

# BIODIVERSITY IMPACT ANALYSIS REPORT

## Battery Energy Storage System



150349  
2.0  
19 October 2021

## REPORT

### Document status

| Version | Purpose of document | Authored by  | Reviewed by  | Approved by  | Review date |
|---------|---------------------|--------------|--------------|--------------|-------------|
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| 2.0     | FINAL               | Mark Aitkens | Mark Aitkens | Mark Aitkens | 19/10/2021  |

### Approval for issue

Mark Aitkens



19 October 2021

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# 1 INTRODUCTION

RPS Australia East Pty (RPS) was engaged by Elliott Green Power (the proponent) to prepare a Biodiversity Impact Analysis Report for a proposed Battery Energy Storage System Facility (hereafter referred to as the Project) on land described as Lot 38 DP755292, adjacent to the approved Nevertire Solar Farm (- 31.825241, 147.711832) as shown in **Figure 1-A**. The Project is to be assessed as a modification to the approved Nevertire Solar Farm State Significant Development (SSD).

## 1.1 The Project

The Project, as described in plans provided 7 July 2021, is a proposed modification to the approved Nevertire Solar Farm SSD (**Figure 1-B**). Elliott Green Power propose a Battery Energy Storage System (BESS) that may consist of up to 40 shipping container style battery energy storage packs using a lithium technology or similar. It will include battery storage containers, converters, ring main units (RMU), step-up transformers, HV underground feeders, connection to the Nevertire solar farm 22kV switchboard and associated roads, tracks, fences and control building. The BESS may occupy up to two-and-a-half hectares of the ~24 hectare lot (hereafter referred to as the Project Area) (**Figure 1-B**) and have energy storage capacity of up to 100 megawatt hours (MWh). A description of the Project Area is provided in **Table 1-1**.

**Table 1-1: Description of Project Area**

| Feature      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Locality     | Nevertire, 2826                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LGA          | Warren Shire                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Lot/DP       | Lot 38 DP 755292                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Project Area | Up to 2.5 ha                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Boundaries   | The Project Area bordered by the Nevertire Solar Farm to the west, which is comprised of two parcels of land, a larger parcel Lot 2, DP 1258306 and a smaller parcel Lot 1, DP, 1258306. The northern boundary is comprised of Lot 6 DP 115556. The eastern boundary is bordered by The Nevertire Warren Railway and the southern boundary is bordered by Lot 37, DP 755292. Except for the Railway (SP2), all surrounding land parcels are zoned as RU1, primary production. |
| Zoning       | The Project Area is zoned as RU1, Primary production under the Warren Local Environmental Plan 2012                                                                                                                                                                                                                                                                                                                                                                           |
| Lot Size     | The minimum lot size for the site is 1,000+ ha (Maximum area clearing limit of 5 ha)                                                                                                                                                                                                                                                                                                                                                                                          |
| Land Use     | Secondary: Cropping<br>Tertiary: Cropping<br>Land use for the surrounding lots include cropping, irrigated cropping, irrigated cotton, transport and communication.                                                                                                                                                                                                                                                                                                           |

## 1.2 Scope

The Project, being a modification to an approved SSD, is required to address relevant environmental regulatory matters specified in the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). This requires a determination as to whether there is a statutory requirement to prepare a Biodiversity Development Assessment Report (BDAR) under Section 7 of the NSW *Biodiversity Conservation Act 2016* (BC Act). A BDAR is required where the Project is likely to have a net increase in impacts on biodiversity values relative to the approved SSD.

The purpose of this Biodiversity Impact Analysis Report is to quantify the likely impacts of the Project and determine if those impacts constitute a net increase in impacts on biodiversity values. This analysis has involved a composite of desktop research and data obtained from a site inspection to assess the likely impacts on biodiversity values. The assessment presented has taken into account the transitional arrangements applicable to the Native Vegetation Regulatory Map [Section 60F of the NSW *Local Land Services Act 2013* (LLS Act)], notably subsection (4) as it relates to the categorisation of land (i.e. reasonable person would believe about the matter). The assessment approach has been informed by guidance received from Biodiversity Conservation and Science (BCS), dated 28 July 2021 and 2 August 2021.



Legend

Project Area

Impact Area

Perennial river/creek

FIGURE 1A:  
LOCATION OF THE PROJECT

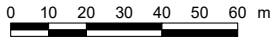
VERSION: **B**

DATE EXPORTED: **5/10/2021 4:37 PM**

TECHNICIAN: **Natalie.Wood**

LOCATION:  
**Nevertire Solar Farm**

DATA SOURCES  
Centennial, RPS,



SCALE 1:2,000 AT A4 SIZE  
SPATIAL REFERENCE: GDA2020 MGA Zone 55

CLIENT: **RPS Manidis Roberts Pty Ltd**

PROJECT: **150349**

PURPOSE: **Ecology**

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**FIGURE 1B:  
PROJECT AREA**

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LOCATION:  
**Nevertire Solar Farm**

DATA SOURCES  
Centennial, RPS,

0 10 20 30 40 50 60 70 m  
SCALE 1:2,000 AT A4 SIZE  
SPATIAL REFERENCE: GDA2020 MGA Zone 55

CLIENT: **RPS Manidis Roberts Pty Ltd**  
PROJECT: **150349**  
PURPOSE: **Ecology**

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## 2 REGULATORY CONTEXT

### 2.1 Overview

In certain circumstances, a proposed modification to an approved SSD may require the preparation of a BDAR to assess biodiversity impacts. A BDAR is required where a modification to an approved SSD project is likely to have an increased impact on biodiversity values. A nett increase in biodiversity impacts is evident when one or more of the following occurs:

- Removal of native vegetation exceeding the clearing limits as approved for the SSD other than:
  - a few single trees with no native understorey in an urban context.
  - unregulated lands (i.e. Category 1 exempt land) in land zoned rural (i.e. RU1, RU2, RU3, RU4 and RU6) as shown on the Native Vegetation Regulatory Map or transitional Native Vegetation Regulatory Map.
  - planted native vegetation that is not consistent with a Plant Community Type (PCT) known to occur in the same Interim Biogeographic Regionalisation of Australia (IBRA) subregion (e.g. street trees, trees in carparks, landscaping).
- Greater than negligible adverse impacts on threatened species or ecological communities, considering habitat suitability, abundance and occurrence, habitat connectivity, movement and water sustainability including consideration of any non-natural features, non-native vegetation, and human-built structures.

The site is located on lands regulated under the LLS Act. On these lands, a BDAR is not required if the land is mapped as Category 1 exempt land. However, the transitional Native Vegetation Regulatory Map does not provide any categorisation of the lands within the site. In these circumstances, an assessor accredited under the Biodiversity Offset Scheme is required to identify the category(ies) on the land (i.e. Land Category Assessment). This is done by way of a combined consideration of historic/ current land uses and information obtained from the site. The following sections outline the regulatory framework used in classifying the land hence determining if a BDAR is required.

### 2.2 Relevant Legislation

This assessment involves consideration of the following:

- Part 5A of the LLS Act;
- Part 14 of the *Local Land Services Regulation 2014*; and
- Part 3 of the Repealed *Native Vegetation Act 2003*.

Land within the site is regulated land under the LLS Act. Land is classified under the LLS Act into three categories (Section 60E):

- Category 1 – exempt land; or
- Category 2 – regulated land; or
- Category 2 – vulnerable regulated land.

Where land is yet to be categorised (i.e. transitional period), a Land Category Assessment is used to determine which categories are present. Correspondence from BCS provided the following guidance in determining Category 1 Exempt Land:

*“Where an assessor identifies land as Category 1 – exempt land it must be adequately demonstrated that the identified land meets the criteria as set out in section 60H of the LLS Act. Multiple pieces of evidence should be used to demonstrate a Category 1 – exempt land designation.”*

To address section 60H of the LLS Act, and to comply with guidance provided by BCS, the following resources are to be considered in the Land Category Assessment:

- Published information on the Native Vegetation Regulatory Map;
- The published Native Vegetation regulatory map: method statement;

- Land Use Mapping, 2017;
- Woody Vegetation Extent;
- State-wide Landcover and Tree Survey (SLATS) woody clearing for NSW – used to identify detectable clearing events since January 1990;
- Site-based information and records, including:
  - Current and historical high-resolution aerial photography;
  - current and historical photographs of the subject land;
  - historical land management records maintained by the landowner;
  - vegetation survey data collected on the subject land;
- Documentation demonstrating history of authorised clearing and/or development; and
- Interim Grasslands and other Groundcover assessment Method – Determining conservation value of grasslands and groundcover vegetation in NSW.

Transitional arrangements apply prior to the finalisation of the Native Vegetation Regulatory Map. Section 60F of the LLS Act sets out those arrangements, which includes the following relevant guidance:

- Section 60F (3) For the purposes of this Part, an area is taken, during the transitional period, to be low conservation value grasslands if it comprises only groundcover whose clearing was permitted by section 20 of the Native Vegetation Act 2003, as in force immediately before the repeal of that Act; and
- Section 60F (6) The regulations may make further provision with respect to the application of this Part during the transitional period, including:
  - (a) provisions applying to the identification of low conservation value grasslands.

As indicated by Section 60F (4), the assessor is encouraged to approach the categorisation task in the following manner (with emphasis added):

*A provision of this Part that determines the relevant categorisation of land by reference to a reasonable belief of the Environment Agency Head about a particular matter is to be construed, for the purposes of this section, as a reference to what a reasonable person would believe about the matter.*

A pragmatic ‘on balance’ approach has been adopted in the assessment noting that the history of the land is likely to have involved a variety of uses over time in a manner generally consistent with its agricultural zoning.

## 2.3 Additional Information Sources used in this Assessment

The following information was used in the preparation of this assessment:

- Proposal layers provided by Elliott Green Power;
- Office of Environment and Heritage Threatened Species Profiles (<http://www.environment.nsw.gov.au/threatenedspeciesapp/>; Accessed August 2021);
- Interim Biogeographical Regionalisation for Australia (IBRA) and IBRA sub-regions (<http://www.environment.gov.au/land/nrs/science/ibra/>);
- DPI profiles of threatened species, populations and ecological communities;
- OEH VIS Mapping (<http://www.environment.nsw.gov.au/research/VISmap.htm>);
- BAM Calculator (<https://www.lmbc.nsw.gov.au/bamcalc>) (Accessed August and September 2021);
- ePlanning Spatial Viewer (<https://www.planningportal.nsw.gov.au/spatial-viewer>) (accessed 31 August 2021);
- SEED spatial Portal (<https://www.seed.nsw.gov.au/>); and
- Native Vegetation Regulatory Map (NVR Map) (<https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=NVRMap>, Accessed August 2021).

## 2.4 Staff Qualifications

The field investigation and reporting were performed by Mr Dan Creevey (Ecologist). It was reviewed and issued for approval by Mr Mark Aitkens [Principal Ecologist (Accredited BAM Assessor – BAAS17034)].

## 2.5 Licensing

Research was conducted under the following licences:

- NSW National Parks and Wildlife Service Scientific Investigation Licence S100536 (Valid to 31 December 2021);
- Animal Research Authority (Trim File No: 16/361) issued by NSW Department of Primary Industries (Valid to 21 March 2022);
- Animal Care and Ethics Committee Certificate of Approval (Trim File No: 16/361) issued by NSW Department of Primary Industries (Valid to 21 March 2022); and
- Certificate of Accreditation of a Corporation as an Animal Research Establishment (Trim File No: 01/1522 & Ref No: AW2001/014) issued by NSW Agriculture (Valid to 22 May 2023).

