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Native Vegetation Clearance

Thevenard Bunker Storage Expansion

Western Bunker

Data Report

Clearance under Section 28 of the *Native Vegetation Act 1991*

12 November 2026

Prepared by Ellie Powell and Dr. Briony Horner



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Client:	[redacted]
Client contact:	[redacted]
Client email:	[redacted]
Succession Ecology contact:	Dr Briony Horner
Succession Ecology email:	briony@successionecology.com.au
Prepared by:	Ellie Powell
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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)
DEW	Department of Environment and Water (South Australia)
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
EYP	Eyre Yorke Block (IBRA Region)
ha	Hectare
IBRA	Interim Biogeographical Regionalisation of Australia
MNES	Matters of National Environmental Significance
NPW Act	*National Parks and Wildlife Act 1972*
NV Act	*Native Vegetation Act 1991*
NVC	Native Vegetation Council
PDI Act	*Planning, Development and Infrastructure Act 2016*
PMST	Protected Matters Tool
SAPPA	South Australia Property and Planning Atlas
SEB	Significant Environmental Benefits
TBS	Total Biodiversity Score
UBS	Unit Biodiversity Score
VA	Vegetation Association

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1 Application information

1.1. Application details

Applicant:	[redacted]		
Key contact:	[redacted]		
Landowner:	Crown Land licensed to Bunge Australia Pty Ltd		
Site Address:	Decres Bay Road, Ceduna South Australia, 5690		
Local Government Area:	The DC of Ceduna	**Hundred:**	Bonython
Title ID:	CR5751/50	**Parcel ID:**	D34496A104

1.2. Summary of proposed clearance

Purpose of clearance	[redacted] requires the clearance of native vegetation for the construction of an emergency grain storage bunker adjacent to their bulk handling facility, Thevenard Bunker Storage, in Ceduna, SA. The new scrape bunker will be established in a land parcel to the west of their current facility.
Native Vegetation Regulation	The proposed clearance will be assessed under Section 28 of the *Native Vegetation Act 1991* (SA; *NV Act*).
Description of the vegetation under application	The vegetation association under application is: • **VA2:** 0.1036 ha of *E. oleosa* mallee woodland with grassland understory • **VA3a:** 0.592 ha of *Austrostipa spp.* dominated grassland • **VA3b:** 1.7887 ha *Austrostipa spp.* dominated grassland with emergent *Atriplex vesicaria*
Total proposed clearance – area (ha) and number of trees	The proposed clearance is 2.4843 ha.
Level of clearance	Level 4* *(*Recommended moderation to Level 3)*

Overlay (Planning and Design Code)	Building Near Airfields Hazards (Bushfire - Regional) Hazards (Flooding - Evidence Required) Water Resources Native Vegetation Overlay
Map of proposed Clearance Area	 *Figure 3: Map of the vegetation associations within the proposed Project Area. The total clearance footprint required for the western bunker (red) is denoted in black crosshatching.*
Mitigation hierarchy	Avoidance: The proposed clearance has been designed to make use of historically cleared land, thereby avoiding additional impacts on remnant woodland. Minimisation: Impacts on native vegetation have been minimised through the selection of a site with low habitat value. Restoration: Although the bunker is temporary in nature, it is anticipated to remain on site for the foreseeable future. For the purpose of this assessment, we have assumed that it will be permanent with no restoration activities planned at this time.
SEB Offset proposal	A payment into the fund of **$53,319.24** (including admin fees)

2 Purpose of clearance

2.1 Description

[redacted] is expecting a bumper grain harvest this year on the Eyre Peninsula. As a result, they have an urgent need to establish an emergency grain bunker at the Thevenard bulk handling facility in Ceduna, SA (Allotment 103 in D34496) (Figure 1). The proposed site for the bunker is within the crown land abutting the bulk handling facility to the west The Bunker development will result in the clearance of approximately 2.5 ha of regenerating native grassland.

2.2 General location

The Thevenard Bunkers bulk handling facility is located approximately 1.5 km southwest of the Ceduna town centre, at 183 Decres Road, Ceduna South Australia (Figure 1). The proposed Scrape Bunker will occur within an adjoining parcel of land, to the west of the bulk handling facility (the Block).

2.3 Background

The proposed site is subject to licences to local horse owners. [redacted] has agreed with the licensee for the partial surrender of their licence over the northern section of the western paddock. Information provided by the client states that the affected paddock has not been cropped since 2007, and native pioneering species such as spear grass and salt bush are regenerating. The remainder of the crown land is retained by the licensee for grazing horses with fences to separate the horses from the bunker.

2.3.1 Administrative Boundaries

The Project is sited within the District Council of Ceduna and the Eyre Peninsula Landscape Board. It is located within the Eyre Yorke Block Interim Biogeographic Regionalisation for Australian (IBRA) Region, the Eyre Mallee Sub-region and the Ceduna Association.

2.3.2 Local and Regional Land Use

The Thevenard Bunker Storage facility supports the export of grain from the Port of Thevenard, by providing temporary storage of grain prior to transport. The surrounding land uses include agriculture (grazing and broad acre), recreation (Ceduna Racecourse), and rural residential. A vegetated dune system followed by Shelly beach is located across Decres Road from the Thevenard facility and is zoned for conservation. Two conservation parks occur within 10 to 15 km of the site, Wittelbee Conservation Park and Laura Bay Conservation Park.

2.3.3 Native Vegetation Remnancy

The local area contains relatively low level of remnant vegetation, with 18 percent remnancy mapped within 5 km of the Project area (statistics derived from NatureMaps). The Eyre Mallee IBRA Sub-region contains 38 per cent remnancy, of which 54 per cent is protected (statistics derived from NatureMaps). The Ceduna IBRA Association contains 46 per cent remnancy, of which 23 percent is protected (Native Vegetation Council 2024a).

2.3.4 Associated Development

No associated developments are known during the writing of this report.

2.4 Details of the proposal

The proposed project will include one 320 m long scrape bunker covering 2.4843 ha. It will be located in the northern portion of a paddock to the west of the current facility. An access track will connect this bunker to the existing bunkers. The 5 m wide access tracks (and 5 m of the flared sections of tracks) and fencelines in the design are not included in this assessment as they have been permitted under Section 27 (1)(b) of the *NV Act* (Regulation 8, Division 2, section 13 and 14). To construct the bunker, topsoil will be removed and the footprint levelled to accept rubble which will then be compacted. As such, native vegetation clearance within the footprint of the bunker is necessary to facilitate construction of the Project. The designs shown in Figure 2 are in their final stage and are not expected to change.

2.5 Approvals required or obtained

The Native Vegetation Act Overlay applies to the entirety of the site. As such, an approved application for the clearance of native vegetation is required before construction begins. In accordance with the *Planning, Development and Infrastructure (General) (Temporary Grain Storage) Amendment Regulations 2026* made on 29 October 2026 Schedule 4 of the *Planning, Development and Infrastructure (General) Regulations 2017* is amended so that the works proposed do not constitute "development" and do not require approval under that *Planning, Development and Infrastructure Act 2016* (*PDI Act*).

No other approvals with regards to native vegetation clearance are required.

2.6 Native Vegetation Act

The proposed clearance will be assessed under Section 28 of the *NV Act*.



Figure 1: Locations of new storage bunker to the west of the existing Thevenard bulk Storage facility, located to the southeast of the Ceduna town centre, South Australia.

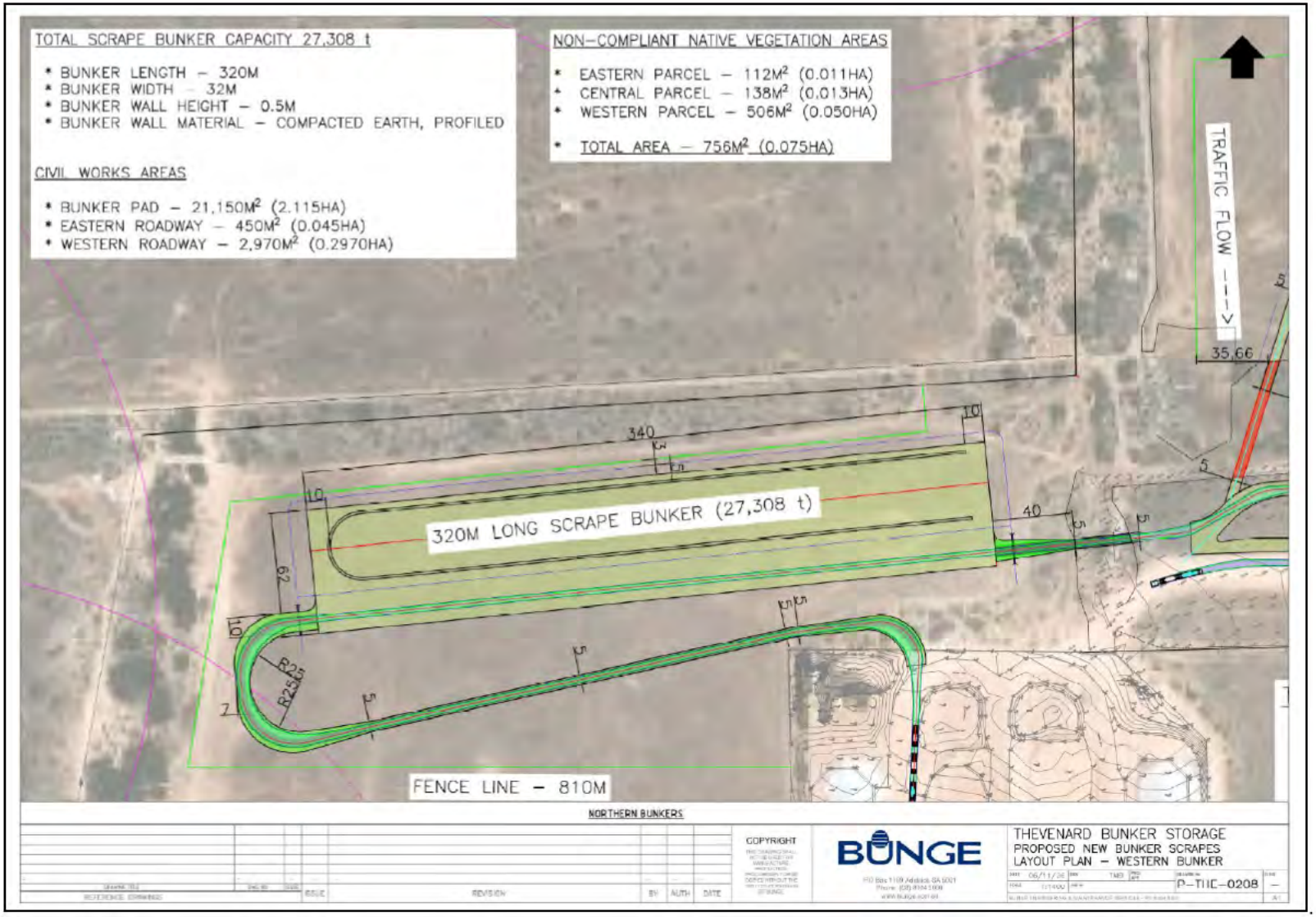


Figure 2: [redacted] proposed new western scrape bunker layout plan at Thevenard Bunker Storage facility.

