucalypt forests and woodlands, with a well-developed understorey. They typically nest within shrubs and low trees. In mallee habitats, nesting occurs within low mallee eucalypts (DAWE 2021d).	This subspecies is not threatened. The threatened subspecies, <i>Nesoptilotis leucotis thomasi</i> , is found exclusively on Kangaroo Island.
<i>Platycercus elegans elegans</i> (South-eastern Crimson Rosella)		ssp	2	2025	Occurs across Kangaroo Island occupying mesic forests and woodlands with dense, open or grassy understoreys, as well as remnant vegetation on private land, alongside fences and creeks, and roadsides (DAWE 2021e).	The threatened subspecies, <i>Platycercus elegans melanopterus</i> , is found exclusively on Kangaroo Island.
<i>Strepera versicolor</i> (Grey Currawong)	ssp		2	2024	Known to occur in the far west of the State (Atlas of Living Australia 2021b).	The threatened subspecies, <i>Strepera versicolor plumbea</i> , (South-Western Grey Currawong) occurs in the far west of the State.
Sources 1- BDBSA, 2- AoLA, 3- NatureMaps, 4- Observed/recorded in the field, 5- Protected matters search tool, 6- Other NP&W Act: E- Endangered, V- Vulnerable, R- Rare EPBC Act: Ex- Extinct, CR- Critically endangered, EN- Endangered, VU- Vulnerable						



Succession Ecology Pty. Ltd.

ABN: 56 605 880 028

1/938 South Road
Edwardstown, SA 5039

Ph: 08 8166 2648

admin@successioneecology.com.au

www.successioneecology.com.au