

Calala Battery Energy Storage System - Modification

Biodiversity Development Assessment Report Addendum

Final Report

Prepared for Prepared for Equis Energy (Australia) Projects (Ngumi 4) Pty Ltd as trustee
for the Equis Energy (Australia) Ngumi 4 Holding Trust

11 September 2025

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- NSW Department of Primary Industries for access to indicative mapping of freshwater threatened species and fish populations.

Biosis staff involved in this project were:

- Brendon True (reporting and fieldwork)
- Lauren Harley (mapping)
- Mitch Palmer (quality assurance)

Biosis acknowledges the Aboriginal and Torres Strait Islander peoples as Traditional Custodians of the land on which we live and work.

We pay our respects to the Traditional Custodians and Elders past and present and honour their connection to Country and ongoing contribution to society.

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Definitions

Assessment Area	All land within 500 m of a linear development or 1500 m of a site based development
BAM	NSW Biodiversity Assessment Method
BAM-C	BAM Calculator
BC Act	<i>Biodiversity Conservation Act 2016</i>
BCS	Biodiversity Conservation and Science
BDAR	Biodiversity Development Assessment Report
BOS	Biodiversity Offsets Scheme
CEEC	Critically Endangered Ecological Community
Cth DCCEEW	Australian Government Department of Climate Change, Energy, the Environment and Water
Development footprint	The area of land that is directly impacted by the proposal
DP	Deposited Plan
DPHI	Department of Planning, Housing and Infrastructure
DPI	NSW Department of Primary Industries
DPIE	Department of Planning, Infrastructure and Environment (now DPHI)
Ecosystem credits	A measurement of the value of EECs, CEECs and threatened species habitat for species that can be reliably predicted to occur with PCT. Ecosystem credits measure the loss in biodiversity values at a development
Ecosystem credit species	Threatened species whose occurrence can generally be predicted by vegetation surrogates and/or landscape features, or that have a low probability of detection using targeted surveys. A targeted survey is not required to identify or confirm the presence of ecosystem credit species.
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
GIS	Geographic Information System
IBRA	Interim Biogeographic Regionalisation of Australia
LGA	Local Government Area
Locality	Area located within 10 kilometres radius from the subject land
MNES	Matters of National Environmental Significance protected by a provision of Part 3 of the EPBC Act
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
PCT	Plant Community Type
SAII	Serious and Irreversible Impact
Species credits	A class of biodiversity credits required for the impact on threatened species that cannot be reliably predicted to use an area of land based on habitat surrogates

Species credit species	Threatened species for which vegetation surrogates and/or landscape features cannot reliably predict the likelihood of their occurrence or components of their habitat. A targeted survey or an expert report is required to confirm the presence of these species on the subject land. Alternatively, the proponent may elect to assume the species is present for development/clearing projects only
SSD	State Significant Development
Subject land	A buffered area beyond the development footprint including areas of any potential indirect and prescribed impacts., based on biodiversity values present, to which the BAM has been applied
TEC	Threatened Ecological Community
TBDC	Threatened Biodiversity Data Collection

Certification and Declarations

I certify that this report has been prepared based on the requirements of, and information provided under the Biodiversity Assessment Method (DPIE 2020) and s6.15 of the *Biodiversity Conservation Act 2016*.

In preparing this assessment I have acted in accordance with the Accredited BAM Assessor Code of Conduct.

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

Signature:



Date:

11 September 2025

**BAM Assessor Accreditation
Number:**

BAAS18155

1 Introduction

1.1 Project background

Biosis Pty Ltd was previously commissioned by Equis Energy (Australia) Projects (Ngumi 4) Pty Ltd as trustee for the Equis Energy (Australia) Ngumi 4 Holding Trust (the proponent), to undertake a biodiversity assessment to support an Environmental Impact Statement (EIS) for the Calala Battery Energy Storage System (BESS) project (the Project). This included the preparation of a Biodiversity Development Assessment Report (BDAR) (Biosis 2024). The project was approved by the NSW Minister for Planning 26 June 2024 (SSD-52786213).

