

# EcoResolve



Environment & Design

## Streamlined Biodiversity Development Assessment Report

### Brewongle Solar Farm



**Prepared for:** Edify Energy Pty Ltd (Edify) C/O Kleinfelder Australia Pty Ltd - **Rob Townsend** - Senior NSW Team Leader

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**Date:** 27/02/2026

**Project no:** ER189



## Document Control

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<b>V1 – 19/12/2024</b>	Draft for Client review	Toneya Smith Lucy Dunton	Brea Heidke	Arne Bishop
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### Certification under clause 6.15 *Biodiversity Conservation Act 2016*.

I Arne Bishop certify that this report has been prepared based on the requirements of, and information provided under, the Biodiversity Assessment Method and clause 6.15 of the Biodiversity Conservation Act 2016 (BC Act).

Signature: Arne Bishop

Date: 27/02/2025

BAM Assessor Accreditation no: BAAS 17065

This S-BDAR has been prepared to meet the requirements of BAM 2020. **Appendix A** provides an assessment of compliance with the minimum information requirements outlined in BAM Appendix K.

### Conflicts of interest.

I Arne Bishop declare that I have considered the circumstances and there is no actual, perceived or potential conflict of interest.

Signature: Arne Bishop

Date: 27/02/2026

BAM Assessor Accreditation no: BAAS 17065





## Abbreviations

Term	Description
<b>Assessment Area</b>	Includes the Subject Land and a 1,500 m buffer around the Subject Land
<b>BAM</b>	Biodiversity Assessment Method
<b>BAM-C</b>	Biodiversity Assessment Method Calculator
<b>BC Act</b>	<i>Biodiversity Conservation Act 2016 (NSW)</i>
<b>BDAR</b>	Biodiversity Development Assessment Report
<b>S-BDAR</b>	Streamlined Biodiversity Assessment Report
<b>BMP</b>	Biodiversity management Plan
<b>Biodiversity offsets</b>	Actions taken to counterbalance the remaining negative effects of activities, such as land clearing for development. These offsets involve conserving and managing biodiversity in one location to make up for the biodiversity losses in another area.
<b>BOM</b>	Bureau of Meteorology
<b>BOS</b>	Biodiversity Offsets Scheme
<b>CEEC</b>	Critically endangered ecological community
<b>DBH</b>	Diameter at breast height over bark
<b>DCCEEW (NSW)</b>	NSW Department of Climate Change, Energy, the Environment and Water
<b>DCCEEW (Cth)</b>	Commonwealth Department of Climate Change, Energy, the Environment and Water (
<b>DPIE</b>	Former Department of Planning, Industry and Environment. Now replaced by DPHI & DCCEEW (NSW)
<b>DNG</b>	Derived native grassland
<b>Ecosystem credit</b>	This involves assessing the value of EECs, CEECs, and threatened species habitats for species likely to be found within PCT. Ecosystem credits quantify the reduction in biodiversity at a development site and the corresponding increase in biodiversity at a conservation site.
<b>EEC</b>	Endangered ecological community
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
<b>GIS</b>	Geographic information system
<b>GPS</b>	Global positioning system
<b>ha</b>	Hectare
<b>HTW</b>	High threat weed
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>LGA</b>	Local government area
<b>LLS Act</b>	<i>Local Land Services Act 2013 (NSW)</i>
<b>Locality</b>	The area within a 10km radius from the Subject Land.
<b>Koala SAT plot</b>	Koala Spot Assessment Technique
<b>KFH</b>	Key Fish Habitat
<b>MNES</b>	Matters of national environmental significance
<b>NVR map</b>	Native Vegetation Regulatory Map



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## Executive summary

The Brewongle Solar Farm development involves the construction, operation, and decommissioning of approximately 192,000 solar panels and associated infrastructure, including a substation, transmission line connection, and a Battery Energy Storage System. The Project Area is approximately 154 ha, the Project will involve modifying up to 151.3 ha of vegetation, including of that 0.48 ha of PCT 3376 – Southern Tableland Grassy Box Woodland (Figure 3). This native vegetation will be the subject of this Biodiversity Development Assessment Report (BDAR). This vegetation is commensurate with the BC Act listed community White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner, and Riverina Bioregions. However, it is not considered to be commensurate with the equivalent EPBC Act listing because its patch size and condition are below the relevant thresholds. Its condition (Vegetation Integrity Score (VIS) = 6.7) is well below the threshold requiring offsets ( $\geq 15$  for EECs) and consequently, as it is not considered likely to be at risk of an SAIL, there is no ecosystem credit offset liability required.

This assessment was conducted according to the streamlined module for small areas of the Biodiversity Assessment Method (BAM) 2020. Under this module, threatened species that are not considered at risk of Serious and Irreversible Impacts (SAIL species) and that are not recorded incidentally within the Subject Land do not require specific assessment. Five SAIL species were considered likely to occur within the Subject Land, and targeted surveys were undertaken. However, no threatened species or SAIL listed species were detected on the Subject Land, and no species offsets are required.

The recommended mitigation measures will manage the minor identified impacts to native biodiversity relating to the proposed activity on the subject and adjacent land.





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# 1 Introduction

## 1.1 Overview

EcoResolve Environment & Design (EcoResolve) have been commissioned by Edify Energy Pty Ltd (Edify), C/O Kleinfelder Australia Pty Ltd, to prepare a streamlined Biodiversity Development Assessment Report (S-BDAR) in accordance with the *Biodiversity Assessment Method Order 2020* (State of NSW and Department of Planning, Industry and Environment, 2020) (BAM-O), and to address more broadly the requirements in the *NSW Biodiversity Conservation Act 2016* (BC Act). This report aims to address Section 6.12 of the BC Act which states “For the purposes of the biodiversity offsets scheme, a biodiversity development assessment report is a report prepared by an accredited person in relation to proposed development or activity that would be authorised by a planning approval, or proposed clearing that would be authorised by a vegetation clearing approval, that—

- a) assesses in accordance with the biodiversity assessment method the biodiversity values of the land subject to the proposed development, activity or clearing, and
- b) assesses in accordance with that method the impact of proposed development, activity or clearing on the biodiversity values of that land, and
- c) sets out the measures that the proponent of the proposed development, activity or clearing proposes to take to avoid or minimise the impact of the proposed development, activity or clearing, and
- d) specifies in accordance with that method the number and class of biodiversity credits that are required to be retired to offset the residual impacts on biodiversity values of the actions to which the biodiversity offsets scheme applies.”

## 1.2 Background

This S-BDAR has been prepared in association of the proposed development under Part 4 of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act) for the development of the Brewongle Solar Farm. The *NSW Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) also apply. The Subject Land is located at 315 Tarana Road, Brewongle (hereafter referred to as the Project site). The *Biodiversity Conservation Regulation 2017* (BC Reg) requires the application of the Biodiversity Assessment Method 2020 (BAM). A streamlined BDAR has been conducted in accordance with the BAM because the proposed clearing of 0.48 ha of native vegetation is below the 2-hectare area clearing threshold for the minimum lot size of 100 ha within the Subject Land locality. Consequently, this S-BDAR has been prepared in accordance with the small areas streamlined assessment module in Appendix C of the BAM.

EcoResolve has been commissioned to assess the biodiversity impacts of the Project. The first stage of the assessment, a Preliminary Ecological Assessment (PEA) of the Subject Land, was completed in August 2023 by Kleinfelder Australia Pty Ltd (**Appendix G**). As access was permitted across the entire property, EcoResolve ecologists deemed it prudent to conduct surveys across this broader area, identified in the S-BDAR as the Study Area, to better identify vegetation zones and assess fauna presence within the adjoining habitat. A site visit conducted by EcoResolve ecologists Brea Heidke and Toneya Smith on 5 February 2024 identified approximately 0.48 ha of planted native vegetation within the Project area, which aligns with Plant Community Type (PCT) 3376. This vegetation is considered to





be commensurate with the BC Act listed community *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions (Figure 4)*. However, it is not considered to be commensurate with the EPBC Act listed community, *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland*, as it does not reach the minimum patch size and condition thresholds.

### 1.3 The Site

The proposed development site is located approximately 12 kms south-east of Bathurst at 315 Tarana Road, Brewongle NSW. It also includes two small sections of road-side widening: one is on the entering lane of the T-intersection from O'Connell Road into Tarana Road, and the other is opposite the proposed access track on 315 Tarana Road. This portion of The Subject Land is located within the road corridor. The Subject Land located at 315 Tarana Road is zoned as RU1 Primary Production and currently managed for agricultural purposes, including grazing and cropping. The minimum lot size for development purposes is 100 ha.

The Subject Land occupies three lots / part lots

- Lot 1 DP1206130
- Lot 1 DP1236901
- Lot 2 DP1236901
- Lot 126 DP755784
- Lot 127 DP755784

These lots, including a 1,500-m buffer make up the Study Area (**Figure 2**). The Study Area includes the entire property at 315 Tarana Road, Brewongle, which contains the Subject Land (**Figure 1**). The Study Area includes the access tracks on Tarana Road, as well as Saltwater Creek, a potential receiving environment which contains high biodiversity value (Biodiversity Values Mapping) and forms potential habitat for threatened fauna recorded in the locality. Other water features of relevance in the Study Area include ten dams / waterbodies that exist on the property. The Subject Land, however, encompasses three of these ephemeral water features, which have been designated as restricted areas that will not be modified by the proposed action. The Study Area lies over a predominantly granite geology and associated landforms.

A thin band of structural vegetation in the south-western corner of Lot 1 DP1236901 has been classified by DPE's State Vegetation Type Mapping (SVTM) as Southern Tableland Grassy Box Woodland (PCT 3376). This PCT is associated to the NSW and the Commonwealth Critically Endangered Ecological Community (CEEC) *White Box Blakely's Red Gum Woodland*.

### 1.4 The Project

Edify Energy Pty Ltd is investigating future development options for a hybrid solar farm and battery energy storage system within the Subject Land. The Project aims to provide a new and dispatchable source of carbon-free electricity for NSW, with construction anticipated to commence in 2026, subject to necessary approvals. It is designed to achieve a generation capacity of 90 megawatts (MW) of alternating current (AC), supported by an on-site battery energy storage system with a capacity of up to 90MW/180MWh. Key infrastructure components include solar panel arrays, inverters,





transformers, overhead lines, underground cabling, an integrated battery storage system, a site office and maintenance building, access tracks, road and electrical easement crossings, perimeter security fencing, and a substation to facilitate connection to Transgrid's existing 132kV transmission line. The Project has been deemed a State Significant Development (SSD).

The Project Area is approximately 154 ha, the Project will involve modifying up to 151.3 ha of vegetation, including of that 0.48 ha of PCT 3376 – Southern Tableland Grassy Box Woodland (**Figure 3**). This native vegetation will be the subject of this Biodiversity Development Assessment Report (BDAR)

## 1.5 Sources of information

The information sources consulted during this assessment include:

- BAM 2020.
- BAM Stage 1 and Stage 2 Operational Manuals.
- BioNet Threatened Biodiversity Data Collection (TBDC).
- BioNet Vegetation Identification System.
- IBRA regional and subregional mapping.
- Mitchell Landscapes mapping and associated literature.
- Latest available high-resolution imagery.
- Available drainage and wetland mapping.
- Regional vegetation mapping from the NSW State Vegetation Type Map to identify PCTs that may be occurring within the Subject Land.
- A review of existing vegetation mapping, habitat mapping and reports of relevance to the Subject Land and surrounding locality (e.g., 10 kilometres).
- Database searches to identify records of the threatened entities and Matters of National Environmental Significance (MNES) that may occur within 20 kilometres of the Subject Land, including:
  - NSW Government BioNET Atlas database.
  - Department of the Environment (DoE) Protected Matters Search Tool.
- A Likelihood of Occurrence (LoO) analysis for all threatened species and communities identified through desktop research.

## 1.6 Category 1 Land Consideration

Land category definitions are found under the LLS Act 2013 and mapped on the draft Native Vegetation Regulatory Map (NVR map), which highlight the legislative framework for the clearing of native vegetation in rural areas. The draft NVR Map is in a transitional arrangement, during which landowners are responsible for determining the categorisation of their land in accordance with section 60F of the LLS Act. Category 1- exempt land (Cat 1 Land) is defined under the LLS Act (Part 5A Division 2 Section 60H). Land is to be designated as Cat 1 land if the Environment Agency Head reasonably believes that:

- the land was cleared of native vegetation as of 1 January 1990, or
- the land was lawfully cleared of native vegetation between 1 January 1990 and the commencement of this Part.





- Land is to be designated as Category 1-exempt land if the Environment Agency Head reasonably believes that:
- the land contains low conservation value grasslands, or
- the land contains native vegetation that was identified as regrowth in a property vegetation plan referred to in Section 9 (2) (b) of the Native Vegetation Act 2003, or
- the land is of a kind prescribed by the regulations as Category 1-exempt land.

In the context of this S-BDAR, consideration of Cat 1 exempt lands (LLS Act 2013) for the part of the Subject Land that is mapped on the draft NVR Map. Generally, to be declared 'Category 1 land' the areas are typically exotic grassland, and they're exempt from requiring development approval if they're validated to be commensurate with the definition. However, to be commensurate with the definition, the land would presumably have a Vegetation Integrity Score (VIS) of less than 17 for a non-Threatened Ecological Community (TEC) and less than 15 for a TEC which would result in there being no offset requirement for Ecosystem Credits. **Table 1** outlines the low vegetation score below. See **Table B3** for Rapid Data Point (RDP) floristic data.