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* 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 Act 1972 (NPW Act)* and/or the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, as outlined below:

NPW Act

- Schedule 7 – Endangered Species
- Schedule 8 – Vulnerable Species
- Schedule 9 – Rare Species

EPBC Act

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

- Section 178 (c) – Critically Endangered
- Section 178 (d) – Endangered
- 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,* 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* or *EPBC Act*, recorded since 1995 within the search area.
- Biological Database of South Australia: to identify threatened flora and fauna listed under either the *NPW Act* or *EPBC Act*, 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* or *EPBC Act*, 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*.

- List of rare and threatened vegetation communities in South Australia's agricultural regions: to identify threatened and rare ecosystems of the agricultural regions. This list has been revised by Native Vegetation Branch (March 2026) from the previous list found in Appendix 11 of the Bushland Assessment Manual, including the DEH 2001 provisional list of threatened ecosystems.

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 were 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 21 October 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.

All field datasheets were entered into the excel scoresheets. Data cleaning was then undertaken to merge some into a single scoresheet (for vegetation associations where multiple assessments were conducted), to simplify the data output. Decisions on what field datasheets to merge were made based on the similarity of Unit Biodiversity Scores (UBS).

A formal fauna assessment was not undertaken; however, an opportunistic observation-based survey was conducted to identify any fauna species using this vegetation as habitat. Opportunistic observations included incidental records of non-target species observed while conducting the specified survey technique, or while walking to or from the project site.

3.1.3 Limitations

As with any field survey, several factors can limit outcomes. In particular, the timing of a field survey (season) and the prevailing weather conditions (wind, rain, temperature) affect the opportunity for representative data collection (e.g., plant identification and animal activity). Overall, it is unlikely that a single survey event can generate a complete biological catalogue of an area. As such, the results of this survey provide a baseline of species presence during this time.

Generally, plant identification can be limited by the life-stage of the plant and as such plant diversity can be underestimated due to a lack of distinguishable features such as flowers or fruit. However, many perennial and annual species were in flower at the time of the survey, facilitating identification.

4 Assessment outcomes

4.1 Vegetation assessment

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

IBRA Regions

The site is contained within the Eyre Yorke Block (EYB) IBRA Region, the Eyre Mallee Sub-region and the Ceduna IBRA Association. The landform and general characteristics of this IBRA Region are described in Table 2.

Table 2: Characteristics of the Eyre Yorke Block IBRA Region (IBRA Version 7.0, sourced from NatureMaps 2026).

Characteristic	Description
Region	Eyre Yorke Block
Region Code	EYB
Region No	28
Land Type	Erosional, Depositional or Volcanic
Landscape	Dunefield
Landform	Low limestone dune ridges: small granitic islands with dunes.
Geology	Ripon Calcrete; Loveday Soil in aeolian sand sheets, dune sand, red soils (terra rossa).
Soil	Sands soils of minimal pedologic development, Brown calcareous earths, Brown sand soils, Shallow red brown sandy soils, Sandy soils with yellow clayey mottled subsoil.
Vegetation	Mallee Woodland and Shrubland
Climate	E2: Mediterranean climate, but with drier cooler winters and less growth than E1

Vegetation Overview

The vegetation across the Block was assessed to enable flexibility in the location and size of the proposed bunkers. The vegetation present within the Block comprised native regenerating grassland and remnant mallee woodland described as three vegetation associations (VA):

- VA1 – Mallee woodland with chenopod shrub understory
- VA2 – Mallee woodland with grassland understory
- VA3 – Native regenerating grassland

The VA1 mallee woodland vegetation community did not occur within the proposed bunker footprint. The vegetation was in poor to moderate condition with 26 native and 11 weed species. The overstory was

dominated by mallee *Eucalyptus oleosa,* with an *Atriplex vesicaria* and *Austrostipa spp.* dominated understory. *Carpobrotus rossii* was common as a ground cover. The vegetation community was subdivided into two vegetation associations to distinguish areas of moderate condition (VA1a) from those of poor condition (VA1b) according to the presence of weeds.

The VA2 mallee woodland with grassland understory vegetation community occured within the proposed bunker footprint. The vegetation was in moderate condition with 21 native and 11 weed species. The overstory was sparsely populated by *Eucalyptus oleosa*. The understory consisted of an *Austrostipa spp.* dominated grassland with emergent *Atriplex vesicaria*. This vegetation community was relatively homogenous in condition and as such was described under one vegetation association.

The VA3 native regenerating grassland occurred within the proposed bunker footprint, in areas that were historically cleared for agriculture but have naturally regenerated with native species over the past 20 years. The vegetation community was dominated by various *Austrostipa* (Spear Grass) species, interspersed with saltbush species. The vegetation was in moderate to poor condition with 17 native species and 10 weed species. The weeds observed included the declared species *Lycium ferocissimum* (African Boxthorn) and *Marrubium vulgare* (Horehound). The vegetation community was described as two vegetation associations to denote areas with greater emergent *Atriplex vesicaria* (VA3a) from areas with sparse *Atriplex vesicaria* (VA3b).

A full list of species identified during the field survey is presented in Appendix A.

Landscape context

The Project area terrain is flat, which accommodates storm water management and ensures watertight integrity of the bunker. Beyond the Project area to the south is a dune field which separates the agricultural region from the coastline. The Dune system is vegetated and has a steep terrain. No significant creeks or waterways within the project area were identified.

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

The proposed works will require clearance of native vegetation within the footprint of the bunker (clearance area). Table 3 provides an overview of the proposed clearance of the vegetation associations identified within

the parcel boundary (Block).