The purpose of this BDAR Addendum Report is to assess impacts to biodiversity as a result of modifications to the approved project proposed by the proponent (collectively termed the 'proposed modifications' for this report), including the following changes (detailed further in Section 3.1):

- Three turning bays (20 m x 25 m, 20 m x 20 m and 30 m x 19 m) are proposed adjacent to the approved transmission line alignment through Lots 3 and 4 DP244399.
- New access points from Burgmanns Lane.
- Additional works within the Tamworth substation land (Lot 6 DP219993) (Lot 6 DP219993).
- A civil works area within Lot 6 DP219993.
- Temporary construction laydown, stockpile and parking areas within the Tamworth substation land.
- Site boundary reduction

This BDAR Addendum has been prepared to assess the potential changes in the project's biodiversity impacts as a result of the proposed modifications. Assessments have been undertaken in accordance with the NSW *Biodiversity Conservation Act 2016* (BC Act) and BAM to address expected changes to direct, indirect and prescribed impacts, as well as an assessment of changes to impacts associated with Matters of National Environmental Significance (MNES) listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). As this assessment is a modification to the existing Project approval, it considers impacts in relation to legislation current at the time the approval was granted and does not consider legislative changes implemented beyond this date.

This BDAR Addendum is to be read in conjunction with the Project's approved BDAR (Biosis 2024). This BDAR Addendum references this BDAR where additional relevant background information can be reviewed, and information contained in the BDAR is generally not duplicated herein.

Figure 1 displays the location of the project modifications and the modified project impact area.

1.2 Scope of assessment

The objectives of this report are to:

- Calculate the change in direct, indirect, prescribed and cumulative impacts resulting from the modified impact area. Address the BAM (DPIE 2020) and the Biodiversity Offset Scheme (BOS) in respect to these changes, as required under the BC Act.

- Identify how the proponent has implemented the *avoid and minimise principles* with regards to modified impacts to biodiversity resulting from the impact area modifications.
- Identify any additional impacts that could be characterised as serious and irreversible.
- Provide the additional biodiversity offset obligation for the project required to compensate for any unavoidable biodiversity impacts resulting from the proposed modifications.
- Consider and assess the modified project in accordance with other relevant legislation such as the EPBC Act.

1.3 The subject land, development footprint and assessment area

The terms subject land, development footprint, and assessment area are used throughout this report and are defined below.

- The development footprint comprises that previously assessed within the Project BDAR plus that of the modifications.
 - The term development footprint may be used in context to refer to that of the approved Project only.
- The subject land comprises the area of on-ground assessment for this addendum report and where the BAM has been applied. The subject land has been revised to that used in the Project BDAR to account for the proposed modifications. The subject land is located in the Tamworth Council Local Government Area (LGA) and the North West Local Land Services (LLS) Region and is zoned RU4: Primary Production Small Lots under the Tamworth Local Environmental Plan 2010 (LEP).
 - The term subject land may be used in context to refer to that of the Project BDAR.
- The assessment area includes the subject land and the area of land within 1500 metres surrounding the subject land.
- Category 1 exempt land - within the meaning of Part 5A of the *Local Land Services Act 2013* (LLS Act), has been mapped across significant portions of the subject land, within Lots 16-17 DP 629969 and Lot 6 DP219993.
- The proposed modifications, as described in Section 1.1.

1.4 Sources of information

In order to provide a context for the assessment area, records of flora and fauna from within 10 kilometres (the locality) were collated from the following databases and datasets were reviewed:

- Commonwealth Department of Climate Change, Energy, the Environment and Water (Cth DCCEEW) Protected Matters Search Tool for matters protected by the EPBC Act.
- NSW BioNet - the database for the Atlas of NSW Wildlife, NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW), for species, populations and ecological communities listed under the BC Act.
- NSW BAM Calculator (BAM-C).
- Biodiversity values map (NSW DCCEEW 2025a).
- Native vegetation regulatory map.
- BAM Important Areas maps (NSW DCCEEW 2025b).

- PlantNET (The Royal Botanic Gardens and Domain Trust).
- BirdLife Australia, the New Atlas of Australian Birds 1998-2015.