**TABLE 1 CATEGORY 1 BAM PLOTS**

BAM Plot Code	Composition Condition Score	Structure Condition Score	Function Condition Score	Vegetation Integrity Score (VIS)
BHTS2	6.3	0	1.7	2.2
BHTS3	21	12.7	2.4	8.6
BHTS4	18.9	26.6	0	8

Furthermore, declaration of land as Category 1 Lands, does not negate the need to consider prescribed impacts such as habitat for species credit species. As such, consultation with the Biodiversity, Conservation and Science (BCS) Group was taken to ascertain the appropriate implementation of vegetation mapping across the Subject Land (email correspondence received 13/11/2024). This consultation determined that the implementation of BAM methodology plots provided sufficient floristic evidence to ascertain land categorisation method within the Subject Land.

There is also a small area of Category 2- Sensitive Regulated land mapped that has been confirmed to be consistent with a degraded patch (~0.48 ha) of the Biodiversity Conservation Act 2016 (BC Act) listed Critically Endangered Ecological Community (CEEC) White Box Yellow Box Blakely's Red Gum Woodland (BGW), shown in **Figure 3** (and **Appendix D**). CEECs are designated as Category 2- Sensitive Regulated land (clause 108(2)(b), Local Land Services Regulation 2014 (LLS Regulation)).

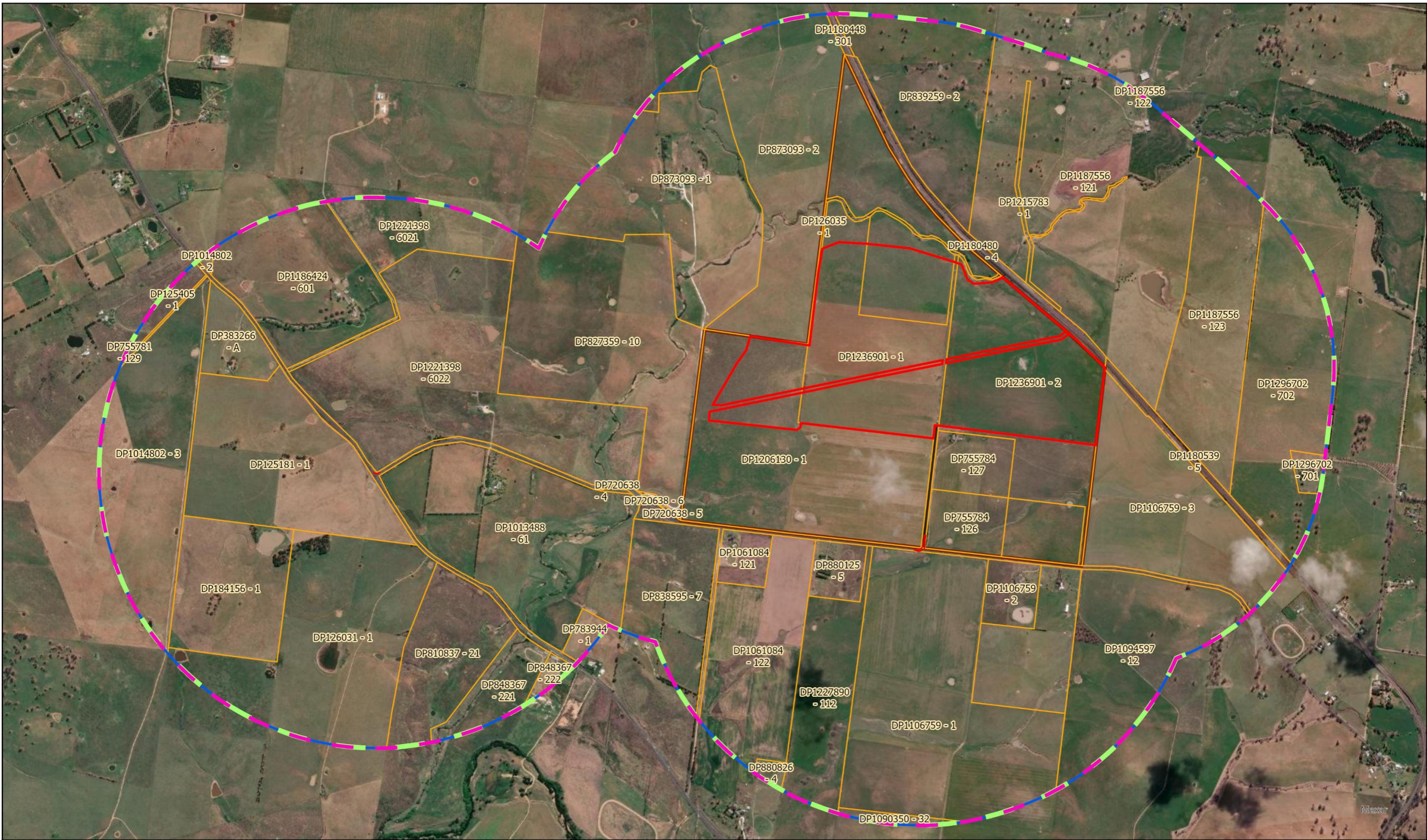
## 1.7 OSOM route

Solar farm components must be transported by Over Size over Mass (OSOM) vehicles from Port Botany to the subject land. A detailed description of this route is presented in the project traffic impact assessment report (Amber, 2025). Minor alterations to roads and traffic structures along the route will be required to accommodate OSOM vehicles. Works at one location, a roundabout at the intersection of the Great Western Highway and Brilliant Street, Bathurst, will require disturbance of a small area of planted native vegetation (<0.01 ha; see **Plate 1**). Potential impacts to threatened biodiversity resulting from these works are assessed in **Section 4**.





PLATE 1. ROUNDABOUT VEGETATION DISTURBANCE FOR OSOM VEHICLE CLEARANCE (AMBER, 2025).



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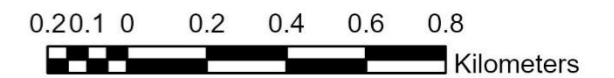
Author: BH | Version: C-A3 | Date: 16/01/2025

### Figure 1: Site Map

Location: Brewongle, NSW  
 Purpose: Streamlined BDRA  
 Client: Edify Energy Pty Ltd (Edify) C/O Kleinfelder Australia Pty Ltd  
 Reference: ER189

### Legend

- ▭ Subject Land
- ▭ 1,500m Subject Land Buffer
- IBRA subregion**
- ▭ Bathurst
- IBRA Region**
- ▭ South Eastern Highlands
- ▭ Cadastral lot boundaries
- ▭ Study Area
- ▭ Proposed Site Access Road



Spatial Reference  
 Datum: GDA2020  
 Projection: Transverse Mercator  
 Scale: 1:19,000

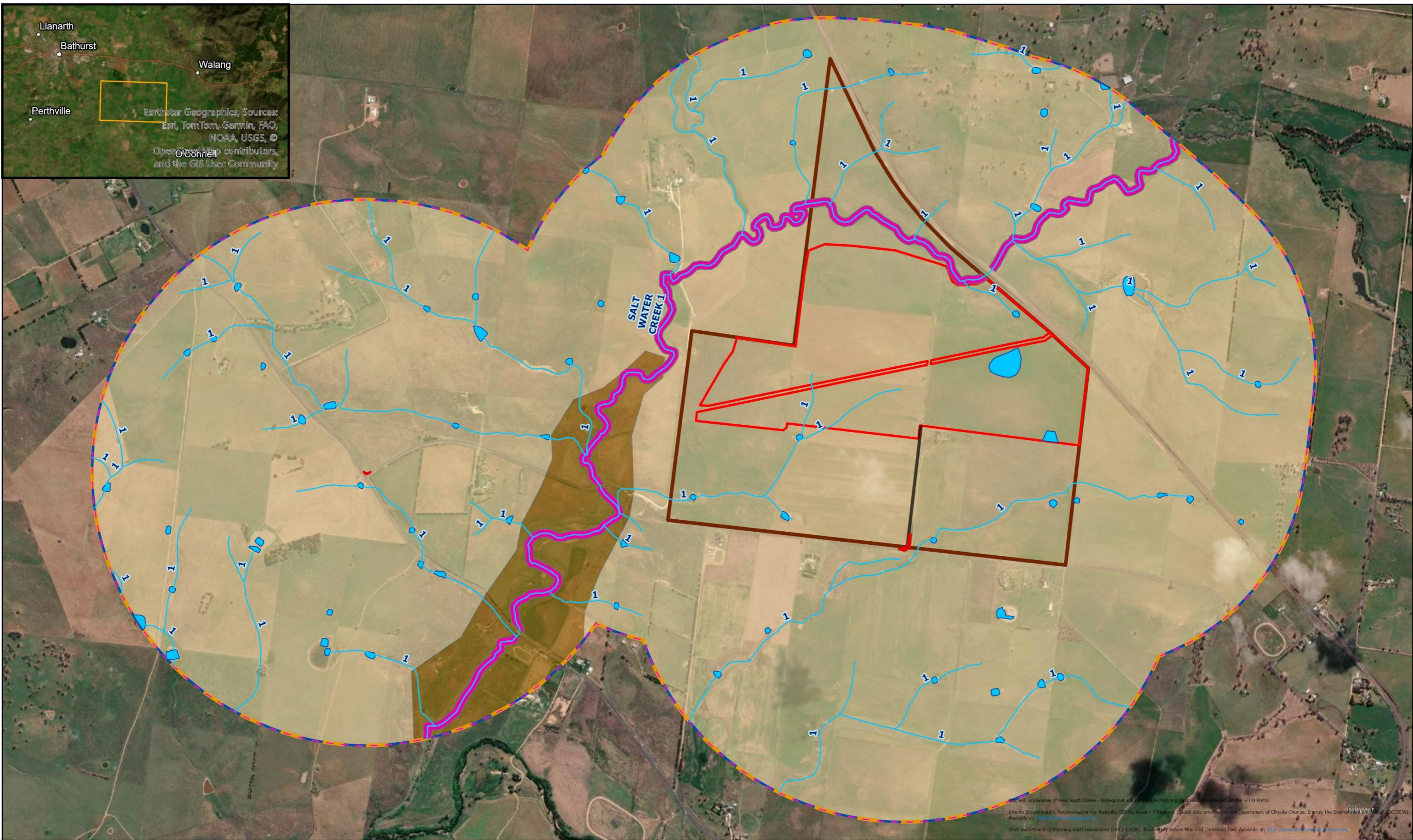


## 2 Landscape context

The assessment area includes the Subject Land and the area of land within a 1,500-metre buffer zone surrounding it (**Figure 2**). A summary of relevant landscape features identified within the assessment area is detailed in **Table 2**.

**TABLE 2 LANDSCAPE ASSESSMENT OF THE SUBJECT LAND**

Landscape	Assessment area
<b>IBRA region</b>	Southern Eastern Highlands (SEH11)
<b>Rivers, streams, estuaries and wetlands</b>	Yes – Saltwater Creek, a first order stream which runs underneath the Main Western Railway at the Northern border of the Subject Land. The creek borders the assessment area, however, does not overlap. Saltwater Creek holds important biodiversity values according to the Biodiversity Values Map (BVM).
<b>Habitat connectivity</b>	The vegetation within the broader Study Area is loosely connected via Saltwater Creek.
<b>Karst, caves, crevices, cliffs, rocks or other geological features of significance</b>	None present
<b>Areas of outstanding biodiversity value</b>	No listed AOBVs occur within the assessment area.
<b>Mitchell Landscape</b>	Bathurst Granites
<b>Native vegetation cover</b>	1.42%



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Author: BH | Version: C-A3 | Date: 16/01/2025

### Figure 2: Location Map

Location: Brewongle, NSW  
 Purpose: Streamlined BDAR  
 Client: Edify Energy Pty Ltd (Edify) C/O Kleinfelder Australia Pty Ltd  
 Reference: ER189

### Legend

- Creeks and Drainage Lines
- Farm Dam Area
- NSW Biodiversity Values Map
- 1,500m Subject Land buffer
- South Eastern Highlands
- IBRA Subregion**
- Bathurst
- Proposed Site Access Road
- Subject Land
- Study Area
- NSW (Mitchell) landscape**
- Bathurst Granites
- Upper Macquarie Channels and Floodplains



Spatial Reference  
 Datum: GDA2020  
 Projection: Transverse Mercator  
 Scale: 1:19,000



### 3 Native Vegetation

This section addresses the requirements set out in Sections 4.1–4.4 of the BAM in assessing native vegetation, threatened ecological communities and vegetation integrity (Chapter 4, DPIE, 2020). The identification and mapping of all PCTs and TECs on the Subject Land have been categorised according to the NSW PCT classification as described in the BioNet Vegetation Information System.