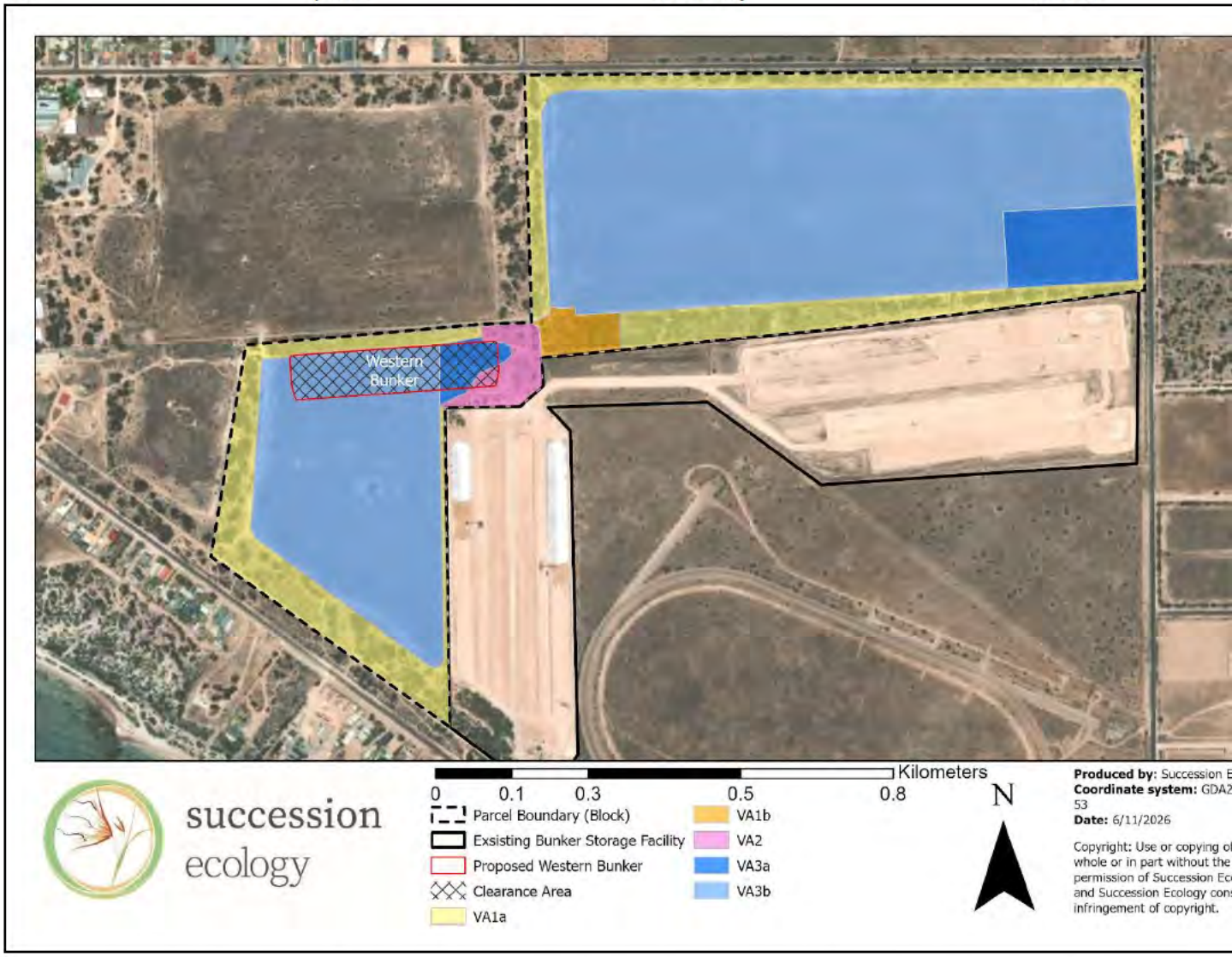


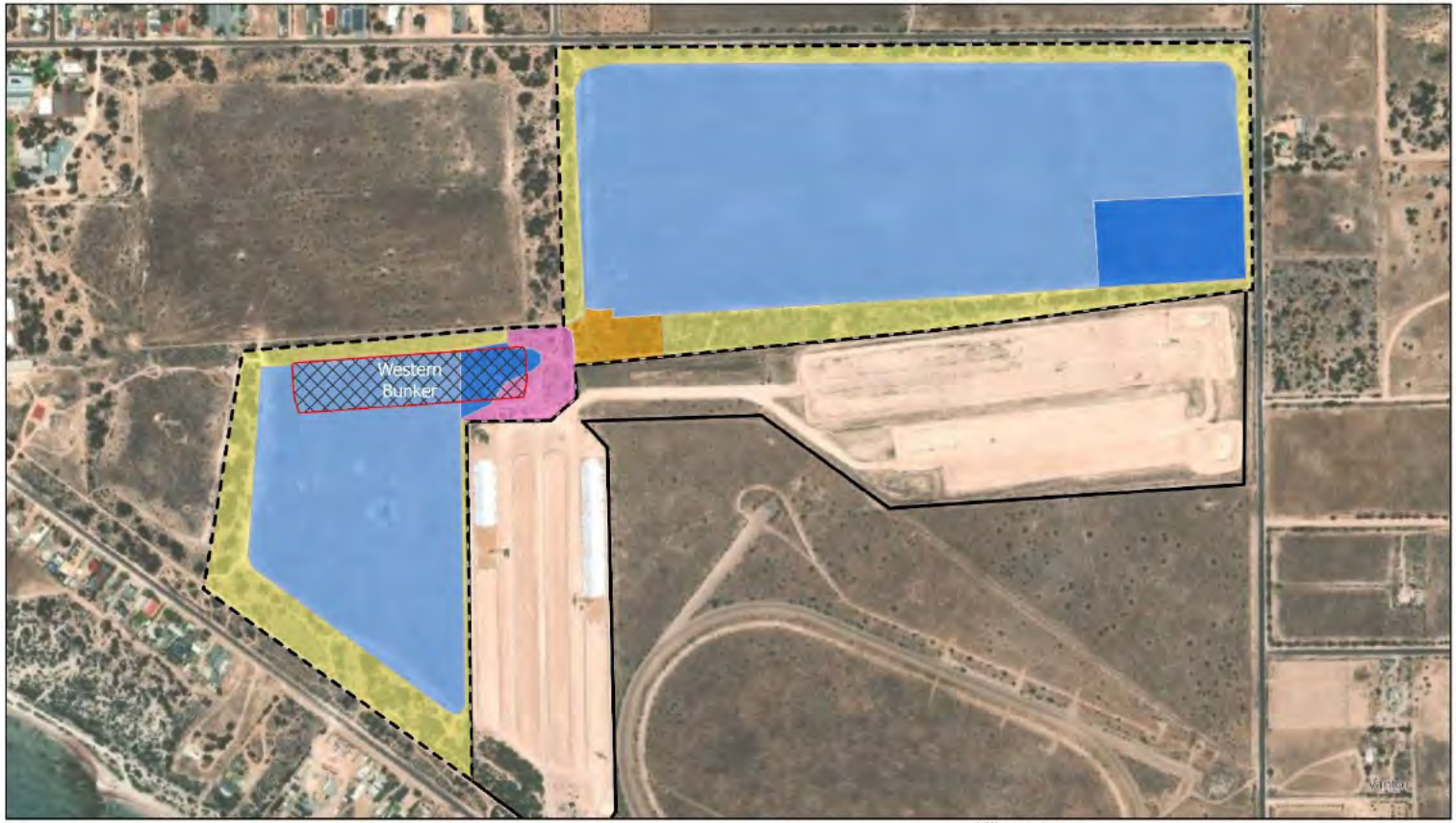
Figure 3 displays the locations of the vegetation associations. Descriptions of each vegetation association are provided with an assessment of Threatened species and communities and analysis of scores for the VAs that are impacted.

Table 3: Overview of the proposed clearance of vegetation associations identified within the assessment area.

Vegetation Association	General Description	Assessment Area (ha)	Clearance Area (ha)
VA1a	*E. oleosa* mallee woodland with chenopod shrub understory in moderate condition	9.013	0
VA1b	*E. oleosa* mallee woodland with chenopod shrub understory in poor condition	0.844	0
VA2	*E. oleosa* mallee woodland with grassland understory	1.303	0.1036
VA3a	*Austrostipa spp.* dominated grassland with emergent *Atriplex vesicaria*.	3.490	0.592
VA3b	*Austrostipa spp.* dominated grassland	42.808	1.7887

Total Area (ha)	57.548	2.4843

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Kilometers
0 0.1 0.3 0.5 0.8

N

- Parcel Boundary (Block)
- Exsisting Bunker Storage Facility
- Proposed Western Bunker
- Clearance Area
- VA1a
- VA1b
- VA2
- VA3a
- VA3b

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Vegetation Association	VA1a: Remnant *E. oleosa* mallee woodland in good condition

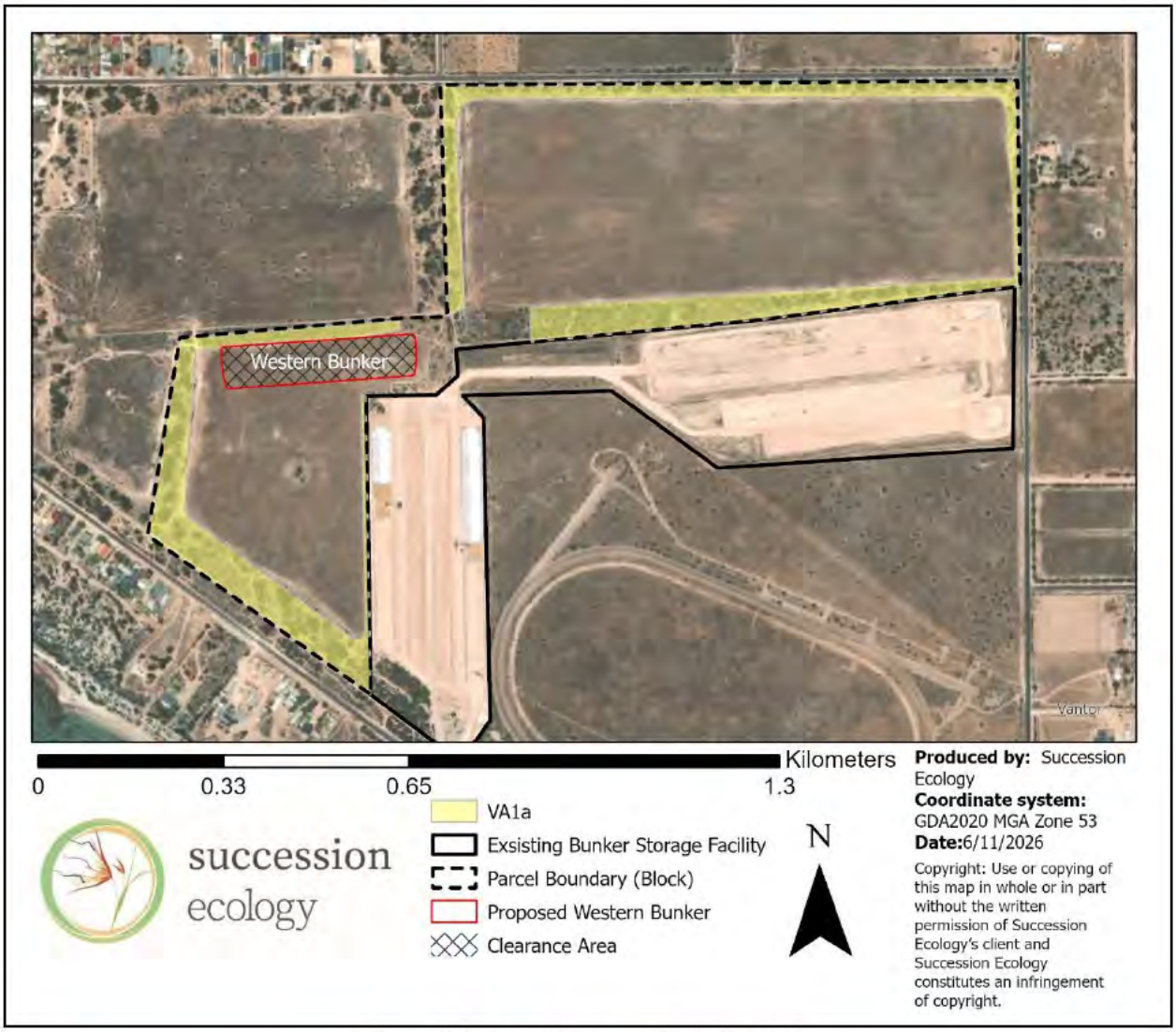


Figure 4: Bushland Assessment area for VA1a

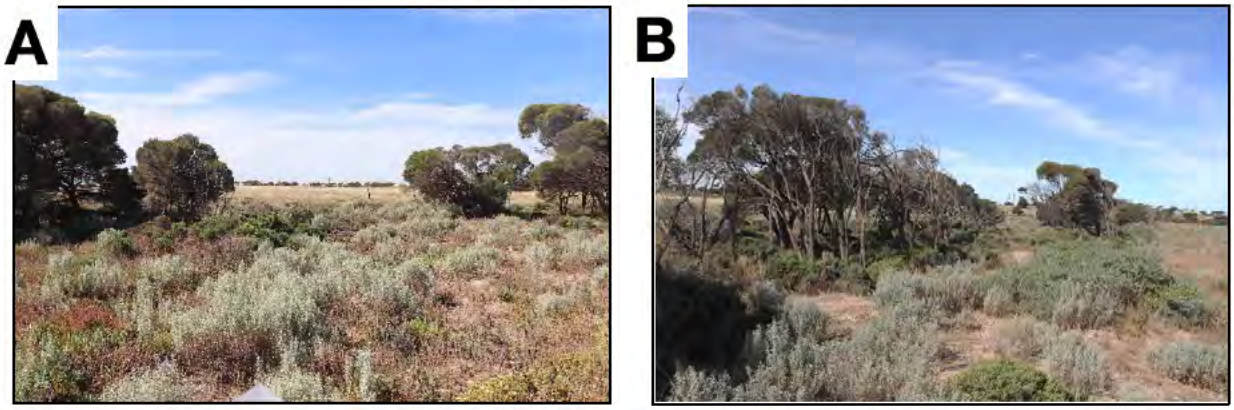


Figure 5: Images of VA1a A) General vegetation mostly consisting of A. vesicaria *– direction of photo is north. B) General vegetation mostly consisting of* A. vesicaria*, with E.* oleosa *dominant overstory – direction of photo is east.*

Vegetation Association	**VA1a: Remnant *E. oleosa* mallee woodland in good condition**
General description	VA1a was observed along the perimeter of the Block. The vegetation association is not proposed to be impacted by the footprint of the western bunker. VA1a was characterised as an open *Eucalyptus oleosa* (Red Mallee) woodland, with a chenopod shrubland understory dominated by *Atriplex vesicaria* (Bladder Saltbush), *Tecticornia disarticulate* (Samphire), *Enchylaena tomentosa var. tomentosa* (Ruby Saltbush), and various *Maireana spp.* (Bluebush) and were also common in the chenopod understory, typical of arid, alkaline soils. A tall shrub layer was present, with species such as *Acacia oswaldii* (Umbrella Wattle), *Geijera linearifolia* (Sheep Bush), and *Melaleuca pauperiflora ssp. mutica* (Boree). Ground covers included *Carpobrotus rossii* (Native Pigface) and *Austrostipa spp.* (Spear grass). Overall, the vegetation was in moderate condition with low weed density. The Benchmark Community this vegetation association is being scored against is EP 9.1 Open Mallee & Low Open Woodlands with a Chenopod Shrub Understorey (Nature Conservation Society of SA (NCSSA)). This Benchmark Community was selected as it aligns with the vegetation present onsite. This VA is fenced off from impacts along its full length, protecting it from any degrading effects of the industry surrounding it. The key critical degrading factor is weed invasion. Weed density was low within this VA, with only a few environmental weeds observed, including *Lycium ferocissimum* (African Boxthorn), *Sonchus oleraceus* (Common Sow-thistle) *Mesembryanthemum crystallinum* (Common Iceplant), and *Carrichtera annua* (Ward's weed).