## 2.6 Investigation Methods

Investigation methods performed in preparing this assessment are described in **Appendix A**.

### 3 DESKTOP ANALYSIS

#### 3.1 Native Vegetation Regulatory Map

A desktop analysis was performed to determine the category of land within the Project Area. **Figure 3-A** is an extract from the transitional Native Vegetation regulatory Map that shows the Project Area is not categorised (i.e. does not comprise any mapped areas of Category 1 or 2 lands).



**Figure 3-A: Native Regulatory Vegetation Map (Accessed 1 October 2021)**

Land excluded from the LLS Act (Railways, Roads and Urban environment) can be found south and east of the Project Area. Vulnerable regulated land (riparian zone) can be observed to the west.

#### 3.2 Land use and zoning

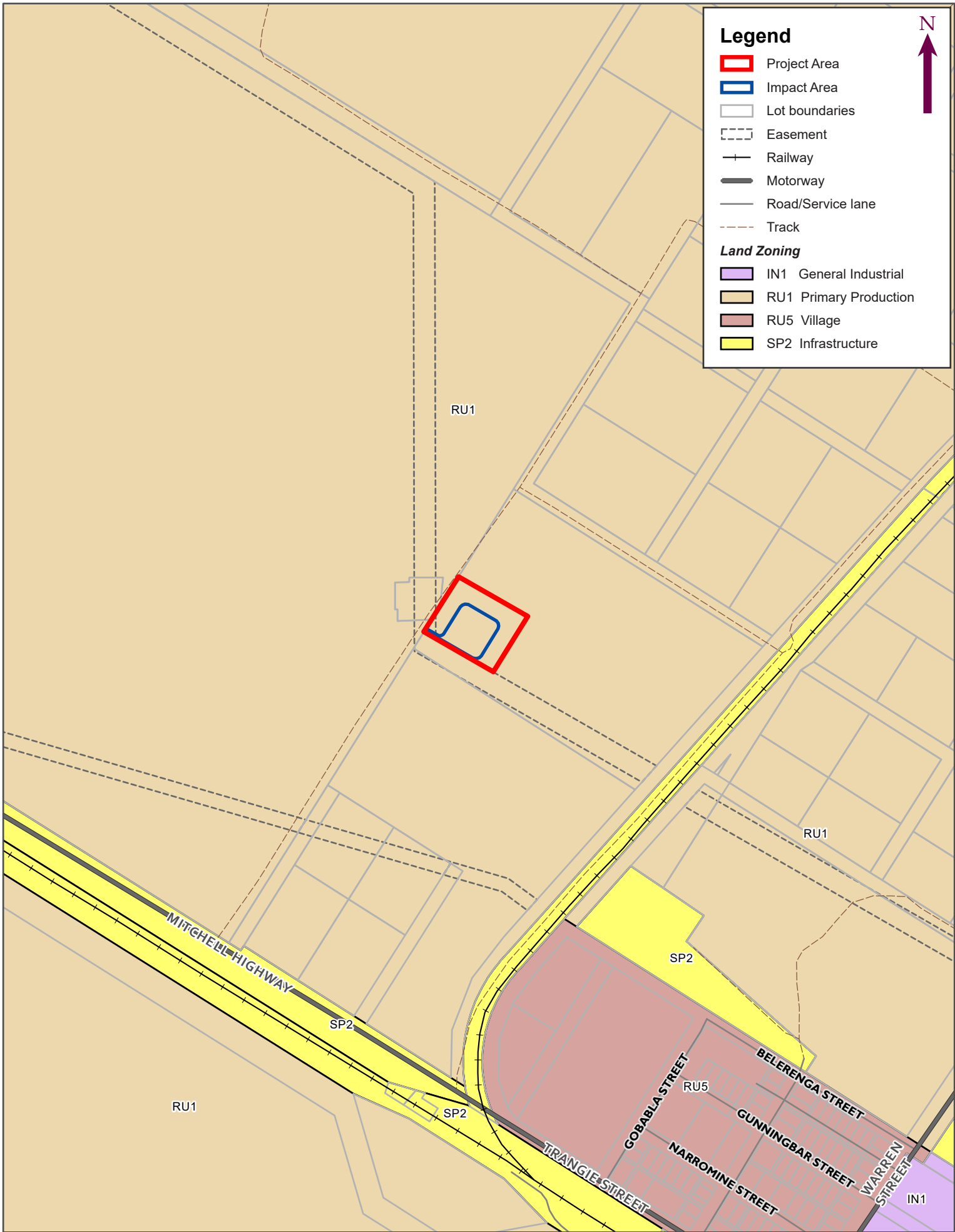
Land zoning for the Project Area and surrounds are described as RU1 Primary Production Land under the Warren Local Environmental Plan (**Figure 3-B**). Land use for the Project Area is classed as secondary and tertiary cropping. A small patch of vegetation within the north-western portion of the Project Area is classed as secondary and tertiary grazing native vegetation.

#### 3.3 Woody Vegetation Extent

Woody Vegetation Extent mapping (**Figure 3-C**) shows a small patch of woody vegetation in the north-western corner of the site. As indicated in **Figure 3-A**, this patch of vegetation is no longer classifiable as woody vegetation as it now forms part of the area utilised for cropping activity.

#### 3.4 State-wide Land Cover and Tree Survey (SLATS)

SLATS woody vegetation mapping (**Figure 3-C**) illustrates that there has been no change in the extent of woody vegetation since 2015. Historical imagery presented in **Section 3.5** shows a change in woody vegetation cover within the Project Area and the surrounding paddock since 1990.



**FIGURE 3B:  
LAND USE AND ZONING MAP**

VERSION: **B**

DATE EXPORTED: 5/10/2021 4:36 PM

TECHNICIAN: **Natalie.Wood**

LOCATION:  
**Nevertire Solar Farm**

DATA SOURCES  
Centennial, RPS,

0 50 100 150 200 250 300 m

SCALE: 1:10,000 AT A4 SIZE  
SPATIAL REFERENCE: GDA2020 MGA Zone 55

CLIENT: RPS Manidis Roberts Pty Ltd

PROJECT: 150349

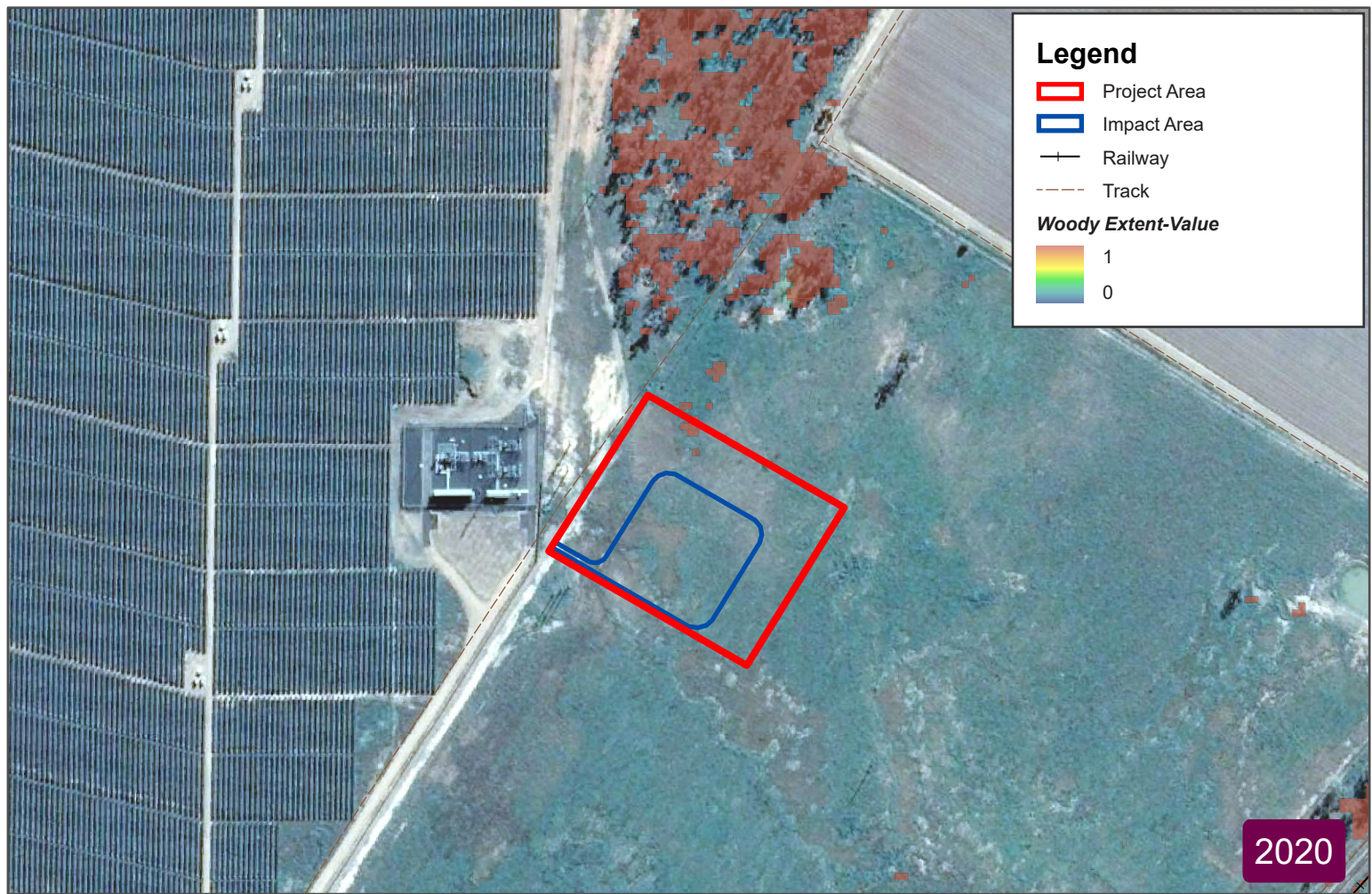
PURPOSE: Ecology

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**FIGURE 3C**  
**WOODY EXTENT VEGETATION MAPPING**

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TECHNICIAN: **Natalie.Wood**

LOCATION:  
**Nevertire Solar Farm**

DATA SOURCES  
Centennial, RPS, © Department of Finance, Services & Innovation 2018