#### 3.1 Plot-based vegetation surveys

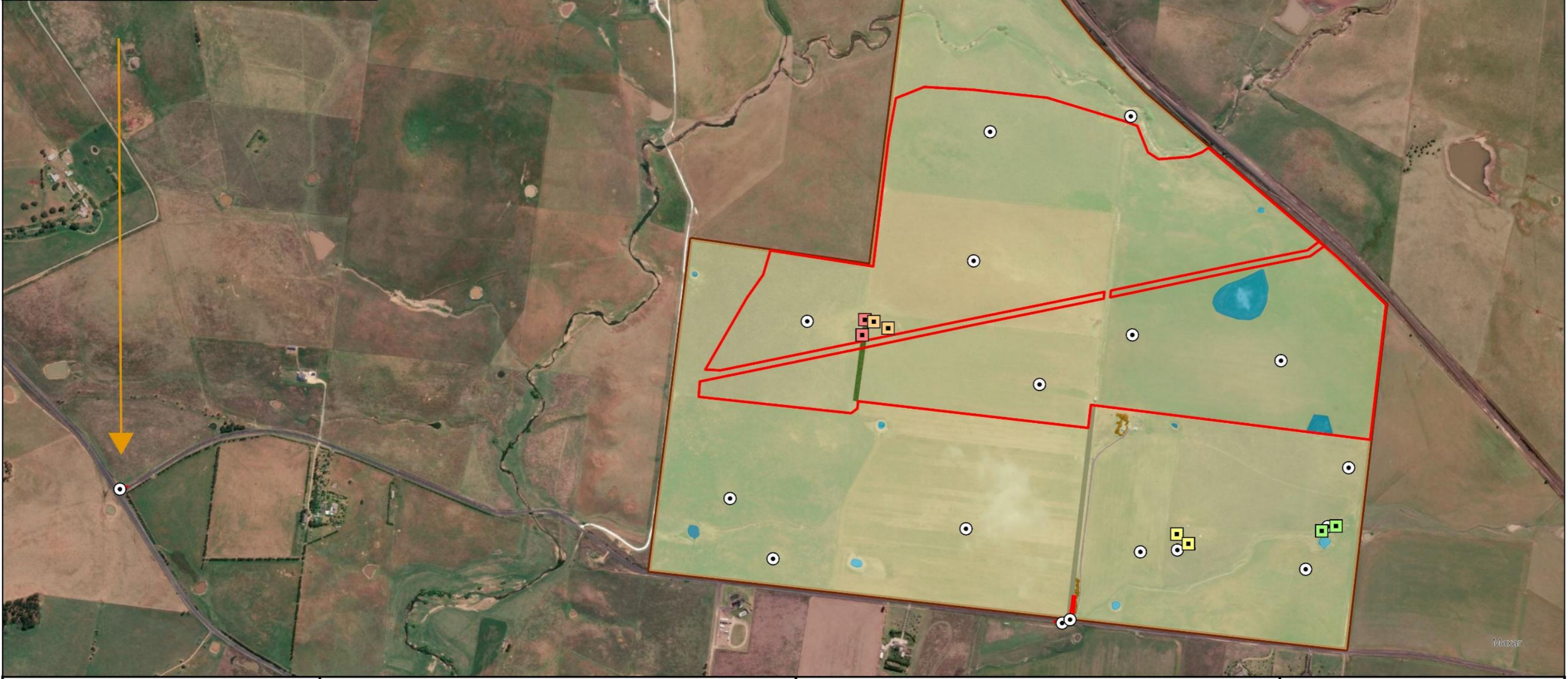
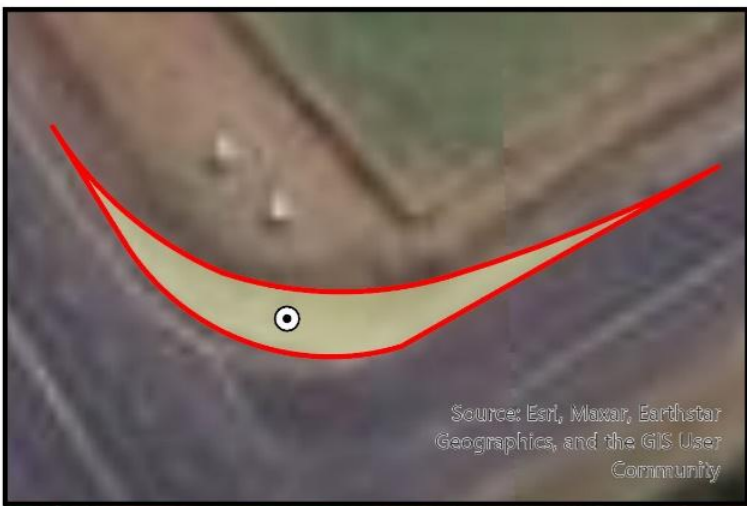
As part of the Preliminary Ecological Assessment (PEA) (August 2023), the native vegetation within the Subject Land was identified as PCT 3376, which is commensurate with *the Biodiversity Conservation Act 2016* (BC Act) listed community *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* (**Figure 3**).

Further systematic field-based vegetation surveys were undertaken by EcoResolve in February 2024 to collect floristic data at the Study Area in accordance with Sections 4.1, 4.2 and Subsection 4.2.1 of the BAM (**Figure 3**). The surveys were designed to assess the expected environmental variation and address any areas with gaps in existing mapping and information. The survey effort followed guidelines set out in Table 3 of the BAM which states one vegetation integrity plot is required for vegetation zones <2 ha in area. Preliminary vegetation assessments were undertaken on 7 February 2024 by means of Rapid Data Points (RDPs) to provide an overview of the vegetation condition across the Study Area. Subsequent to this, four BAM plots were placed throughout the Study Area to more comprehensively measure the Vegetation Integrity (VI) (i.e., composition, structure and functional components) of the Subject Lands' native vegetation cover. The BAM plots were placed in a location that was representative of the vegetation zone being assessed and beyond the prescribed minimum distance from ecotones, tracks and other areas of disturbance.

The plots included:

- One standard 20 x 20 metre plot, to assess the composition and structure attributes, including trees, shrubs, grasses, forbs, ferns and other growth forms.
- One standard 20 x 50 metre plot (1,000 metres<sup>2</sup>) to assess the function attributes: number of large trees (i.e., > 50 centimetres DBH), stem size class, tree regeneration, length of fallen logs, high threat exotic vegetation cover and hollow-bearing trees.
- Five 1 m<sup>2</sup> sub-plots to assess average litter cover for the plots.

The vegetation community identified within the Subject Land occurred in low condition, and a vegetation zone was assigned accordingly. See **Appendix B** for vegetation survey data.



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Author: BH | Version: C-A3 | Date: 16/01/2025

### Figure 3: Vegetation Zones

Location: Brewongle, NSW  
 Purpose: Streamlined BDAR  
 Client: Edify Energy Pty Ltd (Edify) C/O Kleinfelder Australia Pty Ltd  
 Reference: ER189

#### Legend

- Proposed Site Access Road
- Subject Land
- Study Area
- BAM Plot**
- BHTS1
- BHTS2

- BHTS3
- BHTS4
- RDP
- Plant Community Type**
- PCT 0

- Planted Non-native Vegetation
- PCT 3376 (Low)
- Man-made Dam
- Unsealed Access Track



0 100 200 300 400  
 Meters

Spatial Reference  
 Datum: GDA2020  
 Projection: Transverse Mercator  
 Scale: 1:12,000



### 3.2 Identification of Plant Community Types and Threatened Ecological Communities

The Project will involve modifying up to 151.3 ha of vegetation on site, of which a patch of approximately 0.48 ha is degraded PCT 3376 – *Southern Tableland Grassy Box Woodland* (**Table 3; Appendix C**). This vegetation is considered to be commensurate with the BC Act listed community *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* (**Figure 4; Appendix D**). Although this BC Act-listed TEC is considered an SAIL entity by the NSW DPE, the patch within the Project area is not considered to be at risk of an SAIL (**Appendix E**). Further, the 0.48 ha patch of PCT 3376 is not considered to be commensurate with the equivalent EPBC Act listed community *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* because it does not reach the minimum patch size and condition class thresholds.

**TABLE 3 PCT IDENTIFICATION**

Identification	Subject Land
PCT ID	3376
PCT name	Southern Tableland Grassy Box Woodland
Vegetation formation	Grassy woodlands
Vegetation class	Southern Tableland Grassy Woodlands
Per cent cleared value (%)	92.96%
Extent within Subject Land (ha)	0.48 ha

**Appendix B** includes a list of the plant species that were identified during the field surveys.

### 3.3 OSOM vehicle route vegetation

Alteration of the roundabout at the intersection of Brilliant St and the Great Western Highway, Bathurst requires disturbance of <0.01 ha of planted native vegetation in the centre of the roundabout (**Plate 2**). The vegetation is not mapped on the Biodiversity Values Map. The vegetation was assessed using the streamlined assessment module for planted native vegetation in Appendix D of the BAM 2020. Two native plant species were identified, *Lomandra longifolia* and *Westringia* sp. This vegetation occurs within a developed residential area lacking any remnant native vegetation for reference and could not be aligned with any native PCT.



**PLATE 2 VEGETATION ON THE ROUNDABOUT TO BE MODIFIED.**

# Figure 4: Threatened Ecological Communities

## Legend

- Proposed Site Access Road
- Subject Land
- Study Area

### BC Act Listed Community

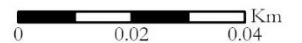
- CE - White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions

Location: Brewongle, NSW  
Purpose: Streamlined BDAR  
Client: Edify Energy Pty Ltd C/O Kleinfelder Australia Pty Ltd  
Reference: ER189



Scale: 1:1,500

Datum: WGS 1984  
Version: C - A4  
Date: 16/01/2025  
Author: BH  
Reference: ER189



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Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



### 3.4 Patch size

Patch size was calculated according to section 4.3.2 of the BAM 2020. Adjacent areas of planted native canopy trees were considered if there were no roads separating them from the native vegetation on the Subject Land. However, this is not the case with the Study Area or Subject Land; therefore, none were included. The patch size was confined to the isolated patch 0.48 ha of PCT 3376 with exotic grasslands and cropping surrounding the patch in all directions.

### 3.5 Calculation of current vegetation integrity

The plot-based vegetation survey data was entered into the BAM calculator to calculate the VI score of native vegetation on the Subject Land. The Project will remove 0.48 ha of native vegetation (PCT 3376) from the Subject Land (**Figure 4**), represented by the reduction of the VI from 6.7 to 0. Changes in VI and composition, structure and function scores for the single vegetation zone are presented in **Table 4**.

**TABLE 4 CHANGE IN VEGETATION INTEGRITY SCORE.**

Vegetation zone	Area (ha)	Before development			VI score	After development			Change	
		Composition	Structure	Function		Composition	Structure	Function	VI score	Change in VI score
3376_low	0.48	3.3	3.1	29.7	6.7	0	0	0	0	-6.7

Section 9.2.1 of the BAM establishes VI thresholds above which an offset for direct impacts to native vegetation are required (

**Table 5**). As the native vegetation on the Subject Land is a TEC, the applicable threshold is a VI of  $\geq 15$ . As the VI of the patch is 6.7 and the TEC is not considered to be at risk of an SAI, no ecosystem credit offset is required.

**TABLE 5 THRESHOLDS FOR OFFSETTING DIRECT IMPACTS TO NATIVE VEGETATION (SECTION 9.2.1, BAM 2020).**

Vegetation characteristics	VI threshold for offsetting
Where the PCT is representative of an EEC or a CEEC	$\geq 15$
Where the PCT is associated with threatened species habitat (as represented by ecosystem credits) or represents a vulnerable ecological community	$\geq 17$
Where the PCT does not represent a TEC and is not associated with threatened species habitat.	$\geq 20$





## 4 Threatened species

The streamlined assessment module for small areas allows assessors to target only SAIL species and forego assessment of non-SAIL threatened species if they have not been detected incidentally within the Subject Land. Therefore, only SAIL species which may occur on the Subject Land have been assessed in this Streamlined BDAR using Steps 3–5 of Section 5.2 of the BAM. Six species at risk of SAIL were identified as having some likelihood of occurring on the Subject Land:

- *Anthochaera phrygia* (Regent Honeyeater)
- *Caladenia attenuata* (Duramana Fingers)
- *Lathamus discolor* (Swift Parrot)
- *Litoria castanea* (Yellow-spotted Tree Frog)
- *Miniopterus orianae oceanensis* (Large Bent-winged Bat)
- *Tympanocryptis mccartneyi* (Bathurst Grassland Earless Dragon).

### 4.1 OSOM vehicle route

Appendix D of the BAM 2020 (streamlined assessment module for native vegetation) mandates that native vegetation planted for landscaping and aesthetic purposes must be assessed for potential use by threatened species, however, Chapters 4 and 5 of the BAM need not be applied. The area to be disturbed contains a very small area of low planted native vegetation. This vegetation is completely isolated from surrounding native and urban habitats and does not contain any suitable habitat for the threatened species listed above. Impacts to threatened species resulting from the works proposed here have not been assessed further.

### 4.2 Species removed from Candidate Species list

Three of the six species (listed above) were removed from the candidate species list due to lack of habitat constraints or important mapping present on the Subject Land (**Table 6**). Excepting a 0.48 ha planted shelter belt which aligns with PCT 3376, the vegetation within the Subject Land belongs to PCT 0 (**Figure 3**) and is currently being used for agriculture (grazing/cropping). The land is in a degraded condition, has no canopy or mid storey, with the ground storey populated by exotic grasses and forbs or covered by an active crop (See **Appendix B, Table B3** for photos/floristic data).

**TABLE 6 SPECIES REMOVED FROM THE CANDIDATE SPECIES LIST**

Species	Habitat Constraints/Important Mapping	Justification for Removal
<i>Anthochaera phrygia</i> (Regent Honeyeater)	Important mapping	Important mapping not present.
<i>Lathamus discolor</i> (Swift Parrot)	Important mapping	Important mapping not present.
<i>Miniopterus orianae oceanensis</i> (Large Bent-winged Bat)	Caves;Cave, tunnel, mine, culvert or other structure known or suspected to be used for breeding including species records with microhabitat code "IC - in cave;" observation type code "E nest-roost;" with numbers of individuals >500	Habitat constraint not present



Three candidate species were remaining:

- *Caladenia attenuata* (Duramana Fingers)
- *Litoria castanea* (Yellow-spotted Tree Frog)
- *Tympanocryptis mcartneyi* (Bathurst Grassland Earless Dragon).