Vegetation Association	VA1b: Remnant *E. oleosa* mallee woodland in poor condition

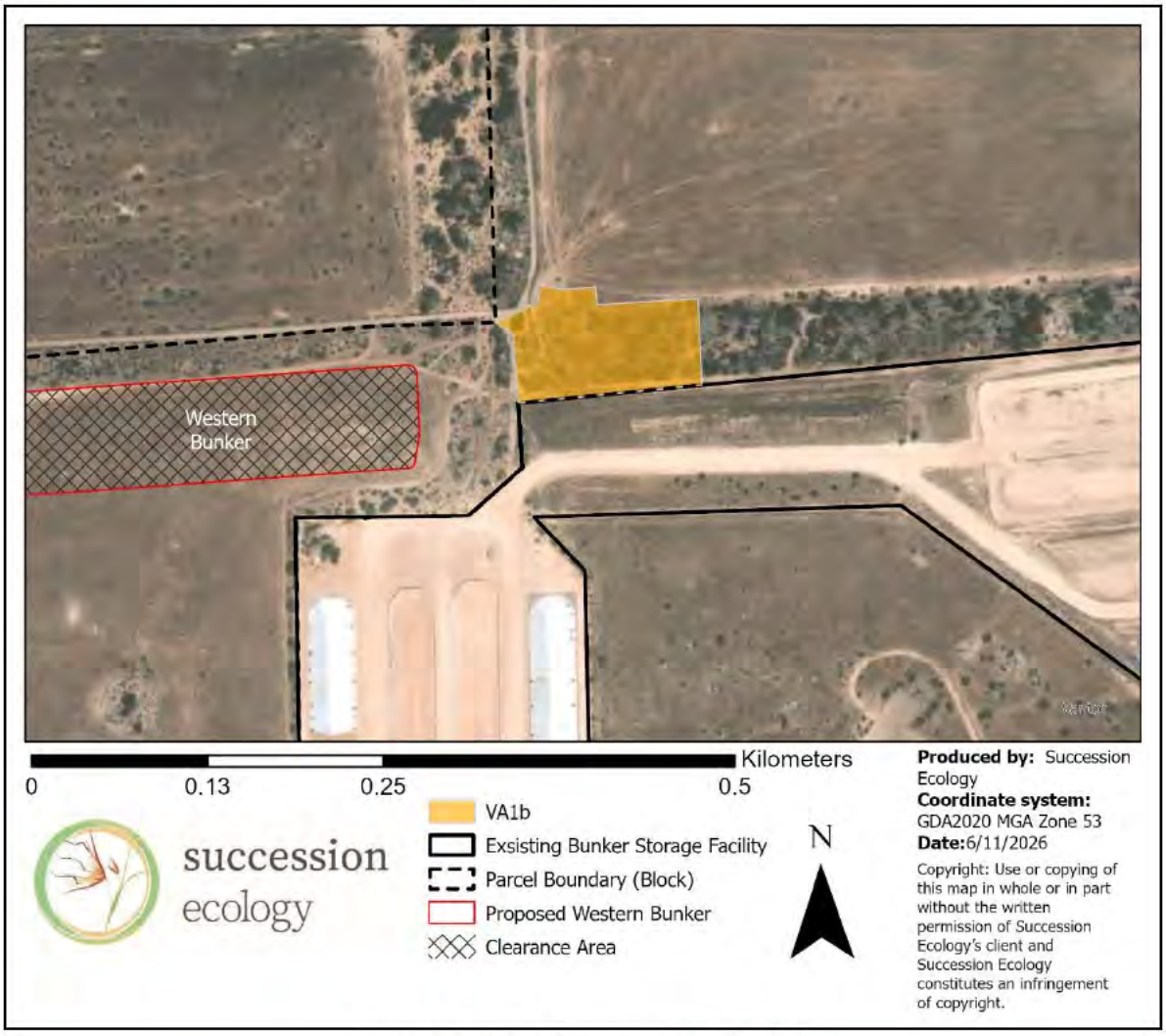


Figure 6: Bushland Assessment area for VA1b

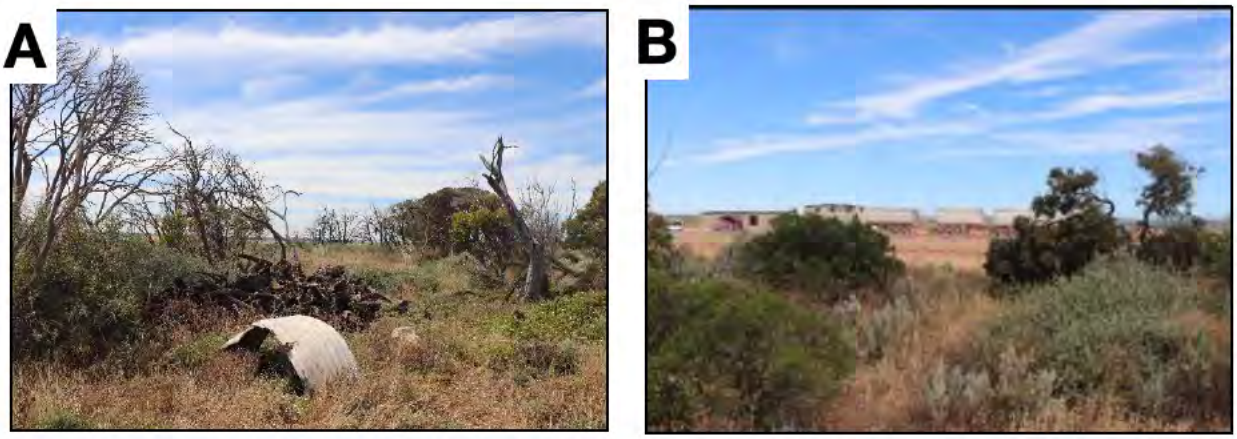


Figure 7: Images of VA1b A) Agricultural waste from historic piggery and dead trees, vegetation mostly consisting of Bromus sp *(Brome) and* Mesembryanthemum crystallinum *(Common Iceplant) – direction of photo is north. B) General vegetation mostly consisting of* A. vesicaria *and* Acacia oswaldii *– direction of photo is south towards* [redacted] *bulk storage facility.*

Vegetation Association	**VA1b: Remnant *E. oleosa* mallee woodland in poor condition**
General description	VA1b was observed in the central portion of the woodland area. The vegetation association is not proposed to be impacted by the footprint of the western bunker. VA1b was characterised as a sparse *Eucalyptus oleosa* (Red Mallee) woodland, with a chenopod shrubland understory dominated by *Atriplex vesicaria* (Bladder Saltbush) and *Tetragonia implexicoma* (Bower Spinach). *Enchylaena tomentosa var. tomentosa* (Ruby Saltbush), *Nitraria billardierei* (Nitre Bush) and *various Maireana spp.* (Bluebush) and were also common in the chenopod understory, typical of arid, alkaline soils. Some larger shrubs such as *Acacia oswaldii* (Umbrella Wattle) and *Melaleuca pauperiflora ssp. mutica* (Boree) were present in low density. Ground covers included *Carpobrotus rossii* (Native Pigface) and *Austrostipa spp.* (Spear grass). Despite a high diversity of native species, the vegetation was in poor condition with a moderate density of weeds species present and a high level of canopy dieback in the overstory. VA1b was considerably more degraded than VA1a, likely due to the impacts of its historical use as a piggery, evidenced by the considerable amount of infrastructure debris present within the site. The Benchmark Community this vegetation association is being scored against is EP 9.1 Open Mallee & Low Open Woodlands with a Chenopod Shrub Understorey (Nature Conservation Society of SA (NCSSA)). This Benchmark Community was selected as it aligns with the vegetation present onsite. Weed density was moderate within this VA, with a range of environmental weeds. Weeds observed included *Lycium ferocissimum* (African Boxthorn), *Mesembryanthemum crystallinum* (Common Iceplant), *Carrichtera annua* (Ward's weed), *Avena sp.* (Wild Oat), and *Bromus sp.* (Brome).

Vegetation Association	VA2: *E. oleosa* mallee woodland with grassland understory

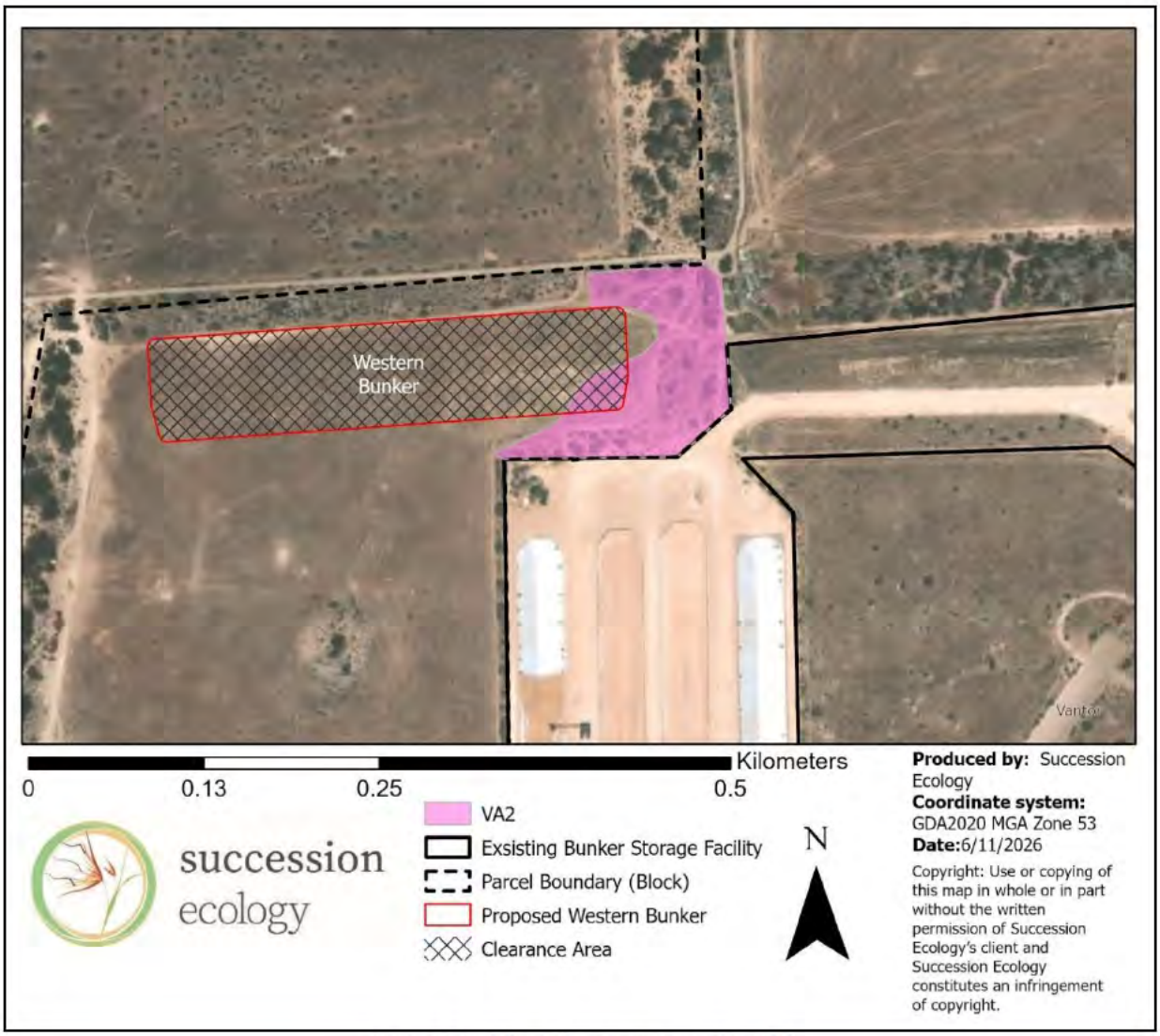
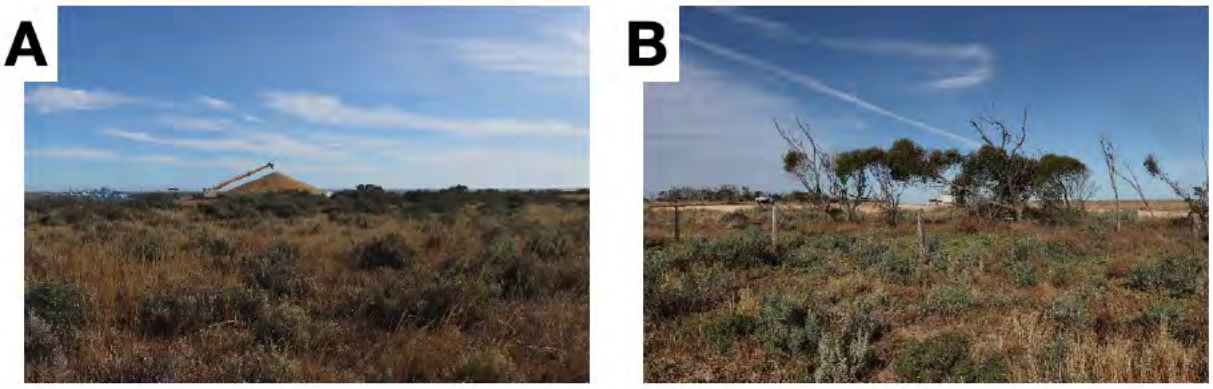