0 20 40 60 80 100 120 140 160 m

SCALE 1:5,000 AT A4 SIZE  
SPATIAL REFERENCE: GDA2020 MGA Zone 55

CLIENT: **RPS Manidis Roberts Pty Ltd**

PROJECT: **150349**

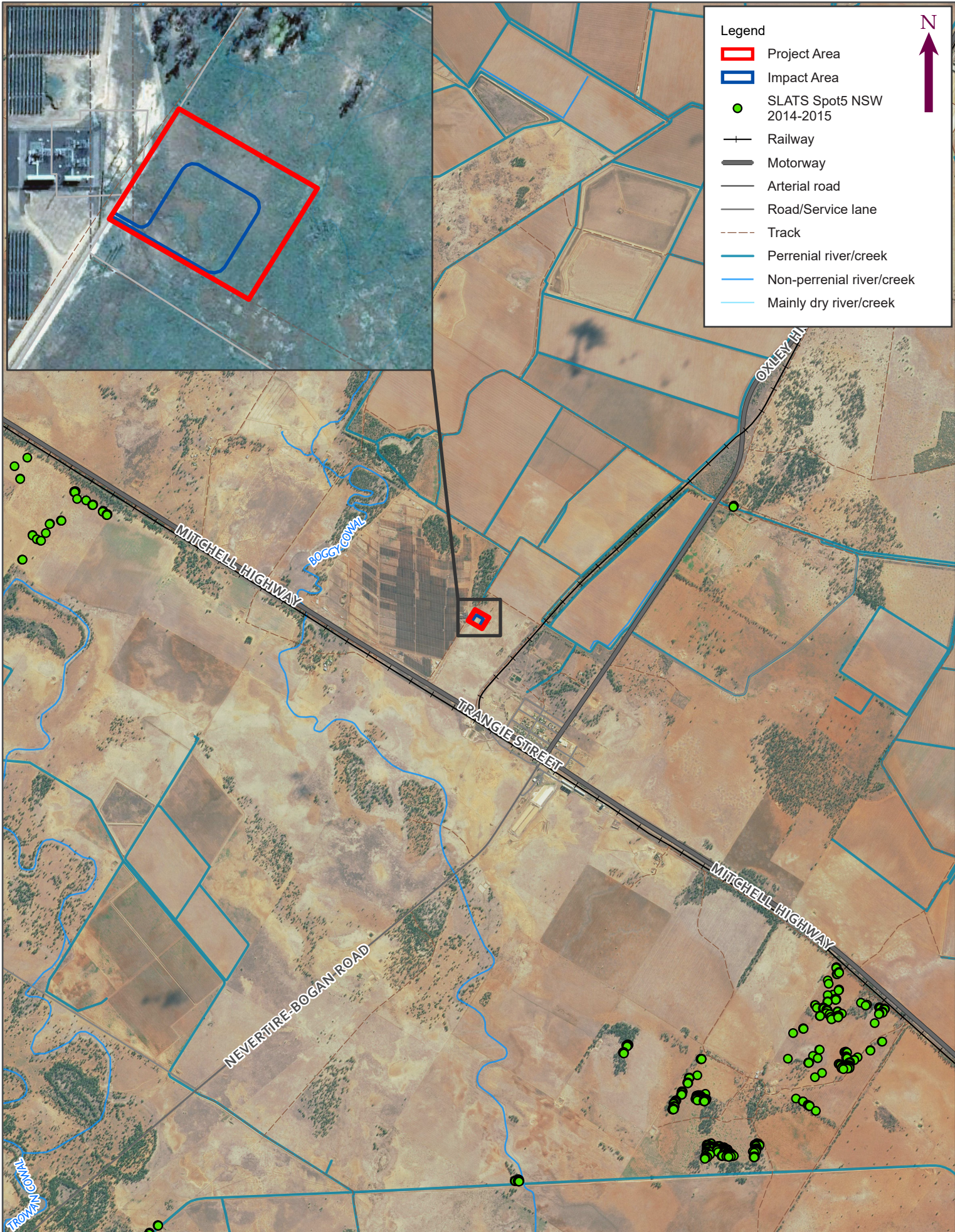
PURPOSE: **Ecology**

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**FIGURE 3D  
STATE-WIDE LAND COVER AND TREE SURVEY  
(SLATS) MAPPING**

VERSION: B  
DATE EXPORTED: 5/10/2021 4:50 PM  
TECHNICIAN: Natalie.Wood

LOCATION:  
Nevertire Solar Farm

DATA SOURCES  
Centennial, RPS.

0 200 400 600 800 1,000 1,200 m

SCALE: 1:50,000 AT A4 SIZE  
SPATIAL REFERENCE: GDA2020 MGA Zone 55

CLIENT: RPS Manidis Roberts Pty Ltd

PROJECT: 150349

PURPOSE: Ecology

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### 3.5 Historical Imagery

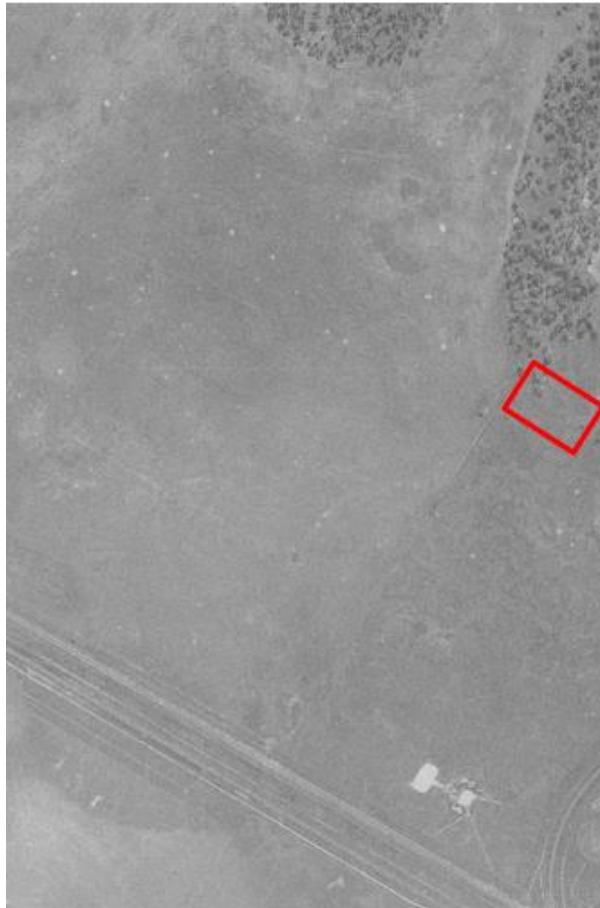
Historical imagery for the Project Area and surrounds shows that the land has a historical cropping and agricultural land use up to present day (**Table 3-1**). Imagery from 1998, 2014 and 2015 indicates the paddock was used for agricultural cropping more than once since 1990. Woody native vegetation once present in the north-western most portion of the Project Area (i.e. prior to December 2015) is now utilised for cropping. For this area, as shown in **Table 3-2**, it appears that approximately three trees were removed within the Project Area at that time.

Table 3-1: Historical Imagery of the Project Area and surrounding land

Historical Imagery



a) August 1972



b) June 1990



c) July 1994



d) May 1998



e) June 2014



f) November 2015

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### Historical Imagery



g) December 2015 – Clearing has occurred in North-eastern corner of the Project Area.



h) November 2018



i) May 2021

NB: Red polygons represent an approximation of the Project Area boundary, with a primary objective of indicating the clearing of woody native vegetation clearing within the north-western most portion between November and December 2015 Project Area.

Table 3-2: Comparison of November and December 2015 outlining removal of woody vegetation

Historical imagery



NB: Red polygons represent an approximation only of the Project Area boundary, with a primary objective of indicating the clearing of woody native vegetation clearing within the north-western most portion between November and December 2015.

## 4 SITE ASSESSMENT

### 4.1 Vegetation Integrity

Two BAM plots performed within the Project Area were used to quantitatively evaluate condition by calculating the Vegetation Integrity Score (VIS) of native plant community type/s (PCTs) present (or likely to be present) within the Project Area. Summaries of the plot is provided in the following sections. A visual appreciation of each plot is found in **Appendix B** with the full list of species recorded in both BAM pots provided in **Appendix C**.

#### 4.1.1 Plot 1

##### 4.1.1.1 Native Vegetation

A total of 13 native species were recorded within Plot 1. A list of the species with  $\geq 2\%$  is provided in **Table 4-1**.

**Table 4-1: Native plant species observed within Plot 1 ( $\geq 2\%$  cover)**

| Scientific Name                                 | Common Name        |
|-------------------------------------------------|--------------------|
| <i>Eleocharis acuta</i>                         |                    |
| <i>Sclerolaena muricata</i> var. <i>villosa</i> | Black Rolypoly     |
| <i>Eragrostis</i> spp.                          |                    |
| <i>Eryngium</i> spp.                            |                    |
| <i>Juncus aridicola</i>                         | Tussock Rush       |
| <i>Panicum</i> spp.                             | Panicum            |
| <i>Limosella australis</i>                      | Australian Mudwort |
| <i>Marsilea drummondii</i>                      | Common Nardoo      |

##### 4.1.1.2 Exotic vegetation

A total of seven exotic species were recorded within Plot 1. A list of the species with  $\geq 2\%$  is provided in **Table 4-2**.

**Table 4-2: Exotic plant species observed within Plot 1 ( $\geq 2\%$  cover)**

| Scientific Name             | Common Names       |
|-----------------------------|--------------------|
| <i>Cotula coronopifolia</i> | Water Buttons      |
| <i>Conyza</i> spp.          | A Fleabane         |
| <i>Lolium perenne</i>       | Perennial Ryegrass |

#### 4.1.2 Plot 2

##### 4.1.2.1 Native Vegetation

A total of six native species were recorded within Plot 2. A list of the species with percent cover  $\geq 2\%$  is provided in **Table 4-3**.

**Table 4-3: Native plant species observed within Plot 2 ( $\geq 2\%$  cover)**

| Scientific Name                                 | Common Name    |
|-------------------------------------------------|----------------|
| <i>Sporobolus caroli</i>                        | Fairy Grass    |
| <i>Sclerolaena muricata</i> var. <i>villosa</i> | Black Rolypoly |

#### 4.1.2.2 Exotic Vegetation

A total of seven exotic species were recorded within Plot 2. A list of the species with percent cover  $\geq 2\%$  is provided in **Table 4-4**.

**Table 4-4: Exotic plant species observed within Plot 1 ( $\geq 2\%$  cover)**

| Scientific Name             | Common Names       |
|-----------------------------|--------------------|
| <i>Sonchus oleraceus</i>    | Common Sowthistle  |
| <i>Lolium perenne</i>       | Perennial Ryegrass |
| <i>Trifolium glomeratum</i> | Clustered Clover   |
| <i>Hypochaeris radicata</i> | Catsear            |

#### 4.1.3 High Threat Weeds

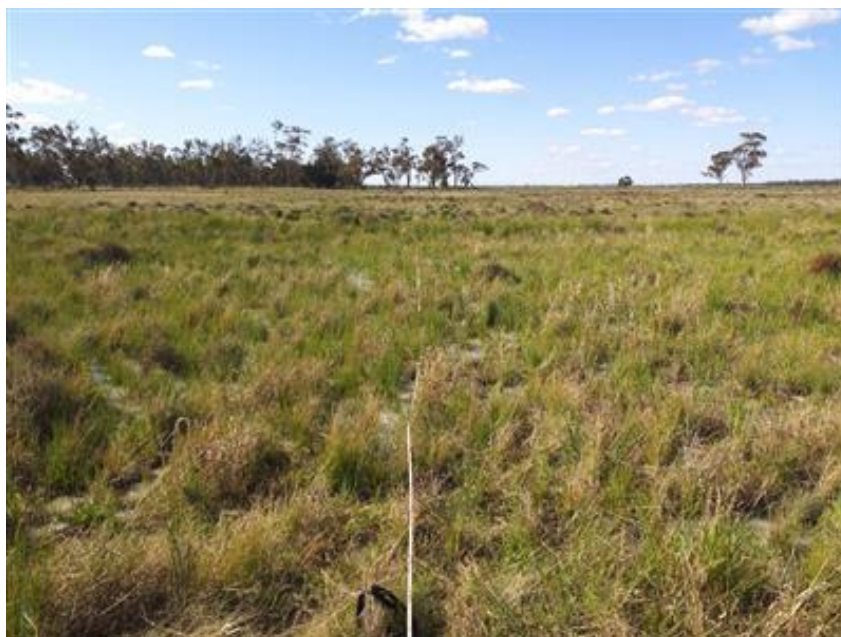
None of the exotic species observed within the Project Area are classed as a high threat weed species.