### 4.3 Field surveys

The investigation conducted when preparing the S-BDAR (EcoResolve, 2024) included incidental surveys of threatened candidate species identified in the 2023 Kleinfelder Preliminary Ecological Assessment (PEA). Targeted surveys were conducted on all remaining SAll species. Field surveys consisted of the following:

- Systematic field traverses (10m transects)
- Song meter and Anabat deployment
- Koala Spot Assessment Technique (SAT) plots
- Dawn and dusk bird surveys
- Spotlighting and call playback
- Pitfall fall traps (further details in **Appendix F**)

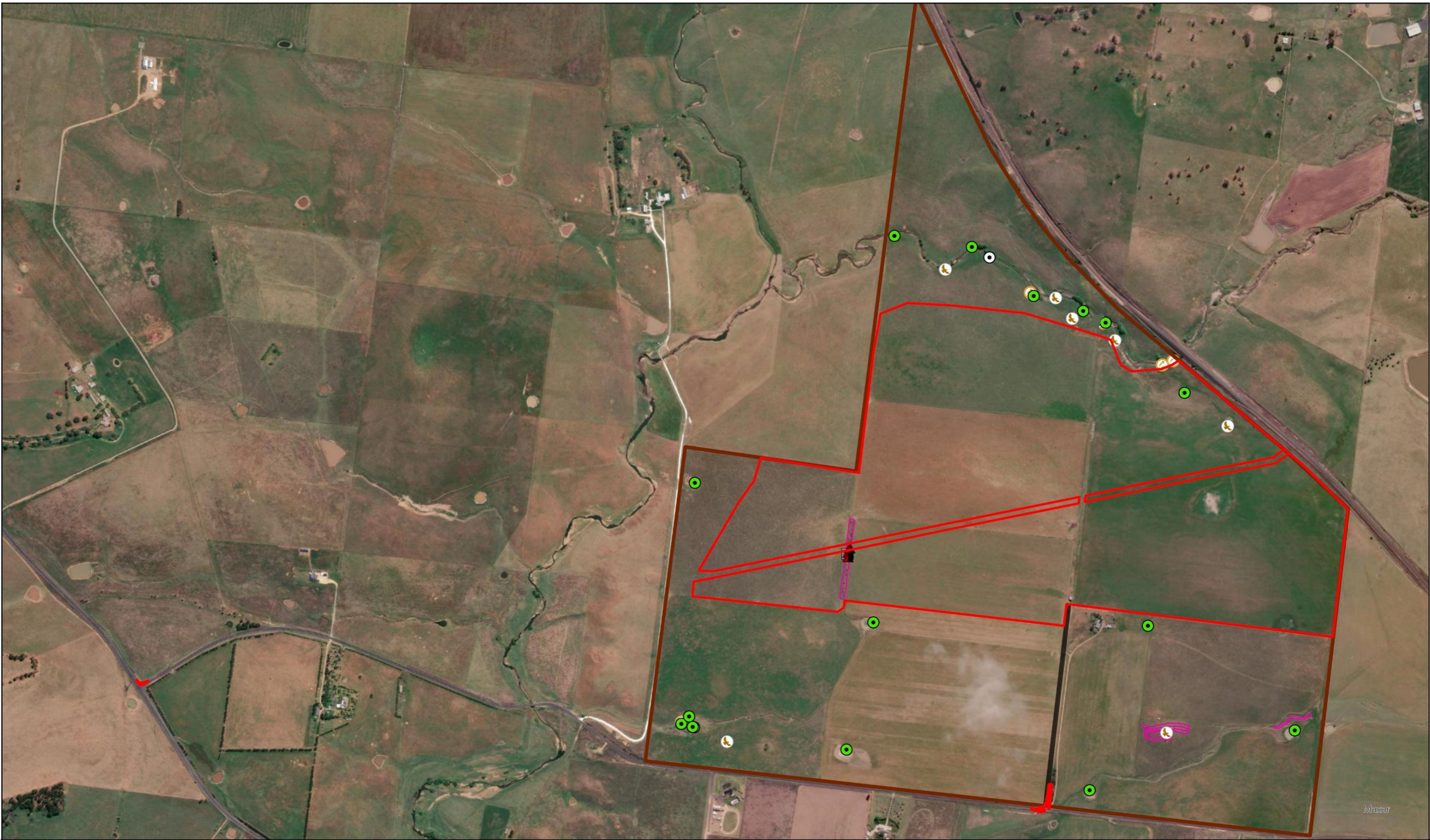
No threatened species were detected during the site visits and the bat and frog calls recorded were from non-threatened species only. **Table 7** details the dates of each survey, the species targeted, the survey methods used and the results. **Figure 5** shows the location of each of the field surveys within the Project Area.



TABLE 7 TARGETED THREATENED SPECIES SURVEYS ON THE SUBJECT LAND

Survey method	Threatened species surveys				Species detections	Further assessment required (BAM Subsections 5.2.5 and 5.2.6)
	Species Targeted	SAII Species	Timing of survey	Effort (hours and no. people)		
Threatened flora meanders (10 m transects)	<i>Caladenia attenuata</i> (Duramana Fingers)	YES	29/10/2024	~2 person hours 2 people	NO	NO
Acoustic Recorder	<i>Litoria castanea</i> (Yellow-spotted Tree Frog)	YES	28/10/2024- 25/11/2024	27 survey nights	NO	NO
Call Playback/ Spotlighting	<i>Litoria castanea</i> (Yellow-spotted Tree Frog)	YES	05/02/2024- 09/02/2024	~2 person hours 2 people	NO	NO
Pit Fall Traps	<i>Tympanocryptis mccartneyi</i> (Bathurst Grassland Earless Dragon).	YES	21/10/2024 – 01/11/2024	10 survey days	NO	NO





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Author: BH | Version: C A-A3 | Date: 16/01/2025

### Figure 5: Field Surveys

Location: Brewongle, NSW  
 Purpose: Streamlined BDRA  
 Client: Edify Energy Pty Ltd (Edify) C/O Kleinfelder Australia Pty Ltd  
 Reference: ER189

### Legend

-  Study Area
-  Proposed Site Access Road
-  Subject Land
-  Frog Survey
-  Bird Census
-  Pit Fall Trap
-  Call Playback
-  Threatened Flora Transect October 2024
-  Wombat burrow



0 100 200 300 400  
 Meters

Spatial Reference  
 Datum: GDA2020  
 Projection: Transverse Mercator  
 Scale: 1:11,500



#### 4.4 Weather conditions

Weather conditions are known to significantly affect the likelihood of detection of some threatened species. Fauna and flora surveys were conducted at times when weather conditions were neutral, if not optimal for the detection of weather-sensitive species, and in accordance with relevant guidelines and recommendations. Data was obtained from the Bureau of Meteorology (BoM) website, station 063005. **Table 8 – Table 14** detail the timing and environmental conditions of flora and fauna surveys on the Subject Land.





TABLE 8 SPOTLIGHTING

Target SAIL species	Date	Temperature (°C)		Rainfall (mm)	Max wind speed (km/h) (3pm)	Relative humidity (%) (3pm)
		Min.	Max.			
<i>Litoria castanea</i> (Yellow-spotted Tree Frog)	05/02/2024	19.8	30	0.8mm	17 km/h	-
	06/02/2024	17.8	26.3	40.2mm	22 km/h	-
	07/02/2024	13.5	24.1	2mm	19 km/h	65
	08/02/2024	14.4	21.1	0mm	20 km/h	66
<b>Incidental non-SAIL species</b>						
<i>Petaurus norfolcensis</i> (Squirrel Glider)	22/10/2024	-	-	0mm	19 km/h	-
	23/10/2024	-	25.8	0mm	20 km/h	-
<i>Phascogale tapoatafa</i> (Brush-tailed Phascogale)	28/10/2024	3.2	-	0mm	30 km/h	26
	29/10/2024	-	26	0mm	22 km/h	-

TABLE 9 CALL-PLAYBACK AND SPOTLIGHTING AND ACOUSTIC RECORDER (FROGS)

Target SAIL species	Date	Temperature (°C)		Rainfall (mm)	Max wind speed (km/h) (3pm)	Relative humidity (%) (3pm)	Barometric pressure (hPa)	Cloud cover (oktas)	Moon phase
		Min.	Max.						
<i>Litoria castanea</i> (Yellow-spotted Tree Frog)	05/02/2024	19.8	30	0.8	17 km/h	-	1009.3	-	Waning
	06/02/2024	17.8	26.3	40.2	22 km/h	-	1009.4	-	Crescent (33%)
	07/02/2024	13.5	24.1	2	19 km/h	65	1017.8	6	Waning
	08/02/2024	14.4	21.1	0	20 km/h	66	1022.1	7	Crescent (23%)
<b>Incidental non-SAIL species</b>									
<i>Litoria aurea</i> (Green and Golden Bell Frog)	05/02/2024	19.8	30	0.8	17 km/h	-	1009.3	-	Waning
	06/02/2024	17.8	26.3	40.2	22 km/h	-	1009.4	-	Crescent (33%)
<i>Litoria castanea</i> (Yellow-spotted Tree Frog)	07/02/2024	13.5	24.1	2	19 km/h	65	1017.8	6	Waning
<i>Litoria booroolongensis</i> (Booroolong Frog)	08/02/2024	14.4	21.1	0	20 km/h	66	1022.1	7	Crescent (23%)
									Waning
<i>Litoria raniformis</i> (Southern Bell Frog)									Crescent (15%)
									Waning
									Crescent (8%)





TABLE 10 BIRD SURVEYS

Incidental non-SAIL species	Date	Temperature (°C)		Rainfall (mm)	Max wind speed (km/h) (3pm)	Relative humidity (%)
		Min.	Max.			
<i>Calyptorhynchus lathami lathami</i> (Glossy Black-Cockatoo)	05/02/2024	19.8	30	0.8	17 km/h	-
	06/02/2024	17.8	26.3	40.2	22 km/h	-
	07/02/2024	13.5	24.1	2	19 km/h	65
	08/02/2024	14.4	21.1	0	20 km/h	66
<i>Haliaeetus leucogaster</i> (White Bellied Sea-eagle)	22/10/2024	-	-	0	19	-
	23/10/2024	-	25.8	0	20	-
	28/10/2024	3.2	-	0	30	26
	29/10/2024	-	26	0	22	-
<i>Lathamus discolor</i> (Swift Parrot)	22/10/2024	-	-	0	19	-
	23/10/2024	-	25.8	0	20	-
	28/10/2024	3.2	-	0	30	26
	29/10/2024	-	26	0	22	-

TABLE 11 ACOUSTIC RECORDER

Incidental non-SAIL species	Type of recorder	Number of recorders deployed	Deployment	Collection	Temperature (°C)		Rainfall (mm)	Max wind speed (km/h)	Average Relative humidity (%) (3pm)
					Min.	Max.			
<i>Litoria castanea</i> (Yellow-spotted Tree Frog) <i>Litoria raniformis</i> (Southern Bell Frog)	Song meter	1	28/10/2024	25/11/2024	3.2	32.8	0	74 km/h	5

TABLE 12 SPOT ASSESSMENT TECHNIQUE (SAT PLOTS)

Incidental non-SAIL species	Start	End	Temperature (°C)		Rainfall (mm)	Max wind speed (km/h)	Relative humidity (%) (3pm)
			Min.	Max.			
<i>Phascolarctos cinereus</i> (Koala)	07/02/2024	07/02/2024	12.8	25	0	35 km/h	65%





TABLE 13 THREATENED FLORA TRANSECTS (10 METRE TRANSECT)

Target SAI species	Date	Temperature (°C)		Rainfall (mm)	Max wind speed (km/h)	Relative humidity (%) (3pm)
		Min.	Max.			
<i>Caladenia attenuata</i> (Duramana Fingers)	29/10/2024	3.2	26	0mm	33 km/h	No data
<b>Incidental non-SAI Species</b>						
<i>Eucalyptus aggregata</i> (Black Gum)	29/10/2024	3.2	26	0mm	33 km/h	No data
<i>Lepidium hyssopifolium</i> (Basalt pepperpress)						
<i>Leucochrysum albicans subsp. tricolor</i>						
<i>Swainsona sericea</i> (Silky Swainson-pea)						

TABLE 14 PITFALL TRAPS

Target SAI Species	Date	Temperature (C)(Avg)		Rainfall (mm)(Avg)	Max wind speed (km/h)	Relative humidity (%) (3pm)
		Min.	Max.			
<i>Tympanocryptis mcartneyi</i> (Bathurst Earless Dragon)	21/10/20214 – 01/11/2024	5.6	13	0	56 km/h	10





## 5 Avoid and minimise impacts

This section addresses the requirements in Sections 8.1 and 8.3 of the BAM for assessing the impacts of the proposal on biodiversity values (Chapter 8, BAM 2020).

### 5.1 Project location and design

The Project design includes a hybrid solar farm and battery energy storage system on the Subject Land. The proposed development is a 90-Megawatt solar farm that will occupy approximately 151 ha and will be deemed a State Significant Development (SSD). The Subject Land is zoned as RU1 Primary Production and currently managed for agricultural purposes, including grazing and cropping. The Subject Land occupies three lots / part lots (Lot 1 DP1206130, Lot 1 DP1236901, Lot 2 DP1236901). The project site is largely situated within non-native, pasture-improved paddocks, characterised by the absence of large hollow-bearing paddock trees or other significant habitat features. Vegetation primarily comprises of exotic grass species, with limited ecological value for native fauna. These confirmed pasture improved paddock areas are mapped on the NVR map as Cat 1 Lands with the exception a small patch of Category 2- Sensitive Regulated land consisting of a thin band of structural vegetation in the south-western corner of Lot 1 DP1236901 that has been classified as *Southern Tableland Grassy Box Woodland* (PCT 3376). This PCT is associated to the NSW and the Commonwealth Critically Endangered Ecological Community (CEEC) *White Box Blakely's Red Gum Woodland* (Figure 3 and Figure 4).