Figure 8: Bushland Assessment area for VA2



Vegetation Association	**VA2: *E. oleosa* mallee woodland with grassland understory**





Figure 9: Images of VA2 A) General vegetation mostly consisting of Austrostipa spp. *and* A. vesicaria, *– direction of photo is south. B) General vegetation mostly consisting of* A. vesicaria *and* N. billardierei, *with* E. Oleosa in *the background – direction of photo is east .C)* Lycium ferocissimum *(African Boxthorn) D)* Austrostipa spp. *with* E. Oleosa and A. vesicaria *– direction of photo is east*

General description	VA2 was observed in the central portion of the Block. 0.1036 ha of this vegetation association will be impacted by the footprint of the western bunker. VA2 was characterised as a grassy woodland. The vegetation has largely been historically cleared for agriculture in this area, but small amounts of *E. oleosa* (Red Mallee) overstorey have been retained. The understory comprises of a high density of *Austrostipa spp*, *Atriplex vesicaria* and *Nitraria billardierei*. The presence of a mallee overstory and a greater species diversity is what defines this vegetation community from the greater grassland area. The vegetation was in moderate condition with some weed species present and a high level of canopy dieback in the overstory. The Benchmark Community this vegetation association is being scored against is EP 2 Open Forests & Woodlands with Mid dense Shrub & Grassy Understorey (Nature Conservation Society of SA (NCSSA)). This Benchmark Community was selected as it aligns with the vegetation present onsite. Weed density was moderate within this VA, with a range of environmental weeds. Weeds observed included *Lycium ferocissimum* (African Boxthorn), *Marrubium vulgare* (Horehound), *Mesembryanthemum crystallinum* (Common Iceplant), *Carrichtera annua* (Ward's weed), *Avena sp.* (Wild Oat), and *Bromus sp.* (Brome).
Threatened species or community	**Threatened Ecological Communities** A Protected Matters Search identified one threatened ecological community likely to be located within the project area: The Subtropical and Temperate Coastal Saltmarsh. The Subtropical and Temperate Coastal Saltmarsh was not present within VA2. **Threatened Fauna** The desktop search identified 30 threatened fauna species listed under the *EPBC Act* and *NPW Act* as previously recorded within the search area. Of these, one was considered possible to occur within VA2. This includes: • *Falco peregrinus macropus* (Australian Peregrine Falcon); *NPW Act* (R)

Vegetation Association	**VA2: *E. oleosa* mallee woodland with grassland understory**				
	This species is discussed further in section 4.2.2. No threatened fauna species were identified during the field survey. **Threatened Flora** A desktop search identified the flora species *Leiocarpa pluriseta (NPW Act,* Rare) as previously recorded within the search area. This species was not observed on site, however, is considered possible to occur within VA2. This species is discussed further in section 4.2.3. No other threatened flora species were identified during the field survey.				
Landscape context score	1.12	**Vegetation Condition Score**	35.03	**Conservation significance score**	1.02
Unit Biodiversity Score	40.02	**Area (ha)**	0.1036	**Total Biodiversity Score**	4.15
NPW Act; E= Endangered, V = Vulnerable, R= Rare					

Vegetation Association	VA3a: *Austrostipa spp.* dominated grassland with emergent *Atriplex vesicaria*

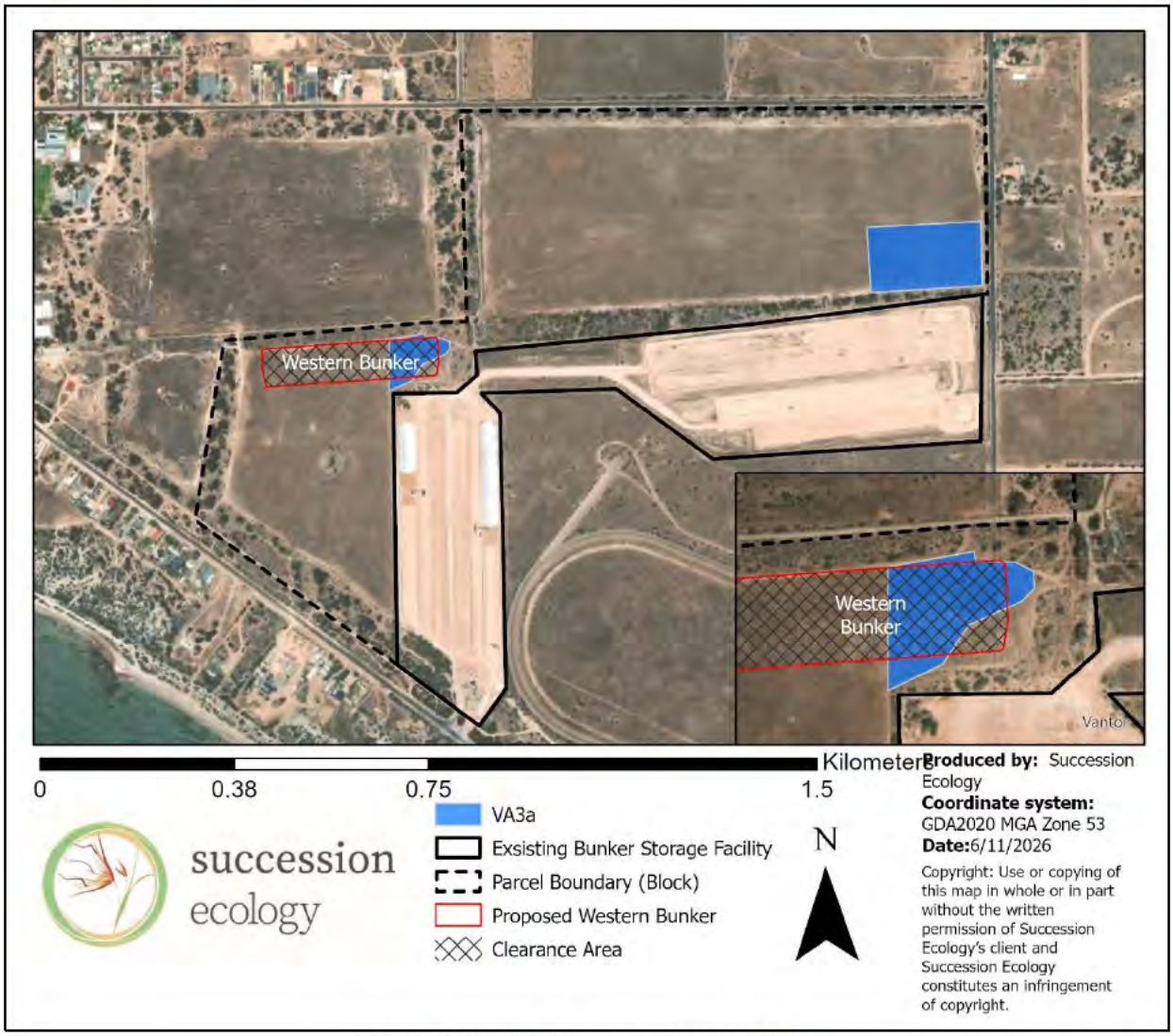


Figure 10: Bushland Assessment area for VA3a

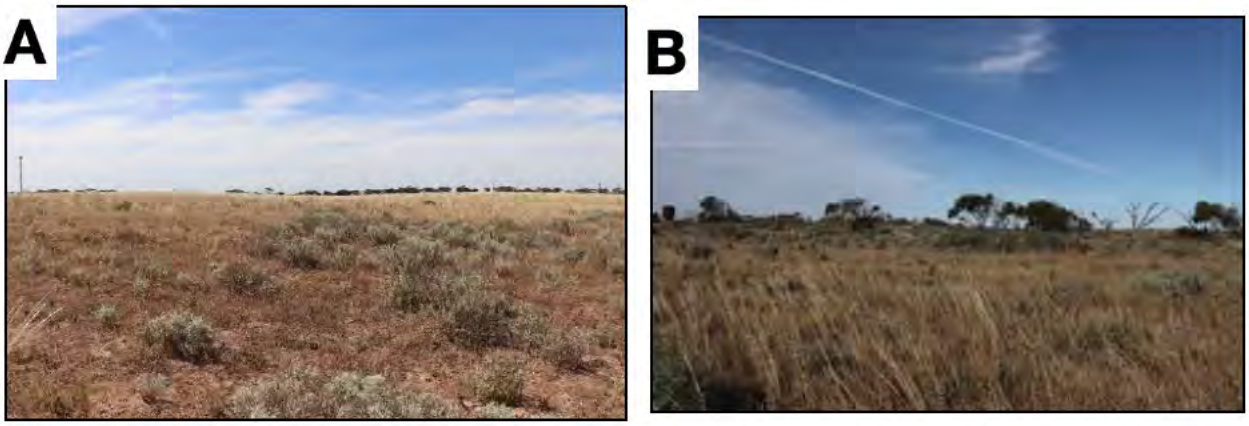


Figure 11: Images of VA3a A) General vegetation, mostly comprising of Austrostipa *spp. and* A. vesicaria *in the eastern bunker access track footprint- direction of photo is northeast. B) General vegetation, mostly comprising of* Austrostipa *spp. and* A. vesicaria in the western bunker footprint- *direction of photo is east.*