#### 4.1.4 Plant Community Type

OEH VIS Mapping described the PCT within the Project Area to be PCT 49 - Partly derived Windmill Grass - copperburr alluvial plains shrubby grassland of the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion. A general characterisation of this PCT is provided in **Table 4-5** with a visual appreciation of this vegetation shown in **Plate 4-1**.

**Table 4-5: Description of PCT 49 within the Project Area**

| PCT - 49 – Partly derived Windmill Grass - copperburr alluvial plains shrubby grassland of the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion |                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vegetation Formation                                                                                                                                               | KF_CH4 Grasslands                                                                                                                                                                            |
| Vegetation Class                                                                                                                                                   | Semi-arid Floodplain Grasslands                                                                                                                                                              |
| Condition classes                                                                                                                                                  | Moderate                                                                                                                                                                                     |
| Extent within Project Area                                                                                                                                         | 2.5 ha                                                                                                                                                                                       |
| BAM Plot no.                                                                                                                                                       | Plot 2                                                                                                                                                                                       |
| Species relied upon for PCT identification                                                                                                                         | <i>Scleroleana muricata</i>                                                                                                                                                                  |
|                                                                                                                                                                    | <i>Sporobolus caroli</i>                                                                                                                                                                     |
|                                                                                                                                                                    | <i>Chloris truncata</i>                                                                                                                                                                      |
| Other consistent diagnostic features                                                                                                                               | Tussock grassland. Occurs on alluvial clay soils and brown earth soils.                                                                                                                      |
| Justification of evidence used to identify the PCT                                                                                                                 | Justification for PCT allocation was reached by identifying surrounding remnant vegetation and comparing this with location and landscape position within the OEHS VIS database (OEHS 2021). |
| Threatened Ecological Communities                                                                                                                                  | No TEC's were observed within the Project.                                                                                                                                                   |
| Estimated percent cleared                                                                                                                                          | 50%                                                                                                                                                                                          |



**Plate 4-1:** PCT 49 - Partly derived Windmill Grass - copperburr alluvial plains shrubby grassland of the Darling Riverine Plains Bioregion and Brigalow Belt South Bioregion

#### 4.1.5 VIS Calculations

Plot data was compared to unamended benchmark data available for PCT 49 to calculate the VIS (**Table 4-6**). Plot 1 indicated higher native species richness and diversity resulting a VIS of 83.3. Plot 2 recorded higher levels of exotic species and lower native species richness, diversity and abundance resulting in a VIS of 50.3, this is consistent with the evidence of historical agricultural practices within the Project Area.

**Table 4-6: Comparison of BAM plot outputs against PCT 49 Benchmark data.**

| Measure                       | PCT Benchmark | BAM Plot Data – Plot 1<br>(water inundated area) | BAM Plot Data – Plot 2 |
|-------------------------------|---------------|--------------------------------------------------|------------------------|
| Tree Richness                 | 0             | 0                                                | 0                      |
| Shrub Richness                | 4             | 1                                                | 2                      |
| Grass and Grass Like Richness | 5             | 4                                                | 2                      |
| Forb Richness                 | 8             | 7                                                | 2                      |
| Fern Richness                 | 0             | 1                                                | 0                      |
| Other Richness                | 1             | 0                                                | 0                      |
| Tree Cover                    | 0             | 0                                                | 0                      |
| Shrub Cover                   | 5             | 15                                               | 5                      |
| Grass and Grass Like Cover    | 32            | 45                                               | 66                     |
| Forb Cover                    | 3             | 13.6                                             | 0.6                    |
| Fern Cover                    | 0             | 2                                                | 0                      |
| Other Cover                   | 0             | 0                                                | 0                      |
| Total length of fallen logs   | 0             | 0                                                | 0                      |
| Litter Cover                  | 27            | 13.4                                             | 10                     |
| Number of Large Trees         | 0             | 0                                                | 0                      |
| VIS                           |               | 83.3<br>(High)                                   | 50.3<br>(Moderate)     |

Although Plot 2 achieved a VIS of 50.3, it recorded more exotic species than native species. Further, a large proportion the native species cover was attributed to the dominance of one species (*S. caroli* – 60%), a native annual/ perennial that has likely to have rapidly regenerated between cropping events. Whilst the VIS

indicates otherwise, it is still considered that vegetation outside the water inundated areas should not be classed as moderate or high conservation value. Observation whilst onsite indicated a high level of exotic species present at a Project Area scale (Particularly drier paddock zones) with an estimated 50-55 percent of the total Project Area being Compromised of exotic species. Images provided **Section 4.4** provides a visual appreciation of the site at a Project Area scale.

## 4.2 Interim Grasslands and other Groundcover Assessment Method (GGAM)

Upon initial inspection of the site, it was determined that there were two different vegetation zones identified within the Project Area. Each had one obviously dominant native species present (Inundated areas – *Eleocharis acuta*, Dry paddock *S. caroli*). The Interim GGAM states "...if it is presumed that the vegetation is native-dominated; assessors can proceed directly to Stage 3". Therefore, the Interim GGAM states:

*"In the case of derived grasslands, the assessor must use the PCT that is most likely to have occurred prior to human intervention. A vegetation zone that is mapped as derived vegetation must be assessed against the benchmark data which in the opinion of the assessor is the most likely original PCT, or against the benchmark data for the vegetation"*

*"Derived groundcover should be assessed only against benchmarks for groundcover vegetation within this method (i.e. benchmark value for trees and shrubs are not included in the calculation of vegetation integrity under this method)."*

In line with this structural and composition data from both BAM plots were entered into the BAM Calculator, with benchmarks updated according to the Interim GGAM. The PCT used for analysis was PCT 56 - Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW as this was identified as the remnant vegetation community in the Biodiversity Assessment Report (NGH Environmental, 2017). Due to varying floristic composition each plot was analysed separately. Outputs from these calculations are provided in **Table 4-7** including categorisation of grassland conservation value.

**Table 4-7: Interim GGAM Calculator outputs when compared to PCT 56**

| Plot   | Composition Condition Score | Structural Condition Score | Function Condition Score | VIS  | Conservation Value |
|--------|-----------------------------|----------------------------|--------------------------|------|--------------------|
| Plot 1 | 90.4                        | 100                        | 5.4                      | 36.5 | Moderate           |
| Plot 2 | 26                          | 78.8                       | 2.8                      | 17.9 | Moderate           |

## 4.3 Habitat

Two areas of ephemeral water inundation were identified within the Project Area as shown in **Plate 4-2**. Flora species reflecting the aquatic nature of these areas was observed in BAM Plot 1. This area was assessed to have high condition VIS of 83.3. A description of these areas along with likelihood of occupancy and recommended mitigations are listed in **Table 4-8**.

**Table 4-8: Potential Habitat features and likelihood of occupancy**

| Habitat Features                                                                | Likelihood of Occupancy/ Use                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Two areas of ephemeral water inundation were identified within the project area | Areas of water inundation may provide potential habitat for frogs and foraging habitat for birds (see <b>Figure 4-A</b> ). No evidence of frogs (calls, eggs or tadpoles) was found during the site assessment noting the survey occurred immediately after heavy rains. One White faced Heron was observed utilising this habitat during the site visit. Consideration should be given to the avoidance of impacts to this area. |



**Plate 4-2: Image illustrating potential reproductive and foraging habitat**



**FIGURE 4A**  
**LOCATION OF WATER INUNDATED AREAS**  
**WITHIN THE PROJECT AREA**

VERSION: **B**  
 DATE EXPORTED: **5/10/2021 4:56 PM**  
 TECHNICIAN: **Natalie.Wood**

LOCATION:  
**Nevertire Solar Farm**

DATA SOURCES  
 Centennial, RPS,

0 10 20 30 40 50 60 70 m  
 SCALE 1:2,000 AT A4 SIZE  
 SPATIAL REFERENCE: GDA2020 MGA Zone 55

CLIENT: **RPS Manidis Roberts Pty Ltd**  
 PROJECT: **150349**  
 PURPOSE: **Ecology**

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 1. This plan was prepared for the sole purposes of the client for the specific purpose of producing a photographic overlay plan. This plan is strictly limited to the purpose and does not apply directly or indirectly and will not be used for any other residential, purpose, use or matter. The plan is presented without the responsibility of a duty of care for any other person (other than the Client) ("Third Party") and may not be relied on by Third Party.

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 f. RPS Australia East Pty Ltd, in reliance of this plan with any local authority against the recommendations of RPS Australia East Pty Ltd;  
 g. the accuracy, reliability, suitability or completeness of any representations or estimates made or referred to by RPS Australia East Pty Ltd in this plan.



## 4.4 Site Photographs

**Table 4-9** illustrates the vegetation composition observed within the Project Area during the site assessment. Images display paddock dominated primarily by exotic species, some native shrubs and an absence of woody vegetation. Two areas of water inundation and associated changes in vegetation can be observed in the south-western corner of the Project Area. These areas are thought to hold conservation value as it could provide habitat for *Crinia sloanei* (BC Act – Vulnerable; EPBC Act – Endangered).

Table 4-9: Visual appreciation of the vegetation composition observed within the Project Area

Project Area



NW Corner (image orientation – SE)



NE Corner (image orientation – SW)



SE Corner (image orientation – NW)



SW Corner (image orientation -NE)

## 5 LAND CATEGORY ASSESSMENT

**Table 5-1** outlines the findings of the Land Category Assessment relevant to the Project Area.

**Table 5-1: Land Category Assessment of the Project Area**

| Resource                         | Relevant Legislation Addressed                                         | Report Section     | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Recommended Land Category |
|----------------------------------|------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Native Vegetation Regulatory Map | <i>LLS Act</i> 2013 Part 5A 60G                                        | <b>Section 3.1</b> | Project Area is not mapped as Vulnerable or Sensitive Regulated land.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Category 1 – Exempt Land  |
| Land use mapping                 | <i>LLS Regs</i> Part 14, 114<br><i>LLS Act</i> Part 5A 60H, 60J (2)    | <b>Section 3.2</b> | Land use for the Project Area is classed primarily as secondary and tertiary cropping. There is a small patch of vegetation within the north-western portion of the Project Area that is classed as secondary and tertiary grazing native vegetation, this area was cleared between November and December 2015, and has since been use for cropping (as is evident from historical imagery). This indicates that the Project Area has been subject to routine cropping.                                                                                                                                                                                                                          | Category 1 – Exempt Land  |
| Woody vegetation extent          | <i>LLS Act</i> Part 5A 60H                                             | <b>Section 3.3</b> | A small patch of woody vegetation is mapped within the Project Area. this area was cleared between November and December 2015 and has since been used for agricultural practices including cropping and grazing (as is evident from historical imagery).                                                                                                                                                                                                                                                                                                                                                                                                                                         | Category 1 – Exempt Land  |
| SLATS woody clearing for NSW     | <i>LLS Act</i> Part 5A 60H                                             | <b>Section 3.4</b> | Although there is evidence of historic clearing within the Project Area. SLATS woody vegetation mapping illustrates that there is no change in woody vegetation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Category 1 – Exempt Land  |
| Historical Imagery               | <i>LLS Regs</i> Part 14, 114<br><i>LLS Act</i> Part 5A 60H and 60J (2) | <b>Section 3.5</b> | Historical imagery indicates a long history of cropping (multiple events) and agricultural practices. A clearing event between November and December 2015 shows clearing of woody vegetation within the Project Area and surrounding paddock.                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Category 1 – Exempt Land  |
| Site photographs                 | <i>LLS Act</i> Part 5A 60H                                             | <b>Section 4.4</b> | Visual representation of the site indicates an overall, relatively low condition native vegetation. This can be seen the dominance of exotic species and general lack of woody vegetation and structural habitat. Areas of water inundation were identified and comprise biodiversity value.                                                                                                                                                                                                                                                                                                                                                                                                     | Category 1 – Exempt Land  |
| Vegetation Survey Data BAM Plot  | <i>LLS Regs</i> Part 14, 114<br><i>LLS Act</i> Part 5A 60H and 60F (4) | <b>Appendix D</b>  | Vegetation survey data collected during site visit indicate that areas of water inundation is native vegetation and accordingly comprises biodiversity value (i.e. Plot 1 - CVIS 83.3). Similarly, drier areas of the paddock also comprise biodiversity value (i.e., Plot 2 - CVIS of 50.3), although it is considered the overall condition of the Project Area is low (particularly the drier areas of the paddock). However, application of Part 4, 114 of the <i>LLS Regs</i> allows for the land within the Project Area to be taken as 'cleared' as it has been significantly modified or disturbed as historical aerial imagery post 1990 shows detectable variation in the structure or | Category 1 – Exempt Land  |