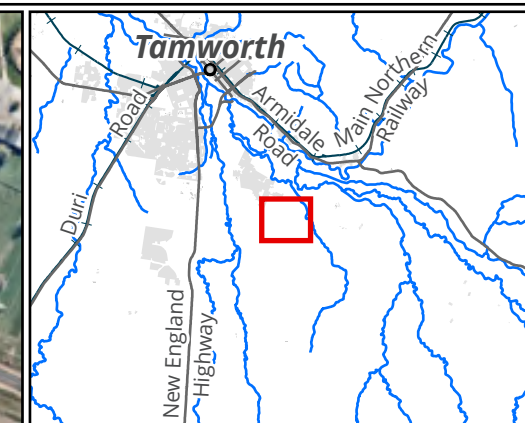
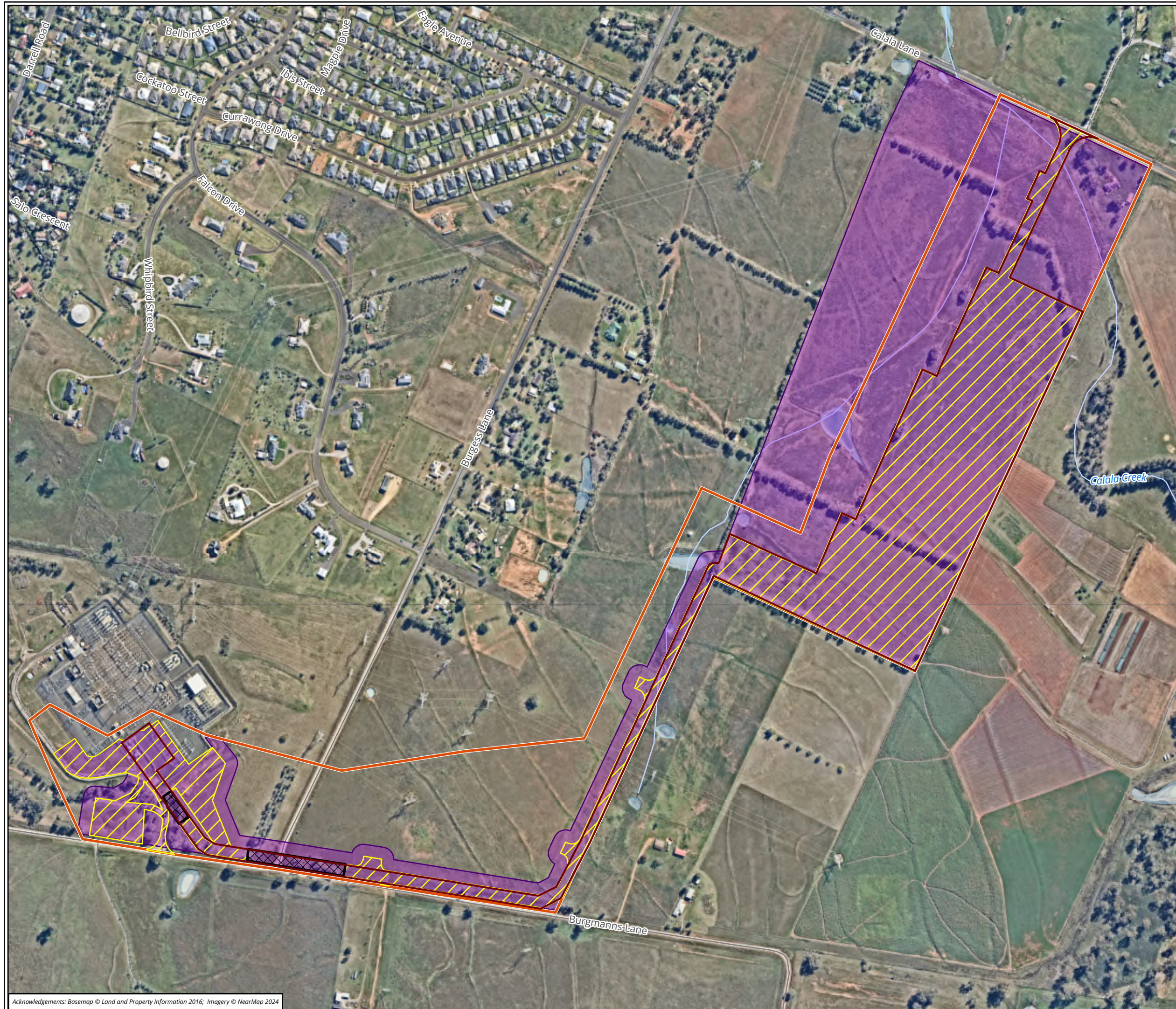
Other sources of biodiversity information relevant to the assessment area were sourced from:

- The NSW Plant Community Types (PCTs), as held within the BioNet Vegetation Classification (Veg-C) database (NSW DCCEEW 2025c).