Vegetation Association	VA3a: *Austrostipa spp.* dominated grassland with emergent *Atriplex vesicaria*
General description	VA3a was observed in the Block and 0.592 ha will be impacted by the bunker footprint. VA3a was characterised as *Austrostipa spp.* dominated grassland with emergent *Atriplex vesicaria*. This vegetation association occurred entirely within the paddock areas, which have been historically cleared for agriculture but not cropped for a significant amount of time. *Austrostipa spp.* and *Atriplex vesicaria* are observed to be recolonising the grassland area, likely regenerating from the adjacent remnant woodland. The vegetation was in moderate condition with some weed species present. The Benchmark Community this vegetation association is being scored against is EP 3.2 Grasslands (Nature Conservation Society of SA (NCSSA)). This Benchmark Community was selected as it aligns with the vegetation present onsite. Weed density was moderate within this VA, with a range of environmental weeds. Weeds observed included *Asphodelus fistulosus* (Onion weed), *Marrubium vulgare* (Horehound), *Mesembryanthemum crystallinum* (Common Iceplant), *Carrichtera annua* (Ward's weed), *Avena sp.* (Wild Oat), and *Bromus sp.* (Brome).
Threatened species or community	**Threatened Ecological Communities** A Protected Matters Search identified one threatened ecological community likely to be located within the project area: The Subtropical and Temperate Coastal Saltmarsh. The Subtropical and Temperate Coastal Saltmarsh was not preset within VA3a. **Threatened Fauna** The desktop search identified 30 threatened fauna species listed under the *EPBC Act* and *NPW Act* as previously recorded within the search area. Of these, one is considered possible to occur within VA3a: • *Falco peregrinus macropus* (Australian Peregrine Falcon); *NPW Act* (R) This species is discussed further in section 4.2.2. No threatened fauna species were identified during the field survey. **Threatened Flora** A desktop search identified the flora species *Leiocarpa pluriseta (NPW Act:* Rare) as previously recorded within the search area. This species was not observed on site and is considered unlikely to occur within VA3a. This species is discussed further in section 4.2.3. No other threatened flora species were identified during the field survey.

Landscape context score	1.12	**Vegetation Condition Score**	51.86	**Conservation significance score**	1.02
Unit Biodiversity Score	59.24	**Area (ha)**	0.592	**Total Biodiversity Score**	35.07

NPW Act; R= Rare

Vegetation Association	**VA3b: *Austrostipa spp.* dominated grassland**



Figure 12: Bushland Assessment area for VA3b



Figure 13: Image of VA3b General Vegetation mostly consisting of Austrostipa spp, *with horses visible in the background – direction of photo is north*

General description	VA3b was observed across majority of the paddock area, intersecting with the footprint of the bunker. VA3b was characterised as *Austrostipa spp.* dominated grassland. This vegetation association has been historically cleared for agriculture but not cropped for a significant amount of time.

Vegetation Association	**VA3b: *Austrostipa spp.* dominated grassland**
	It has been used more recently for horses. *Austrostipa spp.* was observed to be recolonising the grassland area, likely regenerating from the adjacent remnant bushland. A sparse shrubby layer was present with *A. vesicaria* dominant. VA3b vegetation was in poor condition, with relatively low shrub density and greater weed presence than VA3a. The Benchmark Community this vegetation association is being scored against is EP 3.2 Grasslands (Nature Conservation Society of SA (NCSSA)). This Benchmark Community was selected as it aligns with the vegetation present onsite. Weed density was moderate within this VA, with a range of environmental weeds. Weeds observed included *Lycium ferocissimum* (African Boxthorn), *Marrubium vulgare* (Horehound), *Mesembryanthemum crystallinum* (Common Iceplant), *Carrichtera annua* (Ward's weed), *Avena sp.* (Wild Oat), and *Bromus sp.* (Brome).
Threatened species or community	**Threatened Ecological Communities** A Protected Matters Search identified one threatened ecological community likely to be located within the project area: The Subtropical and Temperate Coastal Saltmarsh. The Subtropical and Temperate Coastal Saltmarsh was not present within VA3b. **Threatened Fauna** The desktop search identified 30 threatened fauna species listed under the *EPBC Act* and *NPW Act* as previously recorded within the search area. Of these, one is considered possible to occur within VA3b: • *Falco peregrinus macropus* (Australian Peregrine Falcon); *NPW Act* (R) This species is discussed further in section 4.2.2. No threatened fauna species were identified during the field survey. **Threatened Flora** A desktop search identified the flora species *Leiocarpa pluriseta (NPW Act* Rare) as previously recorded within the search area. This species was not observed on site and is considered unlikely to occur within VA3b. This species is discussed further in section 4.2.3. No other threatened flora species were identified during the field survey.

Landscape context score	1.12	**Vegetation Condition Score**	48.21	**Conservation significance score**	1.02
Unit Biodiversity Score	55.08	**Area (ha)**	1.7887	**Total Biodiversity Score**	98.52

NPW Act; R= Rare

Photo log

Photos of the vegetation community are provided in the descriptions above with additional photos provided within Appendix B.

4.2 Threatened species assessment

4.2.1 Threatened ecological communities

A Protected Matters Search identified one threatened ecological community likely to be located within the project area: the Subtropical and Temperate Coastal Saltmarsh. The Subtropical and Temperate Coastal Saltmarsh was not present within the project area.

4.2.2 Threatened fauna

The desktop search identified a total of 43 threatened fauna species within the search area: 23 listed under the *EPBC Act* (including 6 Migratory species) and 35 listed as threatened under the *NPW Act*. Of these species, 11 listed under the *EPBC Act* and 25 listed under the *NPW Act* have been included in the likelihood of use assessment (Table 4), using the metric described in Table 5. All other species identified, but not considered relevant to this assessment, are presented in Appendix C. An additional species *Egretta sacra sacrum* (Pacific Reef Heron, *NPW Act:* Rare), not identified by the desktop search was included in the likelihood table due to occurrence records provided by the BDBSA search. None of the threatened fauna species identified within the desktop search were identified within the Project area

Table 4: A summary of the fauna 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)	NPW Act	EPBC Act	Data source	Year of last record	Species known habitat preferences	Likelihood
AVES						
Acanthiza iredalei iredalei (Western Slender-billed Thornbill)	R		2	2003	Chenopod shrublands dominated by Samphire, Bluebush or Saltbush, with a preference for areas near mangroves, salt lakes and flats (DEWNR 2019).	Unlikely – 1 observation within 5 km. Closest and most recent observation was 5.1 km to the east in 2003. Little suitable habitat in project area.
Actitis hypoleucos (Common Sandpiper)	R		1, 2	2019	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 – 16 observations within 5 km. Most recent observation was 1.7 km to the west in 2019. Closest observation since 1995 was 1.6 km to the northwest. Little suitable habitat in project area.
Aphelocephala leucopsis leucopsis (South-east Southern Whiteface)		VU	1, 2	1999	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 (DCCEEW 2023a).	Unlikely – 1 observation within 5 km. Closest and most recent observation was 1.5 km to the west in 1999. No suitable habitat in project area.
Ardenna grisea (Sooty Shearwater)		VU	2	2019	A migratory bird that mainly breeds on small islands in the south Pacific Ocean around	Unlikely – 1 observation within 5 km. Closest and most recent observation

Species (common name)	NPW Act	EPBC Act	Data source	Year of last record	Species known habitat preferences	Likelihood
					southeast Australia and in the south Atlantic Ocean. Nests in forested and open grasslands on islands (DCCEEW 2023).	was 1.9 km to the northwest in 2019. No suitable habitat in project area.
Arenaria interpres interpres (Palaearctic Ruddy Turnstone),	R	VU	1, 2	2009	Strongly prefers rocky shores or beaches where there are large deposits of rotting seaweed (Department of the Environment 2022).	Unlikely – 8 observations within 5 km. Most recent observation was 3.2 km to the west in 2009. Closest observation since 1995 was 1.1 km to the south. No suitable habitat in project area.
Biziura lobata menziesi (Eastern Musk Duck)	R		1, 2	2009	Deep freshwater lagoons with dense reed beds (Australian Museum 2021).	Unlikely – 2 observations within 5 km. Closest and most recent observation was 1.5 km to the north in 2009. No suitable habitat in project area.
Calidris acuminata (Sharp-tailed Sandpiper)		VU	1, 2	2020	Prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland (DCCEEW 2016).	Unlikely – 14 observations within 5 km. Most recent observation was 3 km to the northwest in 2020. Closest observation since 1995 was 1.1 km to the northwest. No suitable habitat in project area.
Calidris ferruginea (Curlew Sandpiper)	E	CR	1, 2	2008	Mainly occur on intertidal mudflats in sheltered coastal areas and non-tidal swamps. Also recorded inland around lakes and dams, but less often (DAWE 2021a).	Unlikely – 4 observations within 5 km. Most recent observation was 1.1 km to the east in 2008. Closest observation since 1995 was 1.1 km to the west. No suitable habitat in project area.
Calidris tenuirostris (Great Knot)	E	VU	2	2005	Typically prefers sheltered coastal habitats, with large intertidal mudflats or sandflats. This includes inlets, bays, harbours, estuaries and lagoons. Occasionally found on exposed reefs, shorelines with mangrove vegetation, ponds in saltworks, coastal swamps, salt lakes and non-tidal lagoons (DAWE 2021b).	Unlikely – 2 observations within 5 km. Most recent observation was 1.5 km to the west in 2005. Closest observation since 1995 was 1.3 km to the west. No suitable habitat in project area.
Cladorhynchus leucocephalus (Banded Stilt)	V		1, 2	2022	Found mainly in saline and hypersaline (very salty) waters of the inland and coast, typically large, open and	Unlikely – 3 observations within 5 km. Most recent observation was 3.3 km to the west in 2022. Closest

Species (common name)	NPW Act	EPBC Act	Data source	Year of last record	Species known habitat preferences	Likelihood
					shallow (Birdlife Australia 2021a).	observation since 1995 was 1.5 km to the northwest. No suitable habitat in project area.
Corcorax melanorhamphos White-winged Chough)	R		2	2018	Woodland and tall mallee, with a preference for wetter areas with leaf-litter for feeding and mud for building nests (DEH 2014).	Unlikely – 1 observation within 5 km. Closest and most recent observation was 4 km to the west in 2018. Some suitable habitat in project area.
Egretta sacra sacra (Pacific Reef Heron)	R		1	2002	A coastal bird, favouring rocky shores, coral reefs, and mangroves. During breeding, it forms colonies, nesting in a variety of locations from jungle palms to old buildings (BIRDA 2024)	Unlikely – 1 observation within 5 km. Closest and most recent observation was 1.2 km to the northwest in 2002. No suitable habitat in project area.
Falco peregrinus macropus (Australian Peregrine Falcon)	R		1, 2	2006	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** – 3 observations within 5 km. Closest and most recent observation was 1.6 km to the northwest in 2006. Project area provides suitable foraging habitat.
Haematopus fuliginosus fuliginosus (Sooty Oystercatcher)	R		1, 2	2026	Favours rocky headlands, rocky shelves, exposed reefs with rock pools, beaches and muddy estuaries (DEH 2022).	Unlikely – 89 observations within 5 km. Most recent observation was 1 km to the west in 2014. Closest observation since 1995 was 0.7 km to the southwest. No suitable habitat in project area.
Haematopus longirostris (Australian Pied Oystercatcher),	R		1, 2	2026	Prefers mudflats, sandbanks and sandy ocean beaches and is less common along rocky or shingle coastlines. Although rarely recorded far from the coast, may occasionally be found in estuarine mudflats and short pasture (Birdlife Australia 2022).	Unlikely – 166 observations within 5 km. Most recent observation was 1 km to the west in 2026. Closest observation since 1995 was 0.7 km to the southwest. No suitable habitat in project area.
Haliaeetus leucogaster (White-bellied Sea Eagle)	E		1, 2	2024	Found in coastal habitats (especially those close to the sea-shore) and around terrestrial wetlands in tropical and temperate regions of mainland Australia. Characterised by the presence of large areas of open water. Birds have been recorded in (or flying over) a variety of	Unlikely – 7 observations within 5 km. Most recent observation was 4.5 km to the west in 2024. Closest observation since 1995 was 1.8 km to the west. Project area provides minimal suitable foraging habitat.