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| Resource     | Relevant Legislation Addressed                       | Report Section | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Recommended Land Category |
|--------------|------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
|              |                                                      |                | composition, or both, of non-woody vegetation consistent with the management or pasture or crops for agricultural purposes for at least 12 months on more than one occasion with that variation not being caused only by grazing [cl. 114 (a) (b) (c) (d) (e)].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |
| Interim GGAM | LLS Regs Part 14, 114<br>LLS Act Part 5A 60H 60F (4) | Section 4.2    | A Stage 3 native species assessment was carried out in accordance with the Interim GGAM for two plots within the Project Area. Plot 1, located within the water inundated area, scored a CVIS of 36.5. Plot 2, located in the drier area of the paddock, scored a CVIS of 17.9. This resulted in a moderate conservation value being assigned to the Project Area. However, application of Part 4, 114 of the LLS Regs allows for the land within the Project Area to be taken as 'cleared' as it has been significantly modified or disturbed as historical aerial imagery post 1990 shows detectable variation in the structure or composition, or both, of non-woody vegetation consistent with the management or pasture or crops for agricultural purposes for at least 12 months on more than one occasion with that variation not being caused only by grazing [cl. 114 (a) (b) (c) (d) (e)]. | Category 1 – Exempt Land  |

## 6 THREATENED SPECIES

### 6.1 BC Act

#### 6.1.1 Likelihood of Occurrence

Threatened species likelihood of occurrence (LoO) was aided by completing the following searches:

- BioNet Atlas search.
- EPBC Act Protected Matters Search Tool.
- BAM Calculator.

The databases found the following species to have the potential of occurring within habitat prescribed in the Project Area. A LoO was completed for each of each of these species and is provided in (**Appendix E**). Species with a moderate LoO, as listed in **Table 6-1**, are to be assessed in accordance with Section 7.3 of the BC Act to determine if the Project will have a significant impact on these species.

**Table 6-1: Threatened Species and PCT with a moderate or greater likelihood of occurrence**

| Scientific Name                        | Common Name              |
|----------------------------------------|--------------------------|
| <i>Ardeotis australis</i>              | Australian Bustard       |
| <i>Artamus cyanopterus cyanopterus</i> | Dusky Woodswallow        |
| <i>Crinia sloanei</i>                  | Sloane's Froglet         |
| <i>Epthianura albifrons</i>            | White-fronted Chat       |
| <i>Falco hypoleucos</i>                | Grey Falcon              |
| <i>Falco subniger</i>                  | Black Falcon             |
| <i>Grus rubicunda</i>                  | Brolga                   |
| <i>Lepidium monoplacoides</i>          | Winged Peppergrass       |
| <i>Lophochroa leadbeateri</i>          | Major Mitchell Cockatoo  |
| <i>Polytelis swainsonii</i>            | Superb Parrot            |
| <i>Rostratula australis</i>            | Australian Painted Snipe |
| <i>Swainsona murrayana</i>             | Slender Darling Pea      |

#### 6.1.2 Survey Observations

No threatened flora or fauna species were observed during the site assessment. Vegetation and habitat composition observed in the inundated area of the Project Area indicate potential habitat for *Crinia sloanei* (**Figure 4-A**). This species has been recorded 25 km north of the Project Area, within River Red Gum/Cumbungi Woodland in 2001; although, contemporary targeted surveys for this species in the adjoining approved Nevertire Solar Farm failed to detect this species within nearby similar habitat conditions (NGH Environmental 2019). There is limited connectivity between the site and the record to the north in the form of creeks, drainage channels, roadside drain throughout a highly modified environment. Native vegetation corridors between the record and the Project Area are sparse and generally relate to riparian corridors and vegetated boundary lines or small patches of remnant vegetation.

#### 6.1.3 Assessment of Significance (Section 7.3 of the BC Act)

A Test of Significance is provided for each threatened species potentially affected by the Project as listed in **Table 6-1** (see **Appendix F**). These assessments conclude that the Project is not likely to have a significant impact on threatened species, ecological communities and their habitats.

### 6.1.4 Prescribed Biodiversity Values

The Project Area does not contain any of the following Prescribed Biodiversity Values:

- Karst, caves, crevices and cliffs;
- Rock;
- Human made structures;
- The proposed development is not for a wind farm; and
- Hydrological processes that sustain and interact with rivers, streams and wetlands

## 6.2 EPBC Act Matters

The Project is not likely to have a significant impact on a threatened species, ecological community or its habitat listed under the EPBC Act. Accordingly, any decision to voluntarily refer the Project would be made under Section 68(2) of the EPBC Act with conclusion presented being the Project is not considered a controlled action.

## 6.3 Impact Avoidance and Mitigation Measures

**Table 6-2** lists mitigation measures recommended for minimising the Project's direct and indirect impacts on biodiversity.

**Table 6-2: Recommended mitigation measures**

| Impact                       | Impact Avoidance and Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Impact Avoidance             | Where possible, it is recommended that areas of inundation mapped within the Project Area be avoided by micro-siting the BESS to align with areas of drier vegetation.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Native Vegetation Planting   | Native vegetation commensurate to the surrounding remnant PCT should be planted. This should be done to compensate for woody vegetation cleared between November and December 2015                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Invasive Flora               | Remove all propagules of exotic flora from within the impact area and adjoining patch (within 10 m) to prevent the spread or growth of exotic flora.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Erosion and sediment impacts | A site-specific Erosion and Sediment Control Plan is recommended detailing the measures and controls to be applied to minimise erosion and sediment control risks such as: runoff, diversion and drainage points; sediment basins and sumps; scour protection; stabilising disturbed areas as soon as possible, check dams, fencing and swales; and staged implementation arrangements. The Plan will also include arrangements for managing wet weather events, including monitoring of potential high-risk events (such as storms) and specific controls and follow-up measures to be applied in the event of wet weather. |
| Minimise risk from spills    | All fuels, chemicals and other hazardous materials will be stored in a roofed, fire-protected and impervious bunded area at least 50 metres from waterways, drainage lines, basins, flood-affected areas or slopes above 10%. Bunding design will comply with relevant Australian Standards and should generally be in accordance with guidelines provided in the EPA Authorised Officers Manual.                                                                                                                                                                                                                            |

## 6.4 Limitations

Seasonal variation in life stage of some species of plant may have limited the ability to either detect or reliably identify. All species detected were able to be identified to genus level. Where there was uncertainty around the listing of a species of exotic or native, a native listing was allocated. Seasonal movement of migratory avian fauna may have resulted in some transient species not being detected. Only one diurnal site assessment was conducted.

## 7 CONCLUSION

### 7.1 Land use

The Project Area is located within a landscape that has been subject to extensive historical agricultural land use. Imagery outlined in **Section 3.5** shows agricultural land management activities being carried out on this land from at least the early 1970's. Analysis of this imagery in conjunction with historic and current land use practices, would reasonably lead to the conclusion that this land is substantially modified or disturbed land, as outlined in Part 14 (114) b) (c) (d) (e) of the Regulation.

Consistent with Part 5A 60H (1) (a) of the LLS Act, most of the land within the Project Area had been cleared prior to, and since, 1990 indicating a Category 1 classification. However, a small patch of woody vegetation was cleared between November and December 2015, with this clearing event being prior to the commencement of the LLS Act (i.e. prior to 25 August 2017). Under transitional arrangements [Section 60F(3)], it is possible to conclude that clearing in this part of the Project Area was for an area taken to be 'low conservation value grasslands' as permitted by Section 20 of the *Native Vegetation Act 2003*. If not the case, then this patch would otherwise be categorised as Category 2 regulated land. A reasonable interpretation of the historical imagery suggests that the groundcovers in that part of the Project Area would comprise a mix of native and exotic species and, depending on land use activity, would comprise less than 50% indigenous species of vegetation.

### 7.2 Vegetation Condition

Two vegetation zones were delineated within the Project Area, each exhibiting differing vegetation character and biodiversity values.

The condition of the vegetation zone comprising temporary water inundation in the south-western portion of the Project Area was quantified against PCT 49 benchmarks (OEH VIS vegetation Mapping) in accordance with BAM (**Section 4.1.4**). This plot scored a VIS of 83.3, indicating a moderate-high conservation value. The same zone, when compared to benchmarks of the likely pre-European vegetation type (i.e. PCT 56) as required by the Interim GGAM (**Section 4.2**), produced a VIS of 36.5, which is categorised as moderate conservation value.

The remaining vegetation zone was observed to be a dry paddock having low native species diversity as it is dominated primarily by one native species (*S. caroli*) and several exotic species. The condition of this zone was quantified against PCT 49 benchmarks (OEH VIS vegetation Mapping) in accordance with BAM (**Section 4.1.4**). This plot scored a CVIS of 50.3, indicating a moderate conservation value. The same zone, when compared to benchmarks of the likely pre-European vegetation type (i.e. PCT 56) as required by the Interim GGAM (**Section 4.2**), produced a VIS of 17.9. This value only slightly exceeds the <15 low conservation value, and Category 1 – exempt land.

The quantitative condition calculations indicate that both vegetation zones would be classified as Category 2 – regulated land. However, Clause 114 of the LLS Regs allows for the identification of native vegetation that has been significantly disturbed or modified. While site data indicates that the condition of groundcover vegetation would indicate the presence of medium conservation value grasslands, this vegetation has been determined to be significantly modified or disturbed as there has been:

- detectable variation (from information obtained from aerial or satellite imagery) in the structure or composition, or both, of non-woody vegetation, and
- variation is consistent with management of pasture or crops for agricultural purposes, and
- variation has been sustained for at least 12 months on more than one occasion before the commencement of Part 5A of the Act, and
- variation has not been caused only by grazing on the land, and
- variation occurred (from information obtained from aerial or satellite imagery) between 1 January 1990 and the date of commencement of Part 5A of the Act.

### 7.3 Recommended Categorisation

The Project Area comprises land that is not categorised in the draft Native Vegetation Regulatory Map. Transitional arrangements apply and require assessment to determine the likely category/s present (Section 60F of the LLS Act). The assessment presented in this report indicates the land is consistent with the definition for Category 1 exempt land as outlined below:

- Historical imagery shows most of the land within the Project Area being cleared of a tree and shrub stratum post 1990 with the groundcover subject to repeated agricultural cropping on more than one occasion. This is consistent with Section 60H (1) of the LLS Act.
- Despite the groundcover vegetation being classed as medium conservation value grasslands, it is also deemed to be significantly disturbed or modified (Clause 114 of the LLS Regs). Such land is taken to have been cleared [Section 60J(2)].