The following reports were also reviewed and relied on to provide additional information:

- Ecological constraints and opportunities assessment, 474 Calala Lane, Calala NSW (Biosis 2022).
- Biodiversity Development Assessment Report, Calala Battery Energy Storage System (Biosis 2024).
- Scoping Report - Calala Battery Energy Storage System (Mecone 2022).
- Environmental Impact Statement - Calala Battery Energy Storage System (Mecone 2023).
- Environmental Impact Statement - Amendment Report - Calala Battery Energy Storage System (Mecone 2024).

Basemap data was obtained from NSW Land and property information (LPI) 1:25,000 digital topographic databases with cadastral data obtained from LPI digital cadastral database.



Legend

- Subject land (Approved site boundary)
- Modified site boundary
- Approved development footprint
- Modified development footprint
- Underground

Figure 1 Subject land

0 50 100 150 200

Metres

Scale: 1:5,800 @ A3

Coordinate System:

GDA2020 MGA Zone 56



Matter: 40128, Date: 05 September 2025,
Prepared by: JB, Prepared for: BT, Last edited by: jbeckius
Location: P:\40100s\40128\Mapping\40128_Calala_BESS_BDAR_Mod_F1-4.aprx
Layout: 40128_F1_SubjectLand

2 Methods

2.1 Field Investigation

Field investigation of the proposed modification area was undertaken on 1 November 2024 by Biosis Ecologist and Accredited Assessor Brendon True (BAAS18155). Survey methods were in accordance with the BAM, and consistent with those described in the BDAR. Survey methods included random meander and BAM plot data collection (1 plot).

2.2 Updated PCTs and Benchmarks

The Plant Community Types (PCTs) included in the current assessment of the impacts associated with the proposed modifications remain consistent with the PCTs included in the BDAR (Biosis 2024). Updated PCT benchmarks (Version 1.5) were introduced into the BAM-C on 24 October 2024. However, these changes did not affect the PCTs assessed within the Project BDAR or this addendum report.

2.3 Other relevant calculation updates

The percentage of native vegetation cover value in the BAM-C was recalculated based on the proposed project modifications. As was the patch size for each vegetation zone. Further details are provided in Section 3.2.2.

2.4 BAM assessment requirements

This BDAR Addendum Report has been prepared on the basis of the requirements of, and information provided under the BAM (DPIE 2020) and s6.15 of the NSW BC Act, and are certified by BAM Accredited Assessor Brendon True (BAAS18155).

3 Results

3.1 Proposed modifications

3.1.1 Additional turning bays (3)

Three turning bays (20 m x 25 m, 20 m x 20 m and 30 m x 19 m) are proposed adjacent the approved transmission line alignment through Lots 3 and 4 DP244399 (Figure 1). Vegetation at the proposed locations will be impacted and complete removal has been assumed for this assessment.

3.1.2 New access points – Burgmanns Lane

A new access point off Burgmanns Lane into Lot 4 DP244399 is proposed. A small area (approximately 15 x 4 m) of the associated road reserve will be impacted.

An additional site access point from Burgmanns Lane utilising the existing access road to the Tamworth substation is also proposed.

3.1.3 Additional works within the Tamworth substation land (Lot 6 DP219993) (Lot 6 DP219993)

The proposed civil works area within Lot 6 DP219993 is situated on land previously assessed as Category 1 – exempt land (Category 1 land) as defined Part 5A of the *Local Land Services Act 2013* (LLS Act). Therefore, no consideration of impacts, other than prescribed impacts, is required in accordance with clause 6.1 of the BC regulation. A minor increase to the retarding basin capacity on substation land will be required.

Temporary construction laydown, stockpile and parking areas within the substation utilises an area that was previously disturbed and remediated in 2022 relating to works to the substation. This modification will result in temporary disturbance to the vegetation present.