### 5.2 Aquatic Ecology – Excluded from this assessment

This streamlined BDAR address terrestrial ecology only and it is not expected to have any significant impact on the adjacent hydrological feature, Salt Water Creek, which is located outside the Subject Land but within the Study Area. However, the Draft Aquatic ecology assessment which contains the impacts associated with aquatic habitats concludes the construction of an access track through Salt Water Creek would directly impact Key Fish Habitat (KFH) at the waterway crossing. Salt Water Creek is expected to have semi-permanent flow, sustained by upstream seeps and potential springs. While waterway crossings can create barriers to fish passage, significant impacts are unlikely, as the vehicle crossing will be designed and built in accordance with the *Policy and Guidelines for Fish Habitat Conservation and Management* (DPI 2013) and *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (Fairfull & Witheridge 2003) (DPM Envirosiences, 2024). Provided that mitigation measures are appropriately considered in the design and construction phases, significant impacts on this feature are unlikely.

### 5.3 Unavoidable direct and indirect impacts

Despite the avoidance and mitigation measures considered and recommended, some residual impacts will occur under the Project. Up to 151.3 ha of vegetation will be modified, of which 0.48 ha has been identified as degraded PCT 3376. The direct and indirect impacts of the Project are summarised along with proposed mitigation measures in **Table 15**.





TABLE 15 RESIDUAL INDIRECT IMPACTS.

<b>Indirect impact</b> (Describe impact, e.g., transport of weeds and pathogens from the site to adjacent vegetation)	<b>Impacted entities</b> (PCT/threatened entity and their habitats and where relevant, EPBC Act listing)	<b>Duration</b> (long-term/short-term/medium-term)	<b>Project phase/ timing of impact</b> (e.g., construction, operation, rehabilitation)	<b>Likelihood and consequences</b>
<b>Reduced viability of adjacent habitat because of edge effects</b>	All vegetation, all fauna species.	Long-term	Construction and operation	Some loss of viability may occur. The effects would be local and limited to a marginal proportion of habitat in the surrounding area.
<b>Reduced viability of adjacent habitat because of noise, dust and light spill from construction areas</b>	All fauna species.	Short-term	Construction	Likely but limited to areas adjacent to construction activity. Consequences dependent on intensity and duration of activity. Fauna may avoid affected habitat or be less successful there. The area affected is unlikely to be a significant proportion of the local distribution of most species.
<b>Introduction of invasive flora species to the Subject Land</b>	All vegetation, all fauna species.	Long-term	Construction and operation	Possible, however the impacts are likely to be marginal if control measures are in place. The proposed Biodiversity Management Plan (BMP) will reduce the likelihood of the establishment of new invasive flora species and degradation of native vegetation, making infestations easy to identify and control.
<b>Introduction of waste (rubbish, fuels and lubricants, materials) into surrounding ecosystems</b>	All vegetation, all fauna species.	Long-term	Construction and operation	Possible, if effective materials storage and waste management systems are not implemented. Consequences may include harm to fauna through ingestion or exposure to rubbish, contamination of soil and waterways etc.
<b>Increased risk of starvation, exposure and loss of shade or shelter</b>	All fauna species.	Long-term	Construction and operation	Possible, however the impact on most species is likely to be marginal given the abundance of similar habitat in the surrounding landscape. Less mobile species with smaller ranges may experience greater local competition for these resources.
<b>Loss of breeding habitats (stick nests and HBTs)</b>	All fauna species.	Long-term	Construction and operation	Very unlikely due to no HBT's being recorded in the locality and impact on hollow-dependent species is directly proportional to the number of hollows removed. As with the increased risks of exposure, starvation etc., most species will not be significantly





<b>Indirect impact</b> (Describe impact, e.g., transport of weeds and pathogens from the site to adjacent vegetation)	<b>Impacted entities</b> (PCT/threatened entity and their habitats and where relevant, EPBC Act listing)	<b>Duration</b> (long-term/ short-term/ medium-term)	<b>Project phase/ timing of impact</b> (e.g., construction, operation, rehabilitation)	<b>Likelihood and consequences</b>
				impacted because of the abundance of similar habitat available nearby.
<b>Hydrological changes</b>	All vegetation.	Long-term	Construction and operation	Very unlikely. Any effects likely to be limited to the area of direct impacts. Effects on groundwater are unlikely.
<b>Increase in predatory species populations</b>	All fauna species.	Long-term	Construction and operation	Possible, although the Project does not include any activities likely to directly promote predator population growth. The presence of waste and disturbance may attract feral predator species (e.g., foxes)
<b>Increase in pest animal populations</b>	All fauna species.	Long-term	Construction and operation	Possible, although the Project does not include any activities likely to directly promote pest population growth. Some species may benefit from disturbance caused by Project activities.
<b>Fertiliser or herbicide drift</b>	All vegetation	Short-term	Construction	Possible. Herbicide drift could kill or sicken native vegetation in areas adjacent to treated sites. Best practice herbicide application minimises the risk of drift by avoiding spraying when drift is likely to cause harm.



## 5.4 Prescribed impacts

Prescribed impacts are impacts on threatened species which are not accounted for during assessment of native vegetation disturbance impacts within the BAM-C. They include impacts to:

- Karst, caves, crevices, cliffs, rocks and other geological features of significance
- Human-made structures or non-native vegetation
- Habitat connectivity
- Water bodies, water quality and hydrological processes
- Wind turbine strikes
- Vehicle strikes

No prescribed impacts are anticipated to occur as part of the Project. No predicted or candidate species were detected on the Subject Land and the habitat is unlikely to be preferred by any threatened species within the locality. The habitat present is poor and fragmented in its extent, consequently, the loss of potential foraging use by vagrant threatened species is unlikely to have a significant impact. Furthermore, the Project is not expected to result in significant impacts from vehicle strikes to fauna, as mitigation measures, including speed limits and driver awareness protocols, will be implemented to minimise risks. While there will be a short-term increase in vehicle movements during construction, these measures will ensure that potential impacts are limited and temporary (**Table 15**).

## 5.5 Mitigation Measures

Some impacts could not be avoided or minimised by the Project design and must be mitigated instead. These include standard construction impacts and those specific to the Project. These are outlined in **Table 16**.

**TABLE 16 IMPACT MITIGATION MEASURES**

Mitigation measure	Method/technique	Timing	Frequency	Responsibility
<b>Speed limits</b>	Speed limits maintained and enforced for Project traffic.	Construction, post-construction	N/A	Construction contractor
<b>Weed management</b>	The Arrive Clean, Leave Clean guidelines should be adhered to.	Construction	As required	Construction contractor
<b>Pathogen risk management</b>	During the clearing activities and the construction of the Proposed Development, plant and machinery will be cleaned of any foreign soil and propagative material prior to being transported to the construction areas to prevent the spread of weeds.	Construction	As required	Construction contractor
<b>Weed management</b>	Weed management procedures will be implemented to prevent the spread of weeds both inside and outside the site.	Construction, post-construction	As required	Construction contractor





Mitigation measure	Method/technique	Timing	Frequency	Responsibility
	Ongoing weed monitoring is to be implemented, and potential weed infestations appropriately managed to minimise the spread of weeds.	Construction, post-construction	As required	Construction contractor
<b>Worker induction and training</b>	If machinery is transported from an area of confirmed infection of Phytophthora or Chytrid fungus to the construction areas, stringent wash down will be completed before leaving the area, removing all soil and vegetative material from cabins, trays, and under carriages.	Construction	As required	Construction contractor
<b>Delineation of disturbance areas</b>	During construction, the Modification Disturbance Area will be delineated to ensure clearing is not undertaken outside of these areas.	Construction	As required	Construction contractor
<b>Construction and work hour limits</b>	Hours of construction would be restricted to reduce overall noise, dust, light spill etc.	Construction	N/A	Construction contractor
<b>Erosion and sediment control</b>	Erosion and sediment control will be implemented and maintained during Project construction and operation	Construction	As required	Construction contractor

## 6 Impact summary

### 6.1 Impacts on native vegetation and Threatened Ecological Communities

The total area of PCT 3376 to be cleared within the Subject Land is 0.48 ha. Although PCT 3376 is associated with the EPBC Act listed community, *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* the patch located within the Subject Land is not considered to be commensurate, as it does not reach the minimum patch size and condition class thresholds required. However, the patch is considered to be commensurate with the BC Act listed community *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions*.

As the Project will involve the complete removal of all vegetation within the Project footprint, changes to the vegetation integrity are represented by the reduction of all VI components and scores to 0 (**Table 17**). However, even though the proposed works will result in the reduction of the VIS to 0, no ecosystem credit offset liability will be required. This is because the initial condition of the patch (VIS





= 6.7) is well below the threshold requiring offsets ( $\geq 15$  for EECs) and the entity is not considered to be at risk of an SAI (Appendix E).

**TABLE 17 CHANGES TO VEGETATION INTEGRITY**

Vegetation zone	PCT ID	Management zone	Area (ha)	Before development				After development				Change in VI score
				Comp.	Struc.	Func.	VI score	Comp.	Struc.	Func.	VI score	
3376_low	3376	1	0.48	3.3	3.1	29.7	6.7	0	0	0	0	-6.7

## 6.2 Impacts on threatened species.

No threatened species or important habitat were identified within the Study Area. While individuals of some threatened species may occasionally visit the area, the marginal scale and quality of habitat available make its loss unlikely to affect them. No significant impacts are considered likely to occur as a result of the proposed development.

## 6.3 Biodiversity credit report and offsets

The initial VIS of the patch is 6.7, which is well below the VIS ( $\geq 15$ ) required for TECs associated with PCT 3376. As the entity is not considered at risk of an SAI, the Project does not require any ecosystem credit offset obligations. The biodiversity credit report (Appendix E) provides further details about the lack of offset requirements.

## 6.4 Limitations

The limitations and assumptions applying to this assessment include:

- All calculations of direct impacts assume clearing of vegetation to the maximum extent of the proposed Project footprint indicated (Figure 3).
- The likelihood of indirect and prescribed impacts can generally be estimated with reasonable accuracy, however, their magnitude and consequences for any individual species or ecosystem can rarely be reliably quantified, even where specialist information (e.g., noise assessments, hydrological studies) is available for the potential impacts.



## 7 Conclusion

The project will involve modifying up to 151.3 ha of vegetation, including 0.48 ha of PCT 3376 which is commensurate with the BC Act-listed TEC, *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions*. However, it is not considered to be commensurate with the equivalent EPBC Act listing because its patch size and condition are below the relevant thresholds. The condition of the BC Act-listed patch (VIS = 6.7) is well below the threshold requiring offsets ( $\geq 15$  for EECs) and it is not considered at risk of an SAI, so consequently, no ecosystem credit offset liability is required.

No threatened species were recorded during targeted surveys within the Project area. There is no species credit liability for the Project either.

The recommended mitigation measures will manage identified marginal impacts to native biodiversity on the subject and adjacent land.





## 8 References

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- NSW TSSC (2020). Final Determination – White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland Derived Native Grassland – in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions
- Office of Environment and Heritage [OEH] (2023). Biodiversity Values Map – extract for the project area. (Accessed January 2024) <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>
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- OEH (n.d.). BioNet Vegetation Classification. Available at: <https://www.environment.nsw.gov.au/NSWVCA20PRapp/default.aspx>. Accessed 8 Mar. 2023.