Accordingly, it is therefore recommended that that land be categorised as Category 1 – exempt land.

### 7.4 Is a BDAR Required?

The assessment of a modification to an approved SSD project requires a BDAR where the proposed modification is expected to have an increased impact on biodiversity values. There are three ways in the which the proposed modification could be deemed to have an increased impact as outlined in :

| Trigger for a BDAR                                                          | Assessment of Proposed Modification                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Impact on an Area of Outstanding Biodiversity Values                        | The proposed modification will not have an impact on an Area of Outstanding Biodiversity Value.                                                                                                                                                                                                                                                                                                                                                                          |
| The clearing of native vegetation exceeds approved limits                   | The proposed modification will involve the clearing of Category 1 – exempt land, which is land taken to be cleared (i.e. regular cropping since 1990) and is therefore not regulated under the LLS Act (Section 60E of the LLS Act). On this basis, it is taken that the clearing of vegetation from the Project Area will not have an increased impact on native vegetation cover or the habitat of predicted threatened species associated with this vegetation cover. |
| The clearing of threatened species habitat not predicted by vegetation type | The clearing of land within the Project Area was not identified as having the potential to result in a significant impact on a threatened species not predicted by vegetation type (i.e. Test of Significance).                                                                                                                                                                                                                                                          |

As the land is taken to be cleared and is categorised as Category 1 – exempt land and there is not likely to be a significant impact on threatened species and ecological communities, it is considered that the Project is not likely to result in an increased impact on biodiversity values. Therefore, it is considered that a BDAR is not required for the assessment of the proposed modification.

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# Appendix A

## Survey Methodology

# Desktop Assessment

## Database

A review of relevant information was performed to gain an understanding of the biodiversity values occurring or potentially occurring within the Project area. Information sources reviewed for a 10 km radius of the Project area (i.e. locality) included:

- BAM Calculator candidate species output (accessed August 2021);
- Flora and Fauna records contained in the Office of Environment and Heritage (OEH) Atlas of NSW Wildlife (accessed August 2021; OEH 2021e);
- Flora and Fauna records contained in the Department of the Environment and Energy (DoEE 2021a) Protected Matters Search tool (accessed August 2021);
- ePlanning Spatial Viewer (<https://www.planningportal.nsw.gov.au/spatial-viewer>) (accessed 31 August 2021).
- SEED spatial Portal (<https://www.seed.nsw.gov.au/>, Accessed August and September 2021); and
- Native Vegetation Regulatory Map (NVR Map) (<https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=NVRMap>, Accessed August 2021).

A preliminary 'likelihood of occurrence' assessment was produced from this information to provide a framework for determining investigation methods necessary for performing adequate investigations.

## Spatial Datasets

Desktop analysis of vegetation cover including a review of the resources listed below:

- State Vegetation Type Map: Central West / Lachlan Region Version 1.4. VIS\_ID 4468
- Mitchell Landscapes (NPWS 2003);
- IBRA Region and subregion mapping (IBRA7); and
- Recent aerial imagery of the Project Area.

## Literature

A review of relevant information was undertaken to provide an understanding of ecological values occurring or potentially occurring within the Project Area and locality (i.e. within 10 km). Information sources included:

- Lake Macquarie LGA Vegetation 2012 VIS\_ID 2307
- Aerial Photograph Interpretation (API) to prepare preliminary vegetation mapping for the Project area;
- A review of Geographic Information System (GIS) data including (but not limited to) aerial photography, topographic maps and Soil Landscapes; and
- Collective knowledge gained from extensive work in the area.

## Flora Surveys

Flora surveys were conducted in accordance with the BAM, with the aim to identify the vegetation communities existing within the Project area. Surveys were conducted within the Project Area and the area adjacent the Lot. This was to account for any potential changes in the Project footprint. All survey efforts and associated features can be found in **Figure A1**.

## Vegetation Mapping

State Vegetation Type Map: Central West / Lachlan Region Version 1.4. VIS\_ID 4468 accessed through the SEED portal (DPIE, 2021), along with information gathered for the Biodiversity Assessment Report (NGH

environmental, 2017) was used as the basis for a preliminary analysis of vegetation patterns within the Project Area. This combined with floristic observations during the site assessment and aerial photography were used to assign a PCT. Notional condition classes were also assigned with consideration of the overall condition of the Project Area.

### BAM Plots

Two BAM Plots were performed within the Project Area, measuring the composition, structure and functional components of the vegetation cover (**Figure A1**). The BAM was placed in the location that best represented the biological character of the vegetation zone being assessed.

The plots included:

- One standard 20 x 20 m plot, to assess the composition and structure attributes, including trees, shrubs, grasses, forbs, ferns and other growth forms;
- One standard 20 x 50 m plot (1000 m<sup>2</sup>) to assess the function attributes: number of large trees [i.e. > 50 cm Diameter at breast height (DBH)], stem size class, tree regeneration, length of fallen logs, high threat exotic vegetation cover and hollow-bearing trees; and
- Five 1 m<sup>2</sup> sub-plots to assess average litter cover for the plots.

The methods for collecting data from within a BAM plot are described in State of NSW (2017a).

### Interim Grassland and other Groundcover Assessment Method (GGAM)

An initial site assessment concluded that the Project area was comprised of two vegetation zones. Areas of water inundation and dry paddock. These zones were found to be dominated by one primary native species. Therefore, a stage 3 native species assessment was carried out in accordance with the Interim GGAM.

### Quality Control

To ensure the floristic data collected were reliable, where there was uncertainty identifying a species, a specimen (i.e. leaves, buds, fruit and or flowers) was collected (where possible) and later identified using relevant guides and keys (including PlantNET by The Royal Botanic Gardens and Domain Trust 2021).

All data electronically entered are also subject to quality control audits.

### Targeted Flora Surveys

Targeted flora searches were conducted with the aim of locating threatened flora species identified as Species Credit Species (BC Act) or those having moderate or greater likelihood of occurrence within the Project area. Given the small nature of the Project area, targeted searches were conducted across the whole area by an Ecologists using parallel transects (OEH 2016). Plant specimens of unknown or significant status were collected for later identification or lodgement with the National herbarium of Sydney. Surveys were performed in accordance with methods, timing and effort specified in OEH (2017a). The locations of the targeted flora searches are shown on **Figure A1**.



**FIGURE A-1  
SURVEY EFFORT**

VERSION: **B**  
DATE EXPORTED: **5/10/2021 5:24 PM**  
TECHNICIAN: **Natalie.Wood**

LOCATION:  
**Nevertire Solar Farm**

DATA SOURCES  
Centennial, RPS,

0 10 20 30 40 50 60 70 m  
SCALE 1:2,000 AT A4 SIZE  
SPATIAL REFERENCE: GDA2020 MGA Zone 55

CLIENT: **RPS Manidis Roberts Pty Ltd**  
PROJECT: **150349**  
PURPOSE: **Ecology**

**IMPORTANT NOTE**  
1. This plan was prepared for the sole purposes of the client for the specific purpose of producing a photographic survey plan. This plan is strictly limited to the purpose and does not apply directly or indirectly and will not be used for any other regulatory purpose, use or matter. The plan is presented without the assumption of a duty of care for any other person (other than the Client) ("Third Party") and may not be relied on by Third Party.

2. RPS Australia East Pty Ltd will not be liable (in negligence or otherwise) for any direct or indirect loss, damage, liability or claim arising out of or incidental to:  
a. a Third Party publishing, using or relying on the plan;  
b. RPS Australia East Pty Ltd relying on information provided to it by the Client or a Third Party where the information is incorrect, incomplete, inaccurate, out-of-date or unreasonable;  
c. any inaccuracies or other faults with information or data sourced from a Third Party;

d. RPS Australia East Pty Ltd relying on surface indicators that are incorrect or inaccurate;  
e. the Client or any Third Party not verifying information in this plan where recommended by RPS Australia East Pty Ltd;  
f. judgement of this plan with any local authority against the recommendation of RPS Australia East Pty Ltd;  
g. the accuracy, reliability, suitability or completeness of any representations or estimates made or referred to by RPS Australia East Pty Ltd in this plan.



## Dates and Weather Conditions

Weather conditions on the day of the site assessment is provided in **Table 8-1**. Weather information was accessed from Dubbo Airport AWS [065070 BOM (2021)]. The weather station is approximately 90 km to the south-east of the Project Area.

**Table 8-1: Weather conditions during site assessment**

| Date      | Min Temp (°C) | Max Temp (°C) | Rainfall (mm) | Max wind speed and direction | Task                                                     |
|-----------|---------------|---------------|---------------|------------------------------|----------------------------------------------------------|
| 19/8/2021 | 4.2           | 18.3          | 1.8           |                              | BAM Plot & Stage 3 Native Species Assessment             |
| 20/8/2021 | 4.1           | 18.6          | 1.6           |                              | Threatened species searches, Habitat assessment/ mapping |

## Limitations

Limitations associated with this assessment are presented in the following sections. The limitations have been considered specifically in relation to threatened species assessments, results and conclusions.

## Seasonality

Some plant species that occur in the local area, such as cryptic species, are annuals and are present only in the seed bank for much of the year. Other plant species are perennial but are inconspicuous or difficult to identify unless flowering.

Similarly, some fauna species that have been recorded in the local area occur on a seasonal or migratory basis, may be absent from the locality for much of the year. Fauna behaviours may have also affected detectability; species that are easily disturbed or cryptic may not have been detected. It is possible that several flora and fauna species occurring in the BAM plot were not detected during the current survey due to the above factors.

These potential limitations have been addressed by a literature research and review and through identification of potential habitats for flora and fauna species and assessment of the potential for targeted species to occur on the Project area based on:

- Previous records;
- The type and condition of habitats present;
- The land use throughout the BAM plot and surrounds; and
- The landscape context.

Assumed presence was applied where potential habitat was identified, or species were predicted to utilise habitat components at some stage during their life cycle.

## Data Availability and Accuracy

The collated threatened flora and fauna species records provided by NSW Atlas of Wildlife Database for the region are known to vary in accuracy and reliability. Traditionally, this is due to the reliability of information provided to the NSW Atlas of Wildlife Database for collation and/or the need to protect specific threatened species locations. For the purposes of this report this information has been considered to have an accuracy of  $\pm 1$  km, however for some threatened species, records may be denatured by up to 2 km.

Threatened flora and fauna records within the region were predominantly sourced from the NSW Atlas of Wildlife Database (OEH 2021e) and an EPBC Protected Matters Search (DoEE 2021a). Similar limitations are known to exist with regards to these data sources and their accuracy.

Data recorded by RPS during the survey period, has been gathered with a Trimble Differential GPS unit, which is capable of sub-metre accuracy following post processing.