3.1.4 Minor correction to boundaries

The project Site boundary has been repositioned to align more closely with the Development footprint while maintaining an additional buffer for weed control and maintenance, consistent with best practice environmental management. The BESS facility and transmission line have been micrositied to align with a title re-establishment survey. Consequently, a minor net-reduction to vegetation impacts within the transmission line corridor has resulted.

3.2 Landscape context

3.2.1 Landscape features

Landscape features associated with the project are provided in detail in the BDAR (Biosis 2024). As these features remain largely consistent with the current assessment, descriptions have not been duplicated herein.

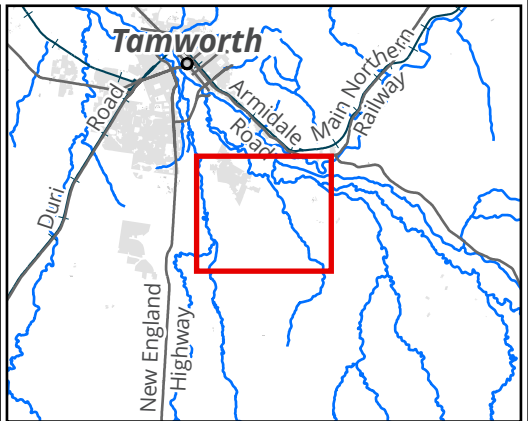
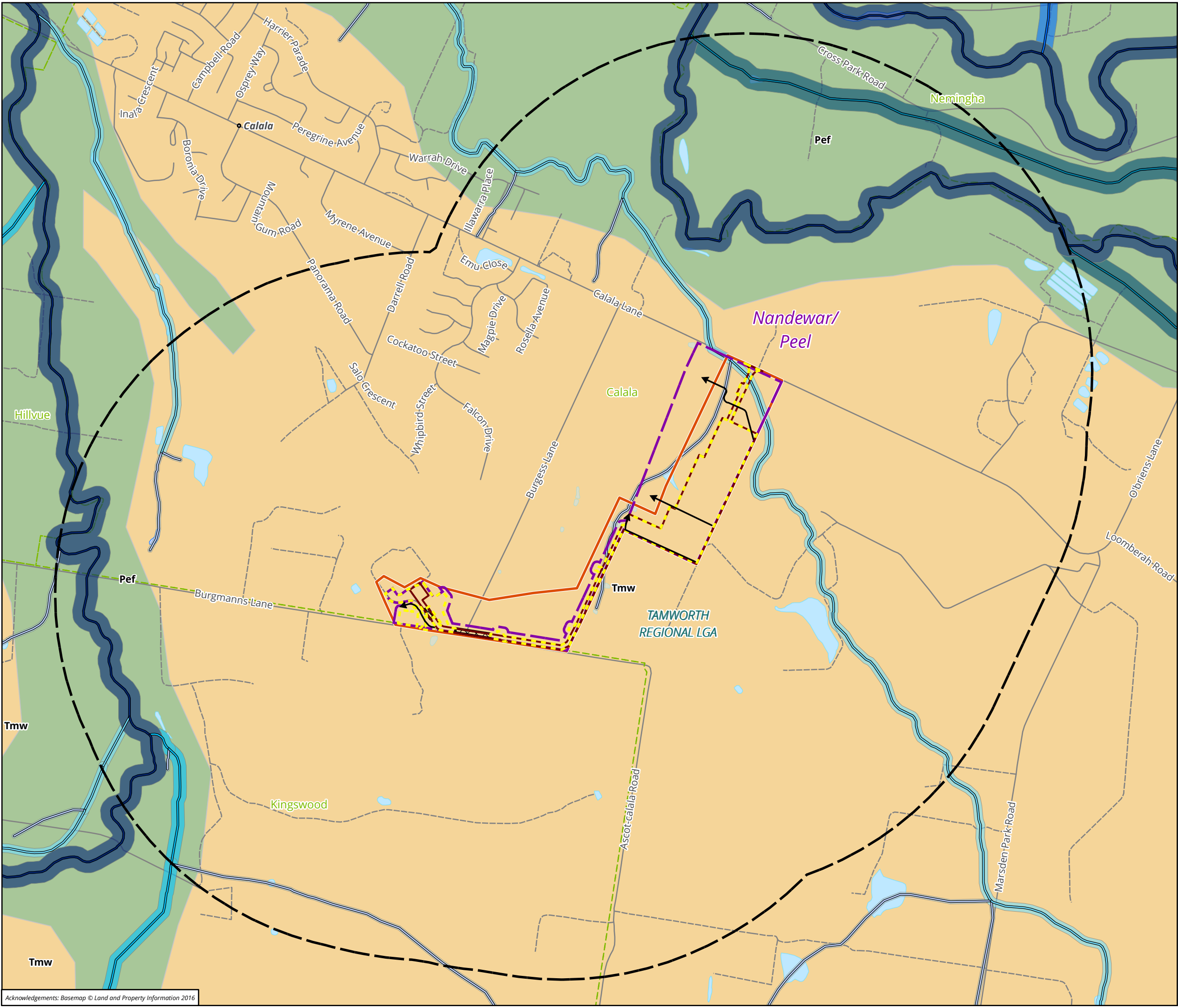
3.2.2 Site context