Species (common name)	NPW Act	EPBC Act	Data source	Year of last record	Species known habitat preferences	Likelihood
					terrestrial habitats (DCCEEW 2022a).	
Leipoa ocellata (Malleefowl)	V	VU	1, 2	2018	Semi-arid to arid shrublands and woodlands but are found mainly in mallee woodland habitat that has not recently been burnt (DEH 2021).	Unlikely – 2 observations within 5 km. Closest and most recent observation was 2 km to the northwest in 2018. No suitable habitat in project area.
Lichenostomus cratitius occidentalis (Mainland Purple-gaped Honeyeater)	R		1, 2	2012	Mallee heathlands with occasional recordings in mallee with open understorey and River Red Gums along waterways (DPIE 2017).	Unlikely – 2 observations within 5 km. Closest and most recent observation was 2.6 km to the northwest in 2012. No suitable habitat in project area.
Lophochroa leadbeateri (Major Mitchell's Cockatoo)	R		1, 2	2022	Arid and semi-arid woodlands dominated by mulga (*Acacia aneura*), mallee and box eucalypts, slender cypress pine (*Callitris gracilis*) or Belah (*Casuarina cristata*) (DCCEEW 2023b).	Unlikely – 4 observations within 5 km. Closest and most recent observation was 1.6 km to the northwest in 2025. No suitable habitat in project area.
Neophema splendida (Scarlet-chested Parrot)	R		1	2012	Arid, usually waterless habitats preferring Mallee and Mulga habitats (Birdlife Australia 2019).	Unlikely – No observations within 5 km. Closest and most recent observation was 7.9 km to the northeast from 2012. Limited suitable habitat in the project area.
Numenius madagascariensis (Eastern Curlew)	E	CR	2	2005	Most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass (Zosteraceae) (Department of the Environment 2015).	Unlikely – 1 observation within 5 km. Closest and most recent observation was 1.5 km to the west in 2005. No suitable habitat in project area.
Oxyura australis (Blue-billed Duck)	R		2	2006	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 (Australian Museum 2020).	Unlikely – 1 observation within 5 km. Closest and most recent observation was 2.8 km to the west in 2006. No suitable habitat in project area.
Pandion haliaetus cristatus (Eastern Osprey)	EN		1, 2	2025	Occurs along coastline of Australia with the exception of Tasmania. Found near rocky terrain, tidal plains, islands and reefs (DCCEEW 2022b).	Unlikely – 6 observations within 5 km. Most recent observation was 4.5 km to the west in 2025. Closest observation since 1995 was 1.6 km to the

Species (common name)	NPW Act	EPBC Act	Data source	Year of last record	Species known habitat preferences	Likelihood
						northwest. No suitable habitat in project area.
Pluvialis fulva (Pacific Golden Plover)	R		2	2019	Occur on beaches, mudflats and sandflats (sometimes in vegetation such as mangroves, low saltmarsh such as Sarcocornia, or beds of seagrass) in sheltered areas including harbours, estuaries and lagoons, and also in evaporation ponds in saltworks (DCCEEW 2023c).	Unlikely – 2 observations within 5 km. Most recent observation was 1.7 km to the northwest in 2019. Closest observation since 1995 was 1.7 km to the northwest. No suitable habitat in project area.
Pluvialis squatarola squatarola (Eastern Grey Plover)		VU	1, 2	2021	Occurs along coast in mudflats, saltmarshes, beaches, bays and estuaries (DCCEEW 2024).	Unlikely – 10 observations within 5 km. Most recent observation was 3.7 km to the northwest in 2021. Closest observation since 1995 was 1.1 km to the south. No suitable habitat in project area.
Spatula rhynchotis (Australasian Shoveler)	R		2	2006	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 – 1 observation within 5 km. Closest and most recent observation was 2.8 km to the west in 2006. No suitable habitat in project area.
Sternula nereis nereis (Australian Fairy Tern)	E	VU	1, 2	2014	Nests on sheltered sandy beaches, spits and banks above high tide and below vegetation. The subspecies may be found in embayments of estuarine or lake islands and wetlands (DAWE 2021c).	Unlikely – 12 observations within 5 km. Most recent observation was 4 km to the northwest in 2014. Closest observation since 1995 was 1.1 km to the south. No suitable habitat in project area.
Thalassarche melanophris (Black-browed Albatross)		VU	2	2023	Marine species that inhabits Antarctic, subantarctic and temperate waters and occasionally enters the tropics. Breeds on subantarctic and peri-antarctic islands in colonies. The terrain in such areas is rocky, but usually supports a moderately-dense cover of tussock grasses (DCCEEW 2023d).	Unlikely – 1 observation within 5 km. Closest and most recent observation was 1.9 km to the northwest in 2023. No suitable habitat in project area.
Tringa brevipes (Grey-tailed Tattler)	R		1, 2	2008	Found on sheltered coasts with reefs and rock platforms or with intertidal mudflats. It can also be found at intertidal rocky, coral, or stony reefs as	Unlikely – 9 observations within 5 km. Most recent observation was 5 km to the northwest in 2008. Closest observation since

Species (common name)	NPW Act	EPBC Act	Data source	Year of last record	Species known habitat preferences	Likelihood
					well as platforms and islets that are exposed at low tide (DCCEEW 2023e).	1995 was 1.5 km to the northwest. No suitable habitat in project area.
Tringa glareola (Wood Sandpiper)	R		2	2018	Uses well-vegetated, shallow, freshwater wetlands, such as swamps, billabongs, lakes, pools and waterholes (DCCEEW 2022c).	Unlikely – 2 observations within 5 km. Most recent observation was 1.9 km to the northwest in 2018. Closest observation since 1995 was 1.9 km to the west. No suitable habitat in project area.
Tringa nebularia (Common Greenshank)		EN	1, 2	2025	Found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. It occurs in sheltered coastal habitats, typically with large mudflats, saltmarsh, mangroves or seagrass (DCCEEW 2023f).	Unlikely – 51 observations within 5 km. Most recent observation was 1.8 km to the northwest in 2025. Closest observation since 1995 was 1.1 km to the south. No suitable habitat in project area.
Zanda funerea whiteae (Western Yellow-tailed Black-cockatoo)	V		1, 2	2005	Inhabits a variety of habitats, favours eucalypt woodland and pine plantations (Birdlife Australia 2021b).	Unlikely– 5 observations within 5 km. Most recent observation was 4.5 km to the west in 2005. Closest observation since 1995 was 2.6 km north. 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 NPW Act: E- Endangered, V- Vulnerable, R- Rare EPBC Act: Ex- Extinct, CR- Critically endangered, EN- Endangered, VU- Vulnerable						

4.2.3 Threatened flora

The desktop search identified one threatened flora species within the search area listed as threatened under the *NPW Act*. This species has been included in the likelihood of use assessment (Table 5), following the metric described in Table 1. The threatened flora species identified within the desktop search was not identified within the Project area.

Table 5: 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)	NPW Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments (Table 2)
Leiocarpa pluriseta (NA)	R		1, 2	2014	Distributed across the Nullarbor, Eyre Peninsula and along the River Murray in South Australia. Prefers Sand, loamy or chalky soils (Paul G.Wilson 2025).	**Possible** – 8 observations within 5 km. Most recent observation was 2.6 km to the northwest in 2014. Closest observation since 1995 was 2.5 km to the northwest. Some suitable habitat in Project area.

Source; 1- BDBSA, 2 - AoLA, 3 – NatureMaps 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others

NPW Act; E= Endangered, V = Vulnerable, R= Rare

EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable

4.3 Presence of Substantially Intact Vegetation

If the vegetation is considered to represent a substantially intact stratum, the NVC cannot approve clearance, unless for the purpose of harvesting native vegetation (section 27(3)).

Provide information on whether the native vegetation constitutes a continuous intact stratum.

The vegetation that would be impacted by the proposed Bunker does not constitute substantially intact stratum.

VA2 - Mallee woodland with grassland understory

This VA is significantly degraded and would have at some point been VA1. None of the strata are intact, but all have some reflection of what would have existed before clearing and grazing.

VA3 – Native regenerating grassland

This VA is significantly degraded and would have at some point been Mallee Woodland with chenopod shrub understory. None of the strata are intact, but all have some reflection of what would have existed before clearing and grazing. Grazing pressure in these areas is low, which has resulted in considerable regeneration of native grasses and the growth of a range of chenopod and herbaceous species. While the regeneration of native vegetation in the understorey is providing a good proportion of native cover, it in no way represents the condition that this stratum would have represented in its original state.

Provide information on whether the native vegetation has been subject to degradation within the past 20 years.

The native vegetation in this assessment has been impacted by farming practices in the past 20 years. The paddock has been grazed consistently over the past 20 years with a change in grazing intensity being the primary. In 2006 the paddock was used for grain cropping.

Provide a key finding on whether any or all of the area of impact could be considered as substantially intact.

None of the vegetation assessed could be considered as substantially intact.

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

The NVC will consider Principles 1(b), 1(c) and 1(d) when assigning a level of Risk under Regulation 16 of the NV Regulations. The NVC will consider all the principles of clearance of the NV Act as relevant, when considering an application referred under the *Planning, Development and Infrastructure Act (PDI) 2016*.

The works are to be authorised Under the Planning, Development and Infrastructure Act 2016 by a Regulation currently being prepared to amend Schedule 4 of the Planning, Development and Infrastructure Regulations 2017 which will exempt the works from the definition of "development".