# Appendix B

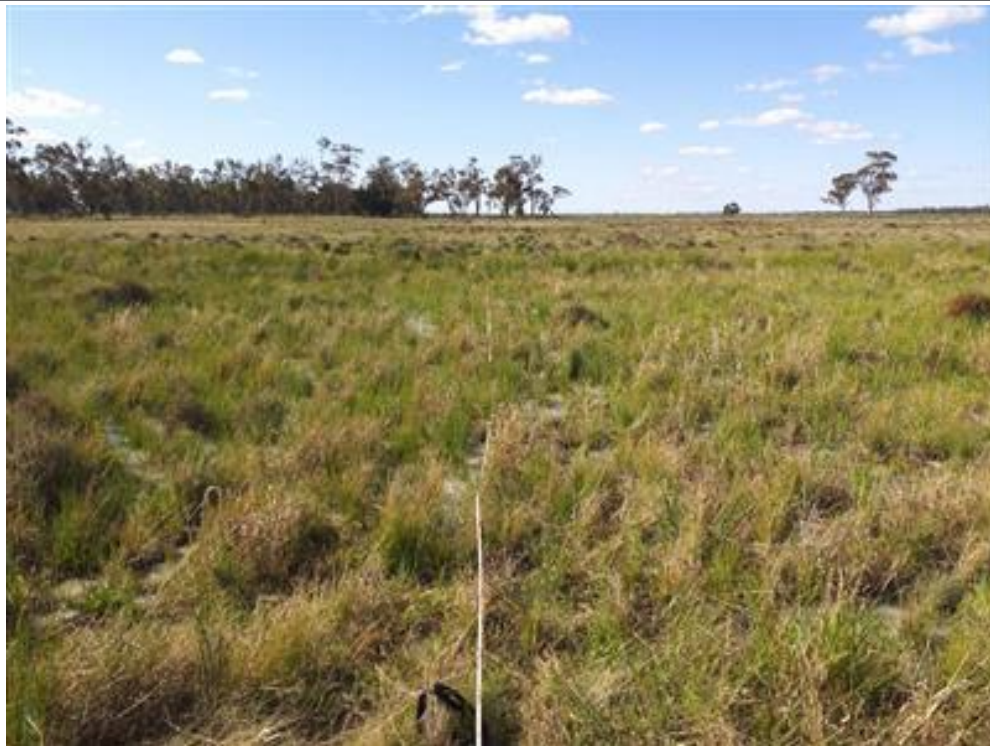
## BAM Plot Photographs

**Photograph  
Location**

BAM Plot 1 Start -  
Portrait



BAM Plot 1 Start -  
Landscape



**Photograph  
Location**

BAM Plot 1 End -  
Portrait



BAM Plot 1 End –  
Landscape



**Photograph  
Location**

BAM Plot 2 Start –  
Portrait



BAM Plot 2 Start –  
Landscape

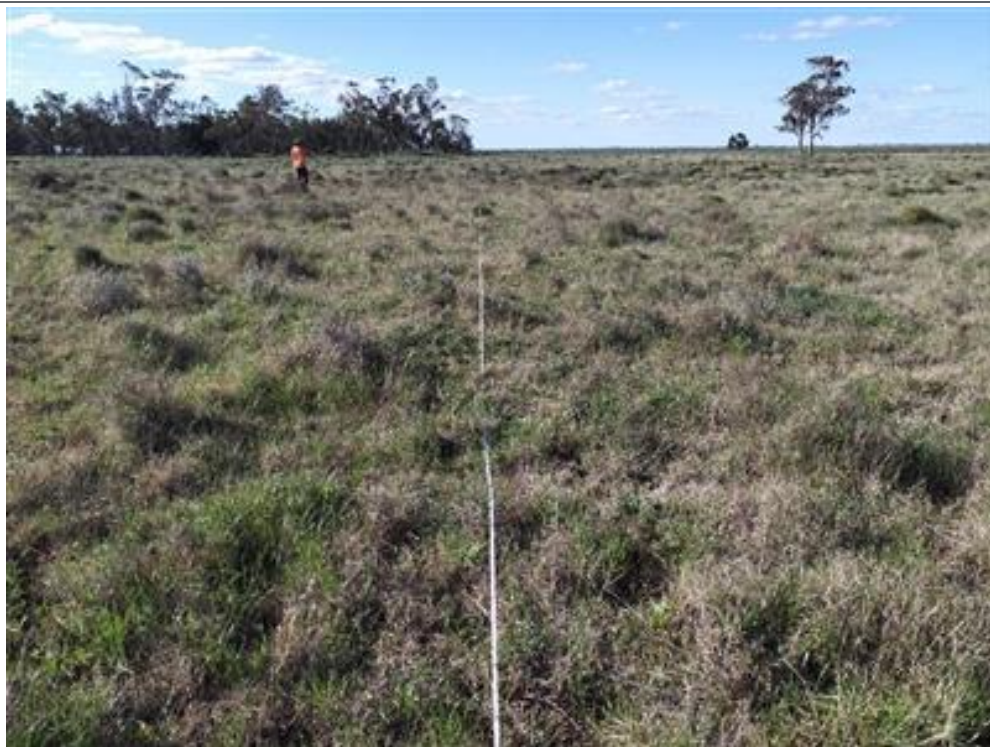


**Photograph  
Location**

BAM Plot 2 End –  
Portrait



BAM Plot 2 End –  
Landscape



**Appendix C**  
**Flora Species List**

Table C1 Flora Species List

| Scientific Name                                 | Common Name              |
|-------------------------------------------------|--------------------------|
| <i>Ambrosia</i> spp.                            |                          |
| <i>Brachycome paludicola</i>                    | Swamp Daisy              |
| <i>Calotis scapigera</i>                        | Tufted Burr-daisy        |
| <i>Chloris truncata</i>                         | Windmill Grass           |
| <i>Chloris virgata</i>                          | Feathertop Rhodes Grass  |
| <i>Conyza</i> spp.                              |                          |
| <i>Soliva sessilis</i>                          | Bindyi                   |
| <i>Cotula coronopifolia</i>                     | Water Buttons            |
| <i>Einadia nutans</i> subsp. <i>Nutans</i>      | Climbing Saltbush        |
| <i>Eleocharis acuta</i>                         |                          |
| <i>Eragrostis</i> spp.                          |                          |
| <i>Eryngium</i> spp.                            |                          |
| <i>Gamochaeta</i> spp.                          |                          |
| <i>Hordeum leporinum</i>                        | Barley Grass             |
| <i>Hypericum</i> spp.                           |                          |
| <i>Hypochaeris radicata</i>                     | Catsear                  |
| <i>Juncus aridicola</i>                         | Tussock Rush             |
| <i>lepidium africanum</i>                       | Common Peppercreess      |
| <i>Limosella australis</i>                      | Australian Mudwort       |
| <i>Lolium perenne</i>                           | Perennial Ryegrass       |
| <i>Lysimachia arvensis</i>                      | Scarlet Pimpernel        |
| <i>Malva parviflora</i>                         | Small-flowered Mallow    |
| <i>Marsilea drummondii</i>                      | Common Nardoo            |
| <i>Medicago sativa</i>                          | Lucerne                  |
| <i>Oxalis articulata</i>                        |                          |
| <i>Panicum</i> spp.                             | Panicum                  |
| <i>Rumex</i> spp.                               | Dock                     |
| <i>Sclerolaena muricata</i> var. <i>villosa</i> | Black Rolypoly           |
| <i>Sclerolaena</i> spp.                         | Copperburr, Poverty-bush |
| <i>Sonchus oleraceus</i>                        | Common Sowthistle        |
| <i>Sporobolus caroli</i>                        | Fairy Grass              |
| <i>Trifolium glomeratum</i>                     | Clustered Clover         |
| <i>Vittadinia cuneata</i>                       |                          |

**Appendix D**  
**BAM Plot Data**

## REPORT

**Table D1: BAM plot data**

| Scientific Name                          | Common Name             | Native | Exotic | Plot1<br>Cover | Abundance | Plot 2<br>Cover | Abundance |
|------------------------------------------|-------------------------|--------|--------|----------------|-----------|-----------------|-----------|
| <i>Ambrosia spp.</i>                     |                         |        | YES    | 0.1            | 15        | 0.5             | 25        |
| <i>Brachycome paludicola</i>             | Swamp Daisy             | YES    |        | 1              | 40        |                 |           |
| <i>Calotis scapigera</i>                 | Tufted Burr-daisy       | YES    |        | 0.2            | 20        |                 |           |
| <i>Chloris truncata</i>                  | Windmill Grass          | YES    |        |                |           | 1               | 50        |
| <i>Chloris virgata</i>                   | Feathertop Rhodes Grass |        | YES    |                |           | 1               | 25        |
| <i>Conyza spp.</i>                       |                         |        | YES    | 5              | 200       | 0.5             | 20        |
| <i>Soliva sessilis</i>                   | Bindyi                  |        | YES    | 0.2            | 10        |                 |           |
| <i>Cotula coronopifolia</i>              | Water Buttons           |        | YES    | 10             | 350       |                 |           |
| <i>Einadia nutans subsp. nutans</i>      | Climbing Saltbush       | YES    |        | 0.1            | 20        |                 |           |
| <i>Eleocharis acuta</i>                  |                         | YES    |        | 20             | 200       |                 |           |
| <i>Eragrostis spp.</i>                   |                         | YES    |        | 15             | 200       |                 |           |
| <i>Eryngium spp.</i>                     |                         | YES    |        | 10             | 200       |                 |           |
| <i>Gamochaeta spp.</i>                   |                         |        | YES    |                |           | 0.1             | 15        |
| <i>Hordeum leporinum</i>                 | Barley Grass            |        | YES    |                |           | 0.1             | 1         |
| <i>Hypericum spp.</i>                    |                         | YES    |        | 0.2            | 30        |                 |           |
| <i>Hypochaeris radicata</i>              | Catsear                 |        | YES    |                |           | 2               | 80        |
| <i>Juncus aridicola</i>                  | Tussock Rush            | YES    |        | 5              | 60        |                 |           |
| <i>Lepidium africanum</i>                | Common Peppercress      |        | YES    |                |           | 0.1             | 5         |
| <i>Limosella australis</i>               | Australian Mudwort      | YES    |        | 2              | 1000      |                 |           |
| <i>Lolium perenne</i>                    | Perennial Ryegrass      |        | YES    | 5              | 120       | 15              | 120       |
| <i>Lysimachia arvensis</i>               | Scarlet Pimpernel       |        | YES    | 0.2            | 25        |                 |           |
| <i>Malva parviflora</i>                  | Small-flowered Mallow   |        | YES    |                |           | 0.1             | 1         |
| <i>Marsilea drummondii</i>               | Common Nardoo           | YES    |        | 2              | 300       |                 |           |
| <i>Medicago sativa</i>                   | Lucerne                 |        | YES    |                |           | 0.2             | 10        |
| <i>Oxalis articulata</i>                 |                         |        | YES    |                |           | 0.2             | 30        |
| <i>Panicum spp.</i>                      | Panicum                 | YES    |        | 5              | 3         |                 |           |
| <i>Rumex spp.</i>                        | Dock                    | YES    |        | 0.1            | 10        | 0.2             | 10        |
| <i>Sclerolaena muricata var. villosa</i> | Black Rolypoly          | YES    |        | 15             | 25        | 5               | 75        |

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| Scientific Name             | Common Name              | Native | Exotic | Plot1<br>Cover | Abundance | Plot 2<br>Cover | Abundance |
|-----------------------------|--------------------------|--------|--------|----------------|-----------|-----------------|-----------|
| <i>Sclerolaena spp.</i>     | Copperburr, Poverty-bush | YES    |        |                |           | 0.5             | 10        |
| <i>Sonchus oleraceus</i>    | Common Sowthistle        |        | YES    |                |           | 20              | 400       |
| <i>Sporobolus caroli</i>    | Fairy Grass              | YES    |        |                |           | 65              | 2000      |
| <i>Trifolium glomeratum</i> | Clustered Clover         |        | YES    | 1.5            | 150       | 8               | 250       |
| <i>Vittadinia cuneata</i>   |                          | YES    |        |                |           | 0.4             | 15        |