The site context was assessed using both desktop (GIS) and site-based methods implementing the BAM (DPIE 2020). The habitats and vegetation within the impact area and impact assessment area are a small subset of those in the wider landscape. Table 1 outlines the results of the assessment of site context.

Table 1 Native vegetation cover (%) within the 1500-metre buffer and relevant patch sizes

Site context attribute	Peel IBRA subregion
Native vegetation cover (%)	16.9 % (>10-30%)
Patch size classes relevant to the project	>100 ha

A revised site map, location map and native vegetation cover are provided below.



Legend

- Subject land (Approved site boundary)
- Modified site boundary
- Approved development footprint
- Modified development footprint
- Underground
- Assessment area
- Habitat connectivity

Strahler stream order

- 1
- 2
- 3
- 4
- 6
- 7

Strahler stream order buffers

- 1
- 2
- 3
- 4
- 6
- 7

Mitchell landscapes

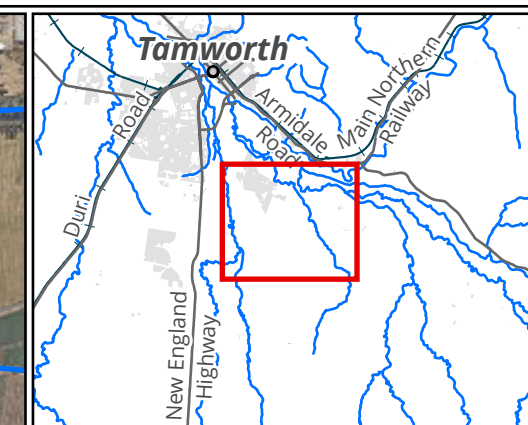
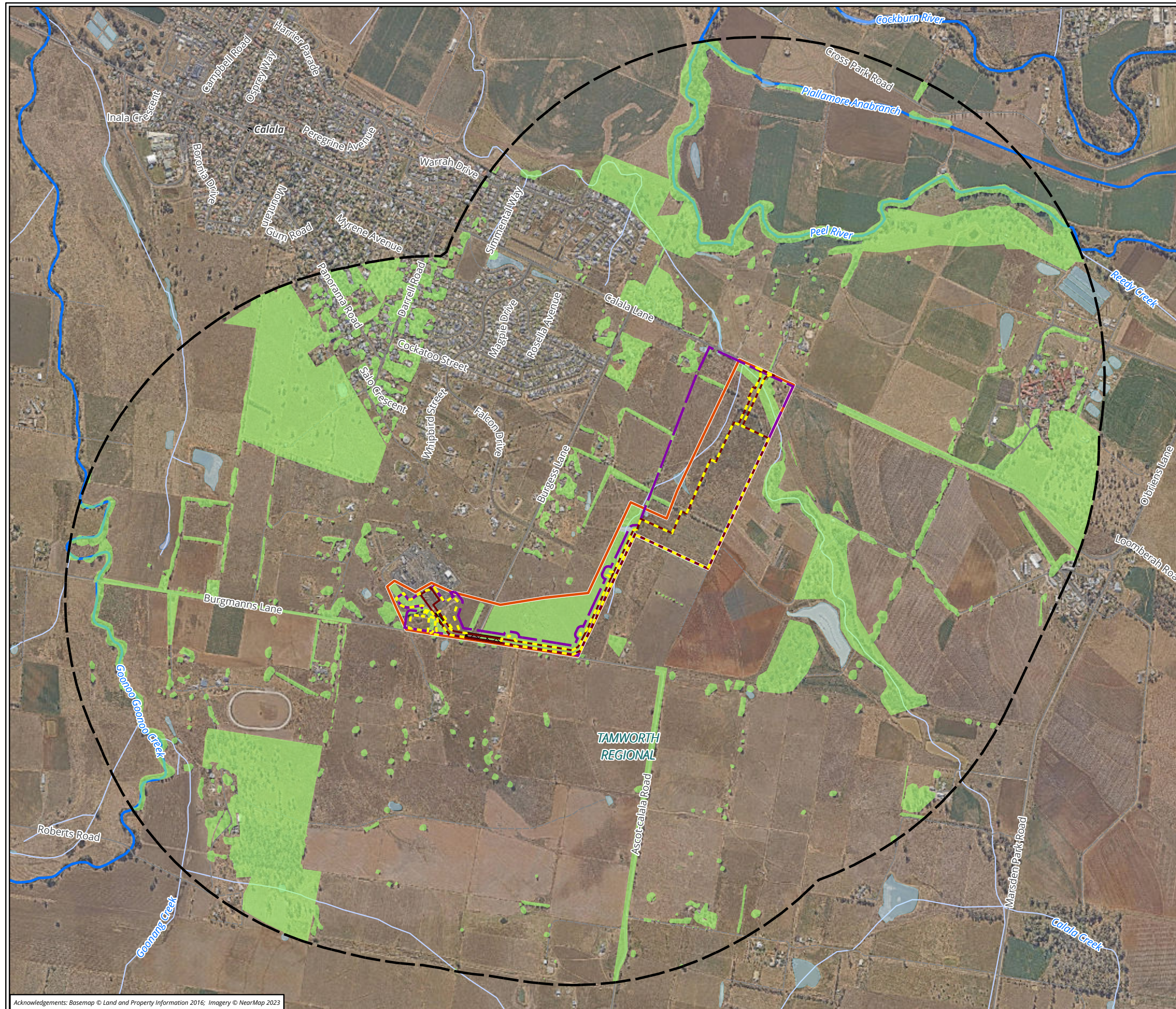
- Pef, Peel Channels and Floodplain
- Tmw, Tamworth - Keepit Slopes and Plains