## APPENDIX A – S-BDAR CONTENT REQUIREMENTS (SMALL AREA)

TABLE A 1 STEPS TO ASSESS SMALL AREAS

BAM chapter	BAM Section	Streamlined assessment requirement	Page reference(s) in the SBDAR
Chapter 3: Establishing the site context	3.1	Identify the IBRA subregion in which the development takes place.	Table 1
		Identify any relevant landscape features listed in Section 3.1.	Table 1
	1 and 4.3	The assessor must assess the site context, in accordance with Section 3.2 and Subsection 4.3.2: a. native vegetation cover b. patch size.	Section 3 Section 3.3
Chapter 4: Assessing native vegetation, threatened ecological communities and vegetation integrity	4.1	Prepare a map of native vegetation for the Subject Land as per Section 4.1.	Figure 3
	4.2	Identify the dominant PCT on the Subject Land either by: a. use of existing information, or b. collection of plot-based survey data as required by Box 1 and choosing the PCT based on analysis of the plot data.	Section 1.2 Section 3.1
		Identify if the PCT is associated with a threatened ecological community (TEC) as required by Subsection 4.2.2. Where a TEC is identified on a site that is not associated with the dominant PCT, that TEC is required to be assessed and offset accordingly. In this situation more than one PCT may be selected for assessment.	Section 3.1
	4.3.3	Assess the vegetation integrity of the PCT(s) on the Subject Land as individual vegetation zones either: a. qualitatively by observing values for the condition attributes set out in Table 2 (justification must be included as to how these values were determined), or b. quantitatively by collecting field data for the condition attributes at a plot in accordance with Subsection 4.3.4.	Section 3.4
	4.4	Determine the vegetation integrity score in accordance with Section 4.4, using Equations 16–24 in Appendix H, by entering observed values or plot data into the small area module of the BAM-C.	Section 3.4
Chapter 5: Assessing the habitat suitability for threatened species	5.2	Determine the suite of threatened species likely to occur on or use the development site according to Step 1 and Step 2 in Section 5.2. This includes the predicted species assessed for ecosystem credits and the candidate species assessed for species credits.	Section 4





BAM chapter	BAM Section	Streamlined assessment requirement	Page reference(s) in the SBDAR
		All of the candidate species credit species identified for the proposal according to Step 1 and Step 2 that are at risk of an SAIL must be further assessed in accordance with Steps 3–5 in Section 5.2. Candidate species credit species that are not at risk of an SAIL and are not incidentally recorded on the Subject Land do not require further assessment.	
	5.3	Survey (or an expert report) of species credit species that are at risk of an SAIL must be undertaken in accordance with Section 5.3. The assessor must prepare a species polygon for each candidate threatened species that is recorded on the Subject Land. Where a threatened species is identified on the Subject Land that is not at risk of an SAIL (i.e. incidentally observed during site visit) the species must be recorded, and the assessor must prepare a species polygon.	<b>Section 4.1</b> <b>Figure 5</b>
Chapter 7: Avoiding or minimising impacts on biodiversity values	7.1 and 0	Address how the proposal has been located to avoid and minimise any impact on native vegetation and threatened species habitat including locating and designing the proposal. Record any measures that are proposed to be taken to minimise direct and indirect impacts.	<b>Section 5</b>
Chapter 8: Assessing the impacts of the proposal on biodiversity values	8.1 and 8.3	Complete Subsection 8.1.1 to determine the impact of the development on vegetation integrity and threatened species habitat. Assess all direct and indirect impacts on biodiversity values, including any prescribed impacts.	<b>Table 12</b>
Chapter 9: Thresholds for assessing and offsetting the impacts of development	9.1	The assessor must address the impact assessment requirements set out in Subsection 9.1.1 for TECs and Subsection 9.1.2 for threatened species or populations that are at risk of an SAIL for the proposed development.	<b>Section 6.1</b> <b>Section 6.2</b>
Chapter 10: Applying the no net loss standard	9	Calculate the number of ecosystem credits required for impacts on biodiversity values according to Subsection 9.	<b>Section 6.3</b>
	10.1.3 (only required when Section 5.3 is completed)	Calculate the number of species credits required for impacts on biodiversity values according to Subsection 10.1.3. This includes any species credit species that has been incidentally observed on the Subject Land. Note that the species credits for any species at risk of an SAIL are calculated in the event that the decision-maker forms the opinion that the proposed impact is <b>unlikely</b> to be serious and irreversible and therefore can be offset.	<b>Section 6.3</b>
	10.2	Identify the credit class for ecosystem credits and species credits according to Section 10.2 (this report can be generated from the BAM-C).	<b>Section 6.3</b>





## APPENDIX B – VEGETATION SURVEY DATA

TABLE B1 18 BAM PLOT HABITAT FUNCTION ASSESSMENT

Plot	PCT	Plot location			Zone	Coordinates			Composition					Structure					Function				Stem class size					High Threat Exotic			
		Area (ha)	Patch size (ha)	Condition class		Easting	Northing	Bearing	Tree	Shrub	Grass	Forbs	Ferns	Other	Tree	Shrub	Grass	Forbs	Ferns	Other	Large Trees (80cm+)	Hollow trees	Litter Cover (Avg)	Fallen Logs	5 to 9	10 to 19	20 to 29		30 to 49	50 to 79	Tree Regen
<b>Plots within the Subject Land</b>																															
BHTS1	3376	0.48	>100	Low	55	149.682393	-33.467147	184	1	1	0	2	0	0	2	2	-	0.7	0	0	0	0	7	4.0	1	1	1	0	0	1	0
<b>Plots outside the Subject Land</b>																															
BHTS3	3376	0.0147	>100	Low	55	149.692722	-33.473508	117	1	0	4	2	0	9	0	5	2.525	0.06	0	0	0	0	8	1.5	1	0	0	1	0	0	
BHTS2	0	0	<100	Non-Native	55	149.682696	-33.467209	104	0	1	2	3	0	0	0	0.1	0.53	0.03	0	0	0	0	10	0	0	0	0	0	0	0	
BHTS4	0	0	<100	Non-Native	55	149.698117	-33.473423	237	0	0	5	3	0	0	0	0	17.2	1.02	0	0	0	0	1	0	0	0	0	0	0	0	

TABLE B2 19 FLORISTICS COVER AND ABUNDANCE DATA

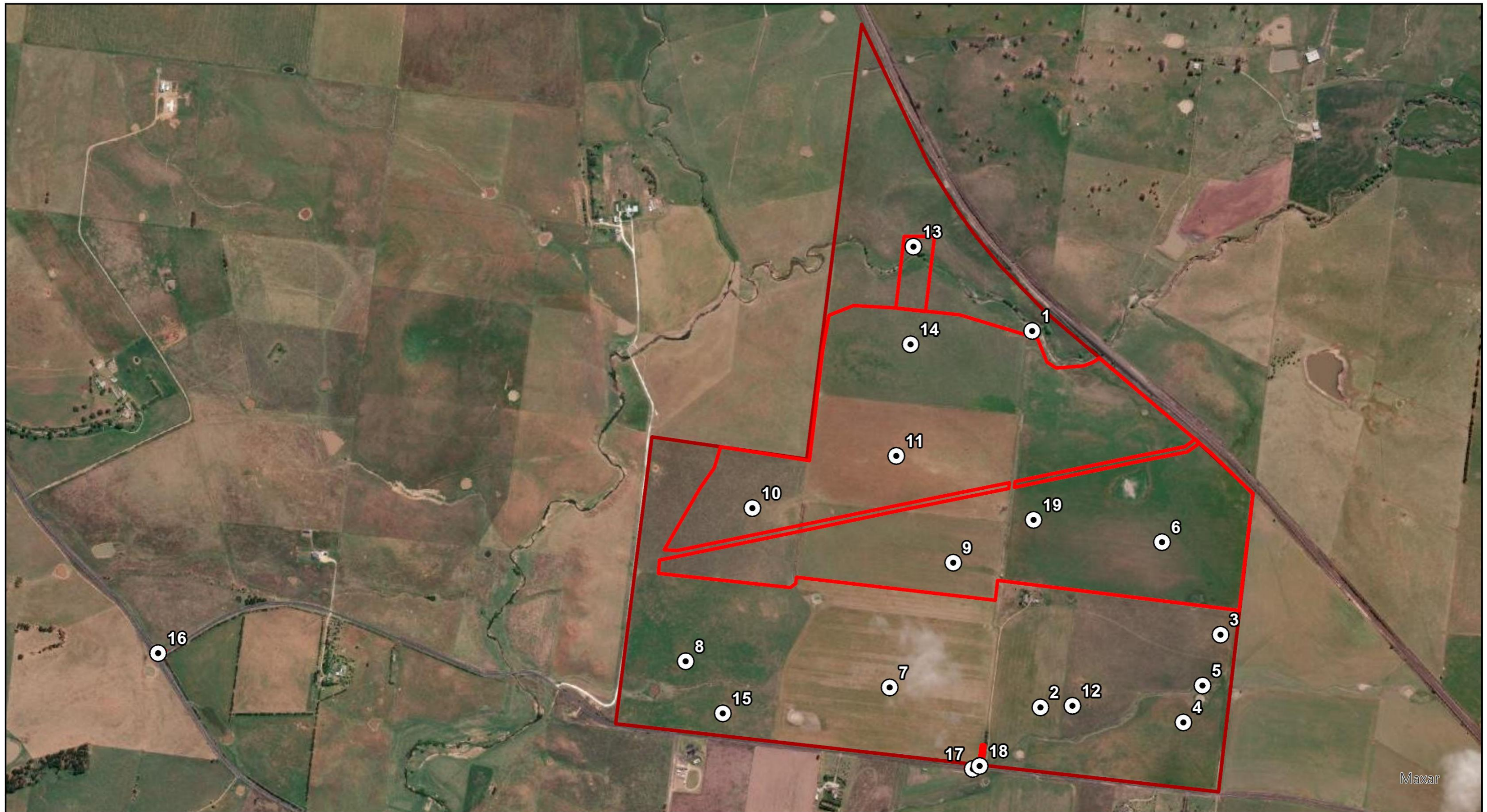
Family	Scientific Name	Common Name	Form	BAM Plot ID									
				BHTS1		BHTS2		BHTS3		BHTS4			
				C	A	C	A	C	A	C	A		
Fabaceae (Mimosoideae)	<i>Acacia parvipinnula</i>	Silver-stemmed Wattle	Shrub (SG)	2	1								
Amaranthaceae	<i>Amaranthus sp.</i>	-	Forb (FG)	0.5	10								
Amaranthaceae	<i>Amaranthus viridis</i>	Green Amarantha	Forb (FG)			0.01	2	0.05	100	0.01	1		
Chenopodiaceae	<i>Atriplex patula</i>	-	Exotic	0.01	1								
Poaceae	<i>Austrostipa scabra</i>	Speargrass	Grass & grasslike (GG)									0.01	1
Brassicaceae	<i>Brassica x napus</i>	Rape	Exotic	0.2	3	0.5	5	0.01	1				
Poaceae	<i>Bromus catharticus</i>	Praire Grass	Exotic	50	2000			30	500				
Asteraceae	<i>Centaurea solstitialis</i>	St Barnabys Thistle	Exotic			1	10						
Asteraceae	<i>Centaurea calcitrapa</i>	Star Thistle	Forb (FG)									1	3
Chenopodiaceae	<i>Chenopodium album</i>	Fat Hen	Exotic	0.5	10								
Poaceae	<i>Chloris truncata</i>	Windmill Grass	Grass & grasslike (GG)			0.03	3						
Asteraceae	<i>Cichorium intybus</i>	Chicory	Exotic			10	50						
Asteraceae	<i>Cirsium vulgare</i>	Spear Thistle	Exotic					0.02	2				
Poaceae	<i>Cynodon dactylon</i>	Common Couch	Grass & grasslike (GG)					0.01	1				
Poaceae	<i>Dactylis glomerata</i>	Cocksfoot	Exotic					0.01	2	0.5	100		
Poaceae	<i>Digitaria eriantha</i>	Finger Panic Grass	Exotic			5	50						
Chenopodiaceae	<i>Dysphania ambrosioides</i>	Mexican Tea	Shrub (SG)			0.01	2						
Chenopodiaceae	<i>Dysphania carinata</i>	Keeled Goosefoot	Exotic					0.05	15	0.05	5		
Boraginaceae	<i>Echium plantagineum</i>	Patterson's Curse	Exotic							0.05	3		
Poaceae	<i>Eleusine indica</i>	Crowsfoot Grass	Exotic			0.5	5						
Poaceae	<i>Eleusine tristachya</i>	Goose Grass	Exotic					0.05	5	0.5	100		
Poaceae	<i>Eragrostis cilianensis</i>	Stinkgrass	Exotic			5	500						
Poaceae	<i>Eragrostis elongata</i>	Clustered Lovegrass	Grass & grasslike (GG)									0.01	1





Family	Scientific Name	Common Name	Form	BAM Plot ID							
				BHTS1		BHTS2		BHTS3		BHTS4	
				C	A	C	A	C	A	C	A
Poaceae	<i>Eragrostis leptostachya</i>	Paddock Lovegrass	Grass & grasslike (GG)					2	100	1	100
Poaceae	<i>Eragrostis parviflora</i>	Weeping Lovegrass	Grass & grasslike (GG)			0.5	5				
Myrtaceae	<i>Eucalyptus blakelyi</i>	Blakely's Red Gum	Tree (TG)	2	3			5	1		
Juncaceae	<i>Juncus continuus</i>	-	Grass & grasslike (GG)							1	7
Brassicaceae	<i>Lepidium spp.</i>	-	Forb (FG)			0.01	1				
Solanaceae	<i>Lycium ferocissimum</i>	African Boxthorn	HTW - Manageable	0.5	1						
Fabaceae (Faboideae)	<i>Medicago sativa</i>	Lucerne	Exotic			90	200				
Fabaceae (Faboideae)	<i>Medicago spp.</i>	-	Exotic							0.01	1
Poaceae	<i>Phalaris aquatica</i>	Phalaris	Exotic	90	5000	0.1	1	85	2000	10	1000
Plantaginaceae	<i>Plantago lanceolata</i>	Lamb's Tongues	Exotic					0.05	2	1	20
Polygonaceae	<i>Rumex acetosella</i>	Sorrel	Grass & grasslike (GG)					0.5	50		
Polygonaceae	<i>Rumex brownii</i>	Swamp Dock	Forb (FG)	0.2	5	0.01	1	0.01	1	0.01	1
Poaceae	<i>Rytidosperma fulvum</i>	Wallaby Grass	Grass & grasslike (GG)							15	2000
Poaceae	<i>Rytidosperma spp.</i>	-	Grass & grasslike (GG)					0.01	1		
Asteraceae	<i>Senecio madagascariensis</i>	Fireweed	Exotic	0.2	3			0.02	2	0.05	3
Asteraceae	<i>Tragopogon dubius</i>	Goatsbeard	Exotic	0.5	5						
Zygophyllaceae	<i>Tribulus terrestris</i>	Cat-head	Exotic			0.5	15				

Note: C = Percentage Cover, A = Abundance



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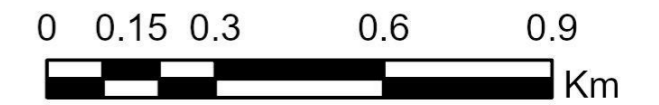
Author: AD | Version: A-A3 | Date: 1/09/2025