## Appendix E

### Likelihood of Occurrence

# REPORT

**Table E1 Likelihood of Occurrence**

| Scientific Name<br>(Common Name)                                     | BC<br>Act | EPBC<br>Act | Habitat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Records<br>(DPIE<br>2021) | Likelihood of Occurrence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------|-----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Ardeotis australis</i><br>(Australian Bustard)                    | E         | -           | Dry plains, grasslands and in open woodland.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records). |
| <i>Artamus cyanopterus</i><br><i>cyanopterus</i> (Dusky Woodswallow) | V         | -           | The Dusky Woodswallow is widespread in eastern, southern and southwestern Australia. In New South Wales it is widespread from coast to inland, including the western slopes of the Great Dividing Range and farther west. It is sparsely scattered in, or largely absent from, much of the Upper Western region. The Dusky Woodswallow is often reported in woodlands and dry open sclerophyll forests, usually dominated by eucalypts, including mallee associations. It has also been recorded in shrublands and                                                                                                                                                     | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records). |
| <i>Crinia sloanei</i><br>(Sloane's Toadlet)                          | V         | E           | Sloane's Froglet has been recorded from widely scattered sites throughout the Murray-Darling Basin throughout central western NSW. However, the majority of records are from the Darling Riverine Plains, NSW South Western Slopes and Riverina bioregions in New South Wales. It is typically associated with periodically inundated areas in grassland, woodland and disturbed habitats, but also uses permanent dams. The species may be more widespread than currently recognised, but calls infrequently and may be easily confused with the much more common Plains Froglet. Males call from the base of vegetation found around the edges of the breeding sites | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records). |

## REPORT

| Scientific Name<br>(Common Name)                    | BC<br>Act | EPBC<br>Act | Habitat                                                                                                                                                                                                                            | Records<br>(DPIE<br>2021) | Likelihood of Occurrence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------|-----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Epthianura albifrons</i><br>(White-fronted Chat) | V         | -           | Low vegetation in salty coastal and inland areas and crops. Runs along ground and is found in local flocks in Winter.                                                                                                              | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records). |
| <i>Falco hypoleucos</i><br>(Grey Falcon)            | E         | -           | Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey. | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records). |
| <i>Falco subniger</i><br>(Black Falcon)             | V         | -           | The Black Falcon is found along tree-lined watercourses and in isolated woodlands, mainly in arid and semi-arid areas. It roosts in trees at night and often on power poles by day.                                                | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records). |
| <i>Grus rubicunda</i><br>(Brolga)                   | V         | -           | The Brolga was formerly found across Australia, except for the south-east corner, Tasmania and the south-western third of the country. It still abundant in the northern tropics, but very sparse across the                       | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## REPORT

| Scientific Name<br>(Common Name)                           | BC<br>Act | EPBC<br>Act | Habitat                                                                                                                                                                                                                                                                                                                                                                                                            | Records<br>(DPIE<br>2021) | Likelihood of Occurrence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------|-----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                            |           |             | southern part of its range. Though Brolgas often feed in dry grassland or ploughed paddocks or even desert claypans, they are dependent on wetlands too, especially shallow swamps, where they will forage with their head entirely submerged.                                                                                                                                                                     |                           | located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).                                                                                                                                                                                                                                                    |
| <i>Lepidium monoplacoides</i><br>(Winged Peppergrass)      | E         | E           | Occurs on seasonally moist to waterlogged sites, on heavy fertile soils, with a mean annual rainfall of around 300-500 mm. Predominant vegetation is usually an open woodland dominated by bullock and/or eucalypts, particularly black box or poplar box. The field layer of the surrounding woodland is dominated by tussock grasses.                                                                            | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the locality (NSW BioNet records). |
| <i>Lophochroa leadbeateri</i><br>(Major Mitchell Cockatoo) | V         | -           | Inhabits a wide range of treed and treeless inland habitats, always within easy reach of water. Feeds mostly on the ground, especially on the seeds of native and exotic melons and on the seeds of species of saltbush, wattles and cypress pines. Nesting, in tree hollows, occurs throughout the second half of the year; nests are at least 1 km apart, with no more than one pair every 30 square kilometres. | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).         |
| <i>Polytelis swainsonii</i><br>(Superb Parrot)             | V         | V           | The Superb Parrot is found throughout eastern inland NSW. On the South-western Slopes their core breeding area is roughly bounded by Cowra and Yass in the east, and Grenfell, Cootamundra and Coolac in the west. Birds breeding in this region are mainly absent during winter, when they migrate north to the region of the upper Namoi and Gwydir Rivers.                                                      | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing                                                                                                                                                                               |

## REPORT

| Scientific Name<br>(Common Name)                          | BC<br>Act | EPBC<br>Act | Habitat                                                                                                                                                                                                                                                                                                                                                                                                            | Records<br>(DPIE<br>2021) | Likelihood of Occurrence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------|-----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                           |           |             | Inhabits box-gum, box-cypress-pine and boree woodlands and river red gum forest.                                                                                                                                                                                                                                                                                                                                   |                           | and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <i>Rostratula australis</i><br>(Australian Painted Snipe) | E         | E, M        | In NSW, this species has been recorded at the Paroo wetlands, Lake Cowell, Macquarie Marshes and Hexham Swamp. Most common in the Murray-Darling Basin. Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Nests on the ground amongst tall vegetation, such as grasses, tussocks or reeds.                                              | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Not recently observed in the locality (NSW BioNet records).         |
| <i>Swainsona murrayana</i>                                | V         | V           | Slender Darling-pea is found in grassland, herbland, and open Black-box woodland, often in depressions. This species grows in heavy grey or brown clay, loam, or red cracking clays. It is often associated with low chenopod shrubs, wallaby-grass and spear grass. The species may require some disturbance and has been known to occur in paddocks that have been moderately grazed or occasionally cultivated. | 0                         | Moderate. Species specific (i.e. important habitat features) and vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) occur within the investigation area. The investigation area may or may not be located within the species known 'area of occurrence' but is within the known 'extent of occurrence' [i.e. standard grid size of 2x2km (IUCN 2017)]. Factors such as connectivity, patch size, habitat quantum and/ or quality may be influencing the capacity for habitat occupancy. Pre-existing and active KTPs may potentially have a negative influence on species incidence and/ or habitat occupancy. Species not recently observed in the locality (NSW BioNet records). |

# Appendix F

## Test of Significance

### Test of Significance: *Ardeotis australis* (Australian Bustard)

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Ardeotis australis* (Australian Bustard). 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

### Conclusion

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Ardeotis australis* (Australian Bustard) within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Ardeotis australis* (Australian Bustard).

### Test of Significance: *Artamus cyanopterus cyanopterus* (Dusky Woodswallow)

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Artamus cyanopterus cyanopterus* (Dusky Woodswallow). 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

### Conclusion

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Artamus cyanopterus cyanopterus* (Dusky Woodswallow) within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Artamus cyanopterus cyanopterus* (Dusky Woodswallow).

### Test of Significance: *Crinia sloanei* (Sloane's Froglet)

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Crinia sloanei* (Sloane's Froglet). 'Loss' includes the removal of 0.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Impact avoidance were not deemed necessary to manage direct and/ or indirect impacts on the species. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

- Clearing of native vegetation

Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

### Conclusion

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Crinia sloanei* (Sloane's Froglet) within the local area. Impact avoidance and/ or ameliorative measures were not deemed necessary to manage direct and/ or indirect impacts on the species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Crinia sloanei* (Sloane's Froglet).

**Test of Significance: *Epthianura albifrons* (White-fronted Chat)**

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Epthianura albifrons* (White-fronted Chat). 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

**Conclusion**

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Epthianura albifrons* (White-fronted Chat) within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Epthianura albifrons* (White-fronted Chat).

### Test of Significance: *Falco hypoleucos* (Grey Falcon)

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Falco hypoleucos* (Grey Falcon). 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

### Conclusion

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Falco hypoleucos* (Grey Falcon) within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Falco hypoleucos* (Grey Falcon).

### Test of Significance: *Falco subniger* (Black Falcon)

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Falco subniger* (Black Falcon). 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

### Conclusion

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Falco subniger* (Black Falcon) within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Falco subniger* (Black Falcon).

### Test of Significance: *Grus rubicunda* (Brolga)

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Grus rubicunda* (Brolga). 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

### Conclusion

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Grus rubicunda* (Brolga) within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Grus rubicunda* (Brolga).

### Test of Significance: *Lepidium monolocoides* (Winged Peppergrass)

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Lepidium monolocoides* (Winged Peppergrass). 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

### Conclusion

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Lepidium monolocoides* (Winged Peppergrass) within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Lepidium monolocoides* (Winged Peppergrass).

### Test of Significance: *Lophochroa leadbeateri* (Major Mitchell Cockatoo)

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Lophochroa leadbeateri* (Major Mitchell Cockatoo). 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

### Conclusion

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Lophochroa leadbeateri* (Major Mitchell Cockatoo) within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Lophochroa leadbeateri* (Major Mitchell Cockatoo).

### Test of Significance: *Polytelis swainsonii* (Superb Parrot)

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Polytelis swainsonii* (Superb Parrot). 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

### Conclusion

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Polytelis swainsonii* (Superb Parrot) within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Polytelis swainsonii* (Superb Parrot).

### Test of Significance: *Rostratula australis* (Australian Painted Snipe)

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Rostratula australis* (Australian Painted Snipe). 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

### Conclusion

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Rostratula australis* (Australian Painted Snipe) within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Rostratula australis* (Australian Painted Snipe).

**Test of Significance: *Swainsona murrayana***

**(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction**

The proposal will reduce the extent of potential habitat for the *Swainsona murrayana*. 'Loss' includes the removal of 2.5 ha of habitat that may be occupied and/ or utilised by the species for part of its lifecycle within a landscape context that is in a highly overcleared state (i.e. > 90% cleared). Specific mitigation measures are recommended to ameliorate impacts. While it is possible that the Proposal may have an adverse impact on the life cycle of the species, it is considered that this impact is negligible and inconsequential and therefore not of an extent and/ or intensity that is likely to place a local viable population of the species at risk of extinction.

**(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:**

**(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**

Assessment not applicable to this species.

**(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction**

Assessment not applicable to this species.

**(c) in relation to the habitat of a threatened species or ecological community:**

**(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and**

The Proposal will result in a reduction of the species habitat extent by an estimated ~0.01% relative to similar habitat within the region (PCT 49). This is a negligible impact on the extent of this species habitat.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and**

The Proposal will not fragment or isolate the habitat of this species.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,**

The species has potential to occupy habitat identified within the Proposal area, although it has not been detected within this area. The habitat area to be impacted is not important for genetic flow, life cycle function or persistence within the locality. On this basis it is considered that the importance of the habitat to be removed is low.

**(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),**

The Proposal is not likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)

**(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.**

The Proposal is likely to increase the impact of the following KTPs:

Clearing of native vegetation Notwithstanding the increased impact of the above KTPs, it is considered that the Proposal will have a minor and inconsequential influence on the effect of these KTPs. Mitigation measures are recommended to minimise the effect of these KTPs.

**Conclusion**

The proposal is not likely to substantially reduce the extent nor connectivity of habitat important for *Swainsona murrayana* within the local area. Specific proven mitigation measures are recommended to ameliorate the impacts of the Proposal on this species. The lifecycle of the species is not likely to be adversely impacted to an extent that would threaten a viable local population of the species. On this basis, it is considered that the Proposal is not likely to have a significant impact on *Swainsona murrayana*.