Figure 3 Location map

0 200 400 600
Metres
Scale: 1:16,000 @ A3
Coordinate System:
GDA2020 MGA Zone 56

biosis
APEM Group

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Layout: 40128_F3_Location



Legend

- Subject land (Approved site boundary)
- Modified site boundary
- Approved development footprint
- Modified development footprint
- Underground
- Assessment area
- Native vegetation

Figure 4 Native vegetation cover

0 200 400 600

Metres

Scale: 1:16,000 @ A3

Coordinate System:

GDA2020 MGA Zone 56



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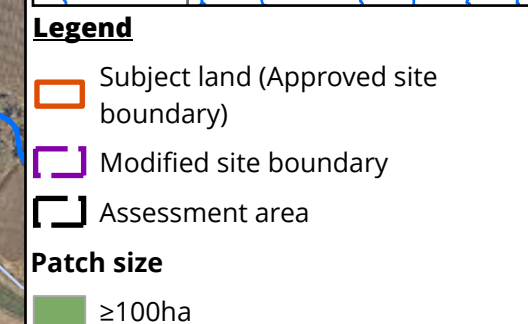
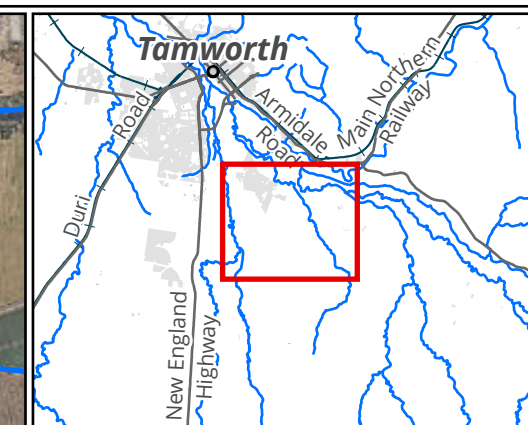