## Figure B1. RDP Locations

Location: Brewongle, NSW  
 Purpose: S-BDAR  
 Client: Edify Energy Pty Ltd (Edify) C/O Kleinfelder Australia Pty Ltd  
 Reference: ER189

## Legend


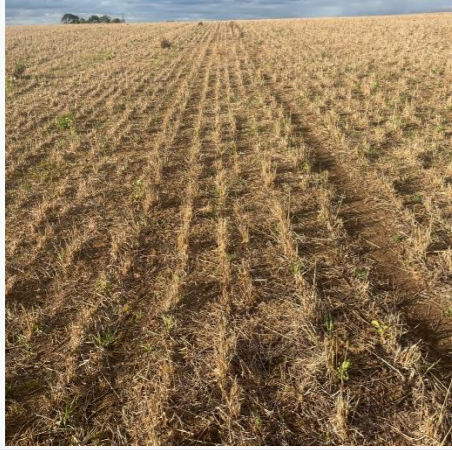

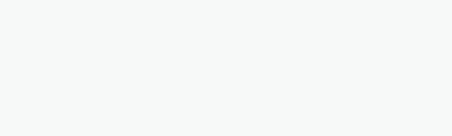
- Subject Land
- Study Area
- RDP



Spatial Reference  
 Datum: GDA2020  
 Projection: Transverse Mercator  
 Scale: 1:19,000


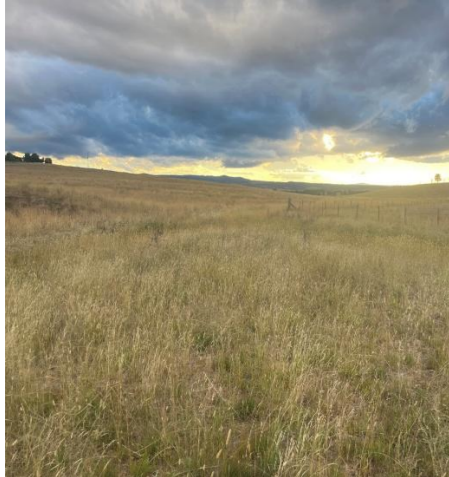




TABLE B3 20 RAPID DATA POINTS DATA




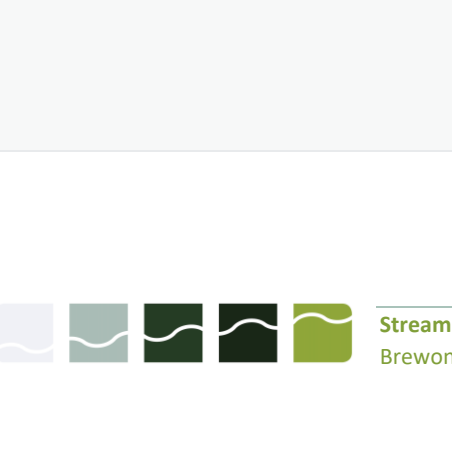
Rapid Data Point ID & Photo	Date Collected	Floristics			Current/Historic Land Usage	Comments
		Canopy	Mid Story	Ground Cover		
<p><b>1</b></p> 	05/02/2025	<p><b>Dominate Canopy:</b> <i>Salix fragilis subsp fragilis</i> <b>Sub-dominate Canopy:</b> <i>Salix babylonica</i></p>	N/A	<p><b>Dominate Ground Cover:</b> <i>Phalaris aquatica</i> <b>Sub-dominate Ground Cover:</b> <i>Centaurea solstitialis</i></p>	Category RU1 Primary Production Land –grazing. Trampling from grazing livestock herds	PCT 0 Patches of knee-high non-native grass, not recently grazed (within the last six months)
<p><b>2</b></p> 	06/02/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Phalaris aquatica</i> <b>Sub-dominate Ground Cover:</b> <i>Raphanus sativus</i></p>	Category RU1 Primary Production Land – cropping. Frequent ploughing/tilling of soil and application of herbicides/pesticides.	PCT 0
<p><b>3</b></p> 	06/02/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Phalaris aquatica</i> <b>Sub-dominate Ground Cover:</b> <i>Dactyloctenium lanceolata</i> <b>Other Ground Cover:</b> <i>Panicum effusum</i></p>	Category RU1 Primary Production Land –grazing. Trampling from grazing livestock herds	PCT 0 Patches of low non-native grass, ground compacted from grazing
<p><b>4</b></p> 	06/02/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Phalaris aquatica</i> <b>Sub-dominate Ground Cover:</b> <i>Dactyloctenium lanceolata</i> <b>Other Ground Cover:</b> <i>Panicum effusum</i></p>	Category RU1 Primary Production Land –grazing. Trampling from grazing livestock herds	PCT 0 Patches of calf-high non-native grass, ground compacted from grazing








Rapid Data Point ID & Photo	Date Collected	Floristics			Current/Historic Land Usage	Comments
						
<p>5</p> 	06/02/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Phalaris aquatica</i>  <b>Sub-dominate Ground Cover:</b> <i>Plantago lanceolata</i>  <b>Other Ground Cover:</b> <i>Bromus spp.</i></p>	Category RU1 Primary Production Land –grazing. Trampling from grazing livestock herds	PCT 0 Patches of calf-high non-native grass, ground compacted from grazing
<p>6</p> 	06/02/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Rhytidosperra spp.</i>  <b>Sub-dominate Ground Cover:</b> <i>Panicum spp.</i>  <b>Other Ground Cover:</b> <i>Phalaris aquatica</i></p>	Category RU1 Primary Production Land – cropping. Frequent ploughing/tilling of soil and application of herbicides/pesticides.	PCT 0, excepting a very small patch of native grass. Looks like this patch/narrow strip of native grass follows the bank of the creek line. Closest canopy over 200m away
<p>7</p> 	06/02/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Bromus spp</i>  <b>Sub-dominate Ground Cover:</b> <i>Medicago sativa</i>  <b>Other Ground Cover:</b> <i>Lepidium spp.</i></p>	Category RU1 Primary Production Land – cropping. Frequent ploughing/tilling of soil and application of herbicides/pesticides.	PCT 0




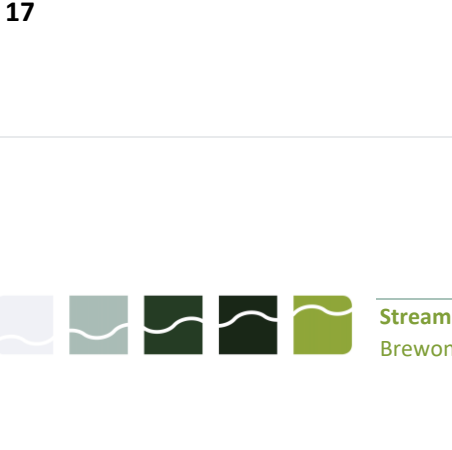


Rapid Data Point ID & Photo	Date Collected		Floristics	Current/Historic Land Usage	Comments	
						
8 	06/02/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Sorghum spp.</i>  <b>Sub-dominate Ground Cover:</b> <i>Brassica spp.</i>  <b>Other Ground Cover:</b> <i>Raphanus sativus</i></p>	Category RU1 Primary Production Land – cropping/grazing. Frequent ploughing/tilling of soil and application of herbicides/pesticides as well as trampling from grazing livestock herds.	PCT 0 Patches of low non-native grass
9 	07/02/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Medicago sativa</i>  <b>Sub-dominate Ground Cover:</b> <i>Cichorium intybus</i>  <b>Other Ground Cover:</b> <i>Hordium leporinum</i></p>	Category RU1 Primary Production Land – cropping. Frequent ploughing/tilling of soil and application of herbicides/pesticides.	PCT 0
10 	07/02/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Phalaris aquatica</i>  <b>Sub-dominate Ground Cover:</b> <i>Centaurea solstitialis</i>  <b>Other Ground Cover:</b> <i>Brassica x napus</i></p>	Category RU1 Primary Production Land –grazing. Trampling from grazing livestock herds	PCT 0 Patches of knee-high non-native grass, not recently grazed (within last six months)





Rapid Data Point ID & Photo	Date Collected	Floristics		Current/Historic Land Usage	Comments	
						
<p>11</p> 	07/02/2025	N/A	N/A	<p><b>Dominant Ground Cover:</b> <i>Medicago sativa</i>  <b>Sub-dominant Ground Cover:</b> <i>Cichorium intybus</i>  <b>Other Ground Cover:</b> <i>Hordium leporinum</i></p>	Category RU1 Primary Production Land – cropping. Frequent ploughing/tilling of soil and application of herbicides/pesticides.	PCT 0 Recently slashed
<p>12</p> <p>No Photo Available</p>	07/02/2025	<p><b>Dominant Canopy:</b> <i>Eucalyptus blakelyi</i>  <b>Sub-dominant Canopy:</b> <i>Eucalyptus cinerea</i></p>	N/A	<p><b>Dominant Ground Cover:</b> <i>Phalaris aquatica</i>  <b>Sub-dominant Ground Cover:</b> <i>Bromus catharticus</i>  <b>Other Ground Cover:</b> <i>Brassica x napus</i></p>	Category RU1 Primary Production Land –grazing. Trampling from grazing livestock herds	PCT 0 Ground Cover is >80% non-native coverage.
<p>13</p> 	07/02/2025	<p><b>Dominant Canopy:</b> <i>Salix spp.</i></p>	<p><b>Dominant Mid:</b> <i>Cirsium vulgare</i></p>	<p><b>Dominant Ground Cover:</b> <i>Phalaris aquatica</i>  <b>Sub-dominant Ground Cover:</b> <i>Brassica x napus</i>  <b>Other Ground Cover:</b> <i>Rumex acetosa</i></p>	Category RU1 Primary Production Land –grazing. Trampling from grazing livestock herds	PCT 0 Patches of calf-high non-native grass



Rapid Data Point ID & Photo	Date Collected	Floristics		Current/Historic Land Usage	Comments
<b>14</b> 	08/02/2025	N/A	N/A	<b>Dominate Ground Cover:</b> <i>Phalaris aquatica</i> <b>Sub-dominate Ground Cover:</b> <i>Cirsum vulgare</i>	Category RU1 Primary Production Land –grazing. Trampling from grazing livestock herds  PCT 0 Currently grazed, other ground species too hard to ID. Patchy, short stands of non-native grass, soil compacted from trampling by livestock.
<b>15</b> 	08/02/2025	<b>Dominate canopy:</b> <i>Robinia pseudoacacia</i>	N/A	<b>Dominate Ground Cover:</b> <i>Bromus catharticus</i> <b>Sub-dominate Ground Cover:</b> <i>Cirsum vulgare</i> <b>Other Ground Cover:</b> <i>Amarantha viridis</i>	Category RU1 Primary Production Land –grazing. Trampling from grazing livestock herds  PCT 0 Stick and mud nests in trees. Patchy, short stands of non-native grass, sandy soil
<b>16</b> 	20/01/2025	N/A	N/A	<b>Dominate Ground Cover:</b> <i>Paspalum dilatatum</i> <b>Sub-dominate Ground Cover:</b> <i>Phalaris aquatica</i> <b>Other Ground Cover:</b> <i>Hypochaeris radicata</i>	Category RU1 Primary Production Land. Ingress/Egress/roadside – Frequent vehicle movement and throughfare, mowing for maintenance  PCT 0 Recently mowed. Entrance maintained for 'For Sale' sign and turning.
<b>17</b> 	20/01/2025	N/A	N/A	<b>Dominate Ground Cover:</b> <i>Phalaris aquatica</i>	Category RU1 Primary Production Land. Ingress/Egress/roadside – Frequent vehicle movement and throughfare, mowing for maintenance  PCT 0 Area recently mowed. Entrance to alternative property appears as regularly maintained. Cannot ID any other species due to recent mow, appear all Phalaris.



Rapid Data Point ID & Photo	Date Collected	Floristics			Current/Historic Land Usage	Comments
						
<p><b>18</b></p> 	20/01/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Paspalum dilatatum</i>  <b>Sub-dominate Ground Cover:</b> <i>Phalaris aquatica</i>  <b>Other Ground Cover:</b> <i>Rumex crispus</i></p>	<p>Category RU1 Primary Production Land – cropping. Frequent ploughing/tilling of soil and application of herbicides/pesticides. Ingress/Egress/roadside – Frequent vehicle movement and throughfare</p>	<p>PCT 0                      Patchy, short stands of non-native grass, soil compacted by vehicle movement</p>
<p><b>19</b>                      No photo available</p>	20/01/2025	N/A	N/A	<p><b>Dominate Ground Cover:</b> <i>Bromus spp.</i>  <b>Sub-dominate Ground Cover:</b> <i>Medicago sativa</i>  <b>Other Ground Cover:</b> <i>Lepidium spp.</i></p>	<p>Category RU1 Primary Production Land – cropping. Frequent ploughing/tilling of soil and application of herbicides/pesticides.</p>	<p>PCT 0</p>



## APPENDIX C - DETAILED PCT DESCRIPTION

PCT ID	3376	Representative PCT Photo
PCT name	<i>Southern Tableland Grassy Box Woodland</i>	
Vegetation formation	Grassy Woodlands	
Vegetation class	Southern Tableland Grassy Woodlands;	
Per cent cleared value (%)	92.96%	
Associated TECs	<p><i>White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions.</i></p> <p><i>White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland.</i></p>	
Extent within Subject Land (ha)	TOTAL: 0.48 ha	
Key diagnostic species	<p><b>Upper Stratum Species:</b> <i>Eucalyptus blakelyi</i></p> <p><b>Mid Stratum Species:</b> No diagnostic mid stratum species present</p> <p><b>Ground Stratum Species:</b> <i>Chloris truncata</i></p>	
Alternative PCTs considered	<ul style="list-style-type: none"> <li>• PCT 3366 – <b>Eliminated due to the upper stratum species not aligning with the BioNet VIS PCT description.</b> This PCT requires a frequent occurrence of <i>Eucalyptus viminalis</i> and <i>Eucalyptus bridgesiana</i>.</li> <li>• PCT 3369 - <b>Eliminated due to vegetation description not aligning with the BioNet VIS PCT description.</b> This PCT is described as a moist grassy sclerophyll forest found on sheltered slopes. With a canopy frequently containing <i>Eucalyptus dives</i> and <i>Eucalyptus darlympleana</i>.</li> <li>• PCT 3387 - <b>Eliminated due to vegetation description not aligning with the BioNet VIS PCT description.</b></li> </ul>	





PCT ID	3376	Representative PCT Photo
<p><b>Justification</b></p>	<p>This PCT is described as occurring on along intermittent drainage lines in gentle valley floors.</p> <p>The site was determined to support <b>PCT 3376</b> based on the presence of characteristic species identified in the upper and ground strata, as outlined above. These species were confirmed on-site through vegetation validation mapping, which incorporated Rapid Data Points (RDPs) and BAM plot floristic data. The data was then input into the BioNet Vegetation Classification Excel PCT Description Tool, along with relevant attributes such as IBRA region, IBRA subregion, Mitchell landscape, vegetation formation, and LGA, to filter PCTs consistent with the site's location.</p> <p>This process identified <b>PCT 3376</b> as the only viable match. However, given the degraded condition of the site, additional PCTs were considered without applying ground stratum species filters. This broader analysis identified <b>PCT 3366</b>, <b>PCT 3369</b>, <b>PCT 3376</b>, and <b>PCT 3387</b> as potential matches. Upon further review:</p> <ul style="list-style-type: none"> <li>• <b>PCT 3387</b> and <b>PCT 3369</b> were excluded due to their BioNet VIS PCT location descriptions not aligning with the site locality.</li> <li>• <b>PCT 3366</b> was excluded based on the lack of alignment between upper stratum species and those identified on-site.</li> </ul> <p>The final selection of <b>PCT 3376</b> was further supported by its proximity to mapped occurrences of this PCT in the NSW State Vegetation Type Map (SVTM).</p>	
<p><b>Vegetation zones</b></p>	<p>3376_low</p>	





## APPENDIX D – THREATENED ECOLOGICAL COMMUNITY JUSTIFICATION

PCT ID	PCT Name	Vegetation Zone ID	Condition	EPBC Act TEC Name	EPBC Act listing	BC Act TEC Name	BC Act Listing	Justifications
3376	Southern Tableland Grassy Box Woodland	3376_low	Low	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	CE	<p><b>BC Act - Location and physical environment:</b> The IBRA bioregion is the South-Eastern Highlands where the CE is known to occur</p> <p><b>Structure and composition:</b> To align a vegetation patch with the TEC, floristic assemblages and occurrences within the patch is a key consideration. In this case, the presence of <i>Eucalyptus blakelyi</i>, (<b>Table B2</b>) which is a defining characteristic of the community has aligned the patch to the TEC. The presence of this species alone is considered sufficient to meet the species assemblage requirements for aligning the vegetation patch with the TEC, as outlined in the <i>Final Determination – White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions</i> (NSW TSSC, 2020).</p> <p><b>EPBC Act – Location and physical environment:</b> The IBRA bioregion is the South Eastern Highlands where the CE is known to occur</p> <p><b>Structure and composition:</b> The <i>Approved Conservation Advice for the White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland</i> (DCCEEW, 2023) outlines in section 2.1 several parameters required to align the TEC with a vegetation patch. However, the floristic assemblages do not meet these parameters, particularly the requirement for a predominantly native understorey (at least 50% of the perennial vegetation cover in the ground layer is made up of native species), which is absent in the area, as identified in <b>Table B2</b>.</p> <p>Consequently, considering the Key Diagnostic features outlined by DCCEEW, 2023, the patch is not characteristic of the community.</p>



## APPENDIX E. SAI ASSESSMENT OF BC ACT-LISTED CEEC BOX GUM WOODLAND

Current Status	
1. Evidence of reduction in geographic distribution (Principle 1, clause 6.7(2)(a) BC Regulation) as the current total geographic extent of the TEC in NSW AND the estimated reduction in geographic extent of the TEC since 1970 (not including impacts of the proposal)	Reduction in the distribution of the TEC exceeds 90% when averaged across the entire range of the community.
2. Extent of reduction in ecological function for the TEC using evidence that describes the degree of environmental degradation or disruption to biotic processes (Principle 2, clause 6.7(2)(b) BC Regulation) indicated by: i. change in community structure ii. change in species composition iii. disruption of ecological processes iv. invasion and establishment of exotic species v. degradation of habitat, and vi. fragmentation of habitat	The has been a severe decrease in the area covered by Box Gum Woodland, primarily as a result of clearing or manipulation for grazing; less than 10% of the community is likely to have avoided the long-term impacts of pastoralism. There has been a significant loss of native ground and understorey species even if the canopy trees remain, as woodlands are thinned to allow grazing. As a further result of grazing, exotic pasture species have been introduced as livestock feed. Remnant patches are exposed to grazing pressure from the introduced rabbit.
3. Evidence of restricted geographic distribution (Principle 3, clause 6.7(2)(c) BC Regulation), based on the TEC's geographic range in NSW according to the: i. extent of occurrence ii. area of occupancy, and iii. number of threat-defined locations	The Extent of Occurrence (EOO) in NSW is 702,800km <sup>2</sup> and the Area of Occupancy (AOO) in NSW is 151,100km <sup>2</sup> .
4. Evidence that the TEC is unlikely to respond to management (Principle 4, clause 6.7(2)(d) BC Regulation)	NA - Data Deficient
Impact Assessment	
1. The impact on the geographic extent of the TEC (Principles 1 and 3) by estimating the total area of the TEC to be impacted by the proposal: i. in hectares, and ii. as a percentage of the current geographic extent of the TEC in NSW.	i) 0.48 ha ii) <1%
2. The extent that the proposed impacts are likely to contribute to further environmental degradation or the disruption of biotic processes (Principle 2) of the TEC by: i. estimating the size of any remaining, but now isolated, areas of the TEC; including areas of the TEC within 500 m of the development footprint or equivalent area for other types of proposals ii. describing the impacts on connectivity and fragmentation of the remaining areas of TEC measured by: <ul style="list-style-type: none"> <li>distance between isolated areas of the TEC, presented as the average distance if the remnant is retained AND the average distance if the remnant is removed as proposed, and</li> <li>estimated maximum dispersal distance for native flora species characteristic of the TEC, and</li> <li>other information relevant to describing the impact on connectivity and fragmentation, such as the area to perimeter ratio for remaining areas of the TEC as a result of the development</li> </ul> iii. describing the condition of the TEC according to the vegetation integrity score for the relevant vegetation zone(s) (Section 4.3). The assessor must also include the relevant composition, structure and function condition scores for each vegetation zone.	i) NA - no isolated areas of the TEC will be created. The area to be developed is itself a patch within PCT 0 ii) NA - no isolated areas of the TEC will be created. The area to be developed is itself a patch within PCT 0 iii) The TEC within the subject land (3376_low) has a VIS of 6.7. The composition score is 3.3, the structure score is 3.1, and the function score is 29.7.
Assessment outcome:	SAII not likely

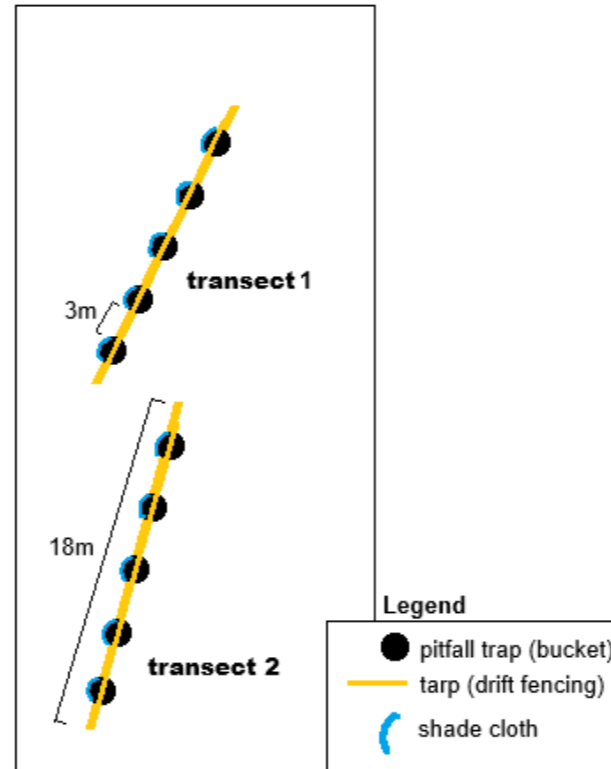


## APPENDIX F – PITFALL TRAP PROCEDURE

Property	Description
Deployment Duration	The Pitfall Traps were deployed for a total of 10 days over two weeks
Deployment Date	21/10/2024 to 25/10/2024 and 28/10/2024 to 01/11/2024
Deployment Location	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> </div> <div style="width: 45%;"> <p><b>Streamlined BDAR</b></p> <p><b>Figure D1. Pitfall Trap Locations</b></p> <p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Subject Land</li> <li><span style="color: yellow; font-size: 1.2em; margin-right: 5px;">→</span> Pit Fall Trap Transect</li> <li><b>BAM Plot</b></li> <li><span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px; margin-right: 5px;"></span> BHTS1</li> <li><b>Plant Community Type</b></li> <li><span style="background-color: #d4edda; border: 1px solid #c3e6cb; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> PCT 3376 (Low)</li> </ul> <p>Datum: GDA202 Version: A - A4 Date: 8/08/2025 Author: AD Reference: ER189</p> <p><b>EcoResolve</b> Environment &amp; Design</p> </div> </div> <p>Pitfall traps were set up along two transects within the 0.40 ha planted shelter belt</p>
<p>Location: Brewongle, NSW Purpose: S-BDAR Client: Edify Energy Pty Ltd (Edify) C/O Kleinfelder Australia Pty Ltd Reference: ER189</p>	



**Transect Arrangement**



10 pitfall traps were set up 3m apart along two 18m transects (five traps per transect) This density of traps is above that recommended by the NSW Government Department of Planning and the Environment (DPE) Threatened Reptile survey guidelines for pitfall traps, which recommends 18 traps per 50 ha (DPE, 2022).

**Trap line and pitfall traps**



The pitfall traps were installed along the drift fencing transects as per the threatened reptile survey guidelines (DPE, 2022):

- Bucket dimensions – 10L (26cm x 26cm x 27cm)
- Buckets were buried to the rim, with 50cm of the bucket opening on either side of the trap line
- The trap line was 20cm high (BGED has a snout-vent length of 7cm)
- Shade cloths were installed over each trap to provide sun protection
- 

**PCT** 3376 - Southern Tableland Grassy Box Woodland  
**Vegetation Zone** 3376\_low.



<b>Vegetation</b>	BAM plot BHTS1 is located within the planted shelter belt (Figure D1). The ground layer of this area is comprised primarily of exotic grasses <i>Phalaris aquatica</i> (90% cover) and <i>Bromus catharticus</i> (50% cover). There are a number of stunted and unhealthy <i>Eucalyptus blakelyi</i> individuals in the 'canopy' (only ~2m in height).
<b>Soil Conditions</b>	Soil very compacted with rocks embedded in the surface. No cracks or hollow – soil too compacted (required an auger to dig holes for pitfall traps)
<b>Trap Checks</b>	Pitfall traps were checked twice daily.
<b>Average min and max temperature over the trap deployment period (°C)</b>	5.6 °C min, 13 °C max
<b>Average daily rainfall (mm) and relative humidity (%) (3pm)</b>	0mm rainfall, 10% humidity
<b>Max wind speed (km/h)</b>	56 km/h



## APPENDIX G - BIODIVERSITY CREDIT REPORT





## BAM Credit Summary Report

### Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00053619/BAAS17065/24/00053623	ER189 Brewongle Solar Farm S-BDAR	28/10/2024
Assessor Name	Report Created	BAM Data version *
Arne Henry Bishop	27/02/2026	Current classification (live - default) (80)
Assessor Number	BAM Case Status	Date Finalised
BAAS17065	Finalised	17/04/2025
Assessment Revision	BOS entry trigger	Assessment Type
0	BOS Threshold: Area clearing threshold	Part 4 Developments (Small Area)

\* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

### Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	TEC name	Current Vegetation integrity score	Change in Vegetation integrity (loss / gain)	Area (ha)	Sensitivity to loss (Justification)	Species sensitivity to gain class	BC Act Listing status	EPBC Act listing status	Biodiversity risk weighting	Potential SAIL	Ecosystem credits
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Assessment Id  
00053619/BAAS17065/24/00053623

Proposal Name  
ER189 Brewongle Solar Farm S-BDAR

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## BAM Credit Summary Report

### Southern Tableland Grassy Box Woodland

1	3376_Low	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	6.7	6.7	0.48	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	0
											<b>Subtotal</b>	<b>0</b>
											<b>Total</b>	<b>0</b>

### Species credits for threatened species

Vegetation zone name	Habitat condition (Vegetation Integrity)	Change in habitat condition	Area (ha)/Count (no. individuals)	Sensitivity to loss (Justification)	Sensitivity to gain (Justification)	BC Act Listing status	EPBC Act listing status	Potential SAIL	Species credits