Principle of clearance	Relevant information	Assessment against the principles	Moderating factors that may be considered by the NVC
Principle 1a - it comprises a high level of diversity of plant species	The number of plant species recorded (native and introduced): VA2= 21 native, 10 introduced VA3a = 17 native, 10 introduced VA3b = 17 native, 10 introduced Plant Diversity Scores: VA2= 20 VA3a = 18 VA3b = 20	At Variance VA2, VA3a and VA3b	The vegetation generally exhibited good species diversity, although not to pre-European levels, but the condition was degraded by significant weed ingress and agricultural utilisation. The paddock is currently being grazed by horses which have the potential to degrade the vegetation condition further over time. Approximately 75 percent of the paddock vegetation mapped in the land parcel will be retained.
Principle 1(b) - significance as a habitat for wildlife	Threatened species • No threatened species identified in this area since 1995 that are Likely to use the site. However, one species was considered as Possible to occur onsite as it may forage within grassland vegetation: *Falco peregrinus macropus* (Australian Peregrine Falcon); *NPW Act* (R) Threatened Fauna Score VA2= 0.02 VA3a = 0.02 VA3b = 0.02 Unit Biodiversity Scores VA2= 40.02 VA3a =59.24 VA3b = 55.08	Seriously at Variance VA3a and VA3b (UBS >50) At Variance VA2 (TFS <0.05)	The removal of vegetation within the project area is not expected to have a significant impact on this species. • Pasture of this type is readily available in the area • Adjacent woodland will not be impacted. • The land surrounding the development is largely agricultural and industrial, thus the proposed clearance is unlikely to fragment fauna populations.
Principle 1c - plants of a rare, vulnerable or endangered species	Threatened species No threatened species identified in this area since 1995 that are Likely to use the site.	Not at Variance	N/a

	However, one species was considered as Possible to occur onsite: • *Leiocarpa pluriseta*; *NPW Act* (R) Threatened Flora Score = 0		
Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered:	Threatened communities No Threatened Ecological Communities were present within the Project area. Threatened Community Score =1	Not at Variance	N/a
Principle 1e - it is significant as a remnant of vegetation in an area which has been extensively cleared.	Ceduna IBRA association remnancy 46 % native vegetation remaining Gawler Lakes IBRA Subregion remnancy 38 % native vegetation remaining Overall, the vegetation was in moderate to poor condition. Total Biodiversity Score 138.06	At Variance VA2, VA3a and VA3b	The vegetation to be impacted does not constitute as significant value. All of the grassland has previously been cleared. The development footprint is included within these previously cleared areas.
Principle 1f - it is growing in, or in association with, a wetland environment.	The proposed clearance does not occur on or near a wetland environment.	N/A	N/a
Principle 1g - it contributes significantly to the amenity of the area in which it is growing or is situated.	The clearance area does not significantly contribute to the amenity of the area.	N/A	The development footprint is situated on paddocks grazed by horses adjacent a racecourse and operating grain handling facility.

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.

None of Principles h-m will be impacted by this development.

4.5 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 scrape bunker is required to adjoin with the existing [redacted] bulk handling facility. As such, there is limited scope for choice in bunker location. The bunker design has avoided impacts to the remnant woodland and proposed a location within the grassland vegetation area, which has previously been cleared. The paddock is currently being grazed by horses which have the potential to degrade the vegetation condition further over time if the paddock continues its current usage

b) Minimisation – 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).

The design for the bunker has been kept to what is required to achieve the additional storage requirements for this season. As such impacts have been minimised to the extent that they can. In particular, impacts to the woodland area have been avoided by keeping the design in the previously cleared and grazed paddock. These areas were used for their low habitat value and the absence of threatened species, which reduces the likelihood of significant ecological impacts.

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.

Although the bunker is temporary in nature, it is anticipated to remain on site for the foreseeable future. We have assumed that the scrape bunker is permanent for the purpose of this assessment. Given this, rehabilitation or restoration of native vegetation in this area is not planned at this stage. Bunge may be able to contribute to the improvement of the remaining vegetation through the control of Declared Plants, including African Boxthorn and Horehound.

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.

Bunge will contribute a Significant Environmental Benefit (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).

4.6 Risk assessment

Determine the level of risk associated with the application

Total clearance	No. of Trees	0
	Area (ha)	2.4843
	Total Biodiversity Score	138.06
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(b) – seriously at variance with VA3a and VA3b
Risk assessment outcome		Level 4* *(*Recommended moderation to Level 3)*

The proposed clearance of 2.4843 ha of native vegetation with a combined Total Biodiversity Score of 138.06 constitutes a Level 3 clearance. The Clearance Level is subsequently escalated to Level 4 as the Project was determined to be *'Seriously at Variance'* against Principle 1(b). However, it is recommended that the Clearance Level is moderated to Level 3, based upon consideration of the moderating factors presented in Section 4.5.

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	VA2	20	1	0	0.02	40.02	0.1036	4.47	1.0			4.92	$1,637.29	$90.05
1	VA3a	18	1	0	0.02	59.24	0.592	35.07	1.0			38.58	$12,838.72	$706.13
1	VA3b	20	1	0	0.02	55.08	1.7887	98.52	1.0			108.37	$36,063.55	$1,983.50
						Total	**2.4843**	**138.06**				**151.87**	**$50,539.56**	**$2,779.68**

Total summary table

Economies of Scale Factor	0.29
Rainfall (mm) Factor	282
SEB Points of Gain/ha Factor	6.5

SEB Uplift Factor	1.10
Management Cost ($/ha)	$26,450.00

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	138.06	151.87	$50.539.56	$2,779.68	$53,319.24

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 an 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 will have 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.

The total SEB points required is 138.06, does not exceed the NVCs threshold for providing a payment only.

6.2.2 Payment SEB

Payment amount required: $53,319.24 (including admin. Fee)

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DEH. 2022. Species profile: Haematopus fuliginosus, Sooty Oystercatcher.
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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		**VA1a**	**VA1b**	**VA2**	**VA3a**	**VA3b**
Acacia oswaldii	Umbrella Wattle	✓	✓	✓	✓	✓
Atriplex paludosa ssp. paludosa	Marsh Saltbush	✓	✓	✓	✓	✓
Atriplex vesicaria	Bladder Saltbush	✓	✓	✓	✓	✓
Austrostipa nodosa	Tall Spear-grass	✓	✓	✓	✓	✓
Austrostipa drummondii	Spear-grass	✓	✓	✓	✓	✓
Brachyscome ciliaris var. ciliaris	Variable Daisy			✓		
Carpobrotus rossii	Native Pigface	✓	✓	✓	✓	✓
Disphyma crassifolium ssp. clavellatum	Round-leaf Pigface			✓		
Enchylaena tomentosa var. tomentosa	Ruby Saltbush	✓	✓	✓	✓	✓
Eremophila deserti	Turkey-bush	✓	✓			
Eucalyptus oleosa ssp. oleosa	Red Mallee	✓	✓	✓		
Exocarpos aphyllus	Leafless Cherry	✓	✓			
Geijera linearifolia	Sheep Bush	✓	✓			
Lycium australe	Australian Boxthorn			✓		
Maireana brevifolia	Short-leaf Bluebush	✓	✓	✓	✓	✓
Maireana erioclada	Rosy Bluebush	✓	✓			
Maireana georgei	Satiny Bluebush	✓	✓	✓	✓	✓
Maireana trichoptera	Hairy-fruit Bluebush			✓	✓	✓
Melaleuca pauperiflora ssp. mutica	Boree	✓	✓			
Myoporum platycarpum ssp. platycarpum	False Sandalwood	✓	✓	✓	✓	✓
Nitraria billardierei	Nitre-bush	✓	✓	✓	✓	✓
Rhagodia candolleana ssp.	Sea-berry Saltbush	✓	✓			
Roepera aurantiaca ssp. aurantiaca	Shrubby Twinleaf			✓	✓	✓
Roepera aurantiaca ssp. simplicifolia	Shrubby Twinleaf	✓	✓			
Rytidosperma sp.	Wallaby-grass			✓		
Salsola australis	Buckbush	✓	✓	✓	✓	✓
Sclerolaena patenticuspis	Spear-fruit Bindyi	✓	✓	✓	✓	✓
Tecticornia disarticulata	Samphire	✓	✓	✓	✓	✓
Tetragonia implexicoma	Bower Spinach	✓	✓			
Threlkeldia diffusa	Coast Bonefruit	✓	✓	✓	✓	✓
Vittadinia cuneata var. cuneata	Fuzzy New Holland Daisy			✓		
Exotic Flora		**VA1a**	**VA1b**	**VA2**	**VA3a**	**VA3b**
Asphodelus fistulosus	Onion Weed			✓	✓	✓
Avena sp.	Oat	✓	✓	✓	✓	✓
Bromus diandrus	Great Brome	✓	✓	✓	✓	✓
Bromus rubens	Red Brome	✓	✓	✓	✓	✓
Bupleurum semicompositum	Hare's Ear			✓		
Carrichtera annua	Ward's Weed	✓	✓	✓	✓	✓
Chenopodium murale	Nettle-leaf Goosefoot	✓	✓			
Lolium sp.	Ryegrass	✓	✓			
*Lycium ferocissimum**	African Boxthorn	✓	✓	✓	✓	✓
Malva parviflora	Small-flower Marshmallow	✓	✓			
*Marrubium vulgare**	Horehound			✓	✓	✓
Mesembryanthemum crystallinum	Common Iceplant	✓	✓	✓	✓	✓
Sisymbrium orientale	Indian Hedge Mustard	✓	✓			
Sonchus oleraceus	Common Sow-thistle	✓	✓	✓	✓	✓

**Listed as a Declared Plant under the LSA Act*

SPECIES NAME	COMMON NAME
Native Fauna	
Acanthagenys rufogularis	Spiny-cheeked Honeyeater
Chroicocephalus novaehollandiae novaehollandiae	Silver Gull
Gavicalis virescens	Singing Honeyeater
Grallina cyanoleuca cyanoleuca	Magpielark
Phylidonyris novaehollandiae	New Holland Honeyeater
Exotic Fauna	
Passer domesticus domesticus	House Sparrow
Sturnus vulgaris vulgaris	Common Starling
Turdus merula merula	Common Blackbird
Alauda arvensis arvensis	Eurasian Skylark
Columba livia	Feral Pigeon

Appendix B – Site photos.



A) Image of the waste resulting from the historic Piggery to the west of VA1b- direction of photo is northwest.



B) *Eucalyptus Oleosa* with multiple small to medium hollows in VA1b – direction of photo is south.



C) dead tree with large hollows in VA1a – direction of photo is south.



D) Two feral pigeons flying over the thevenard bulk storage facility -direction of photo is south.

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)	Excluded
Acanthiza iredalei (Slender-billed Thornbill)	Refers to subspecies not recorded in search area.
Dromaius novaehollandiae (Emu)	Refers to subspecies not recorded in search area.
Lichenostomus cratitius (Purple-gaped Honeyeater)	Refers to subspecies not recorded in search area.
Lophochroa leadbeateri mollis (NA)	Refers to subspecies not recorded in search area.
Manorina flavigula (Yellow-throated Miner)	Refers to subspecies not recorded in search area.
Manorina flavigula wayensis (Inland Yellow-throated Miner)	Refers to subspecies not recorded in search area.
Melanodryas cucullata (Hooded Robin)	Refers to subspecies not recorded in search area.
Melithreptus brevirostris leucogenys (Western Brown-headed Honeyeater)	Refers to subspecies not recorded in search area.
Nesoptilotis leucotis (White-eared Honeyeater)	Refers to subspecies not recorded in search area.
Strepera versicolor intermedia (Brown Currawong)	Incorrectly flagged - subspecies *Strepera versicolor plumbea* is state protected and does not occur in project.
Eubalaena australis (Southern Right Whale)	Aquatic animal
Neophoca cinerea (Australian Sea Lion)	Aquatic animal
Tachyglossus aculeatus (Short-beaked Echidna)	Refers to subspecies not recorded in search area.
Chelonia mydas (Green Sea Turtle)	Aquatic animal



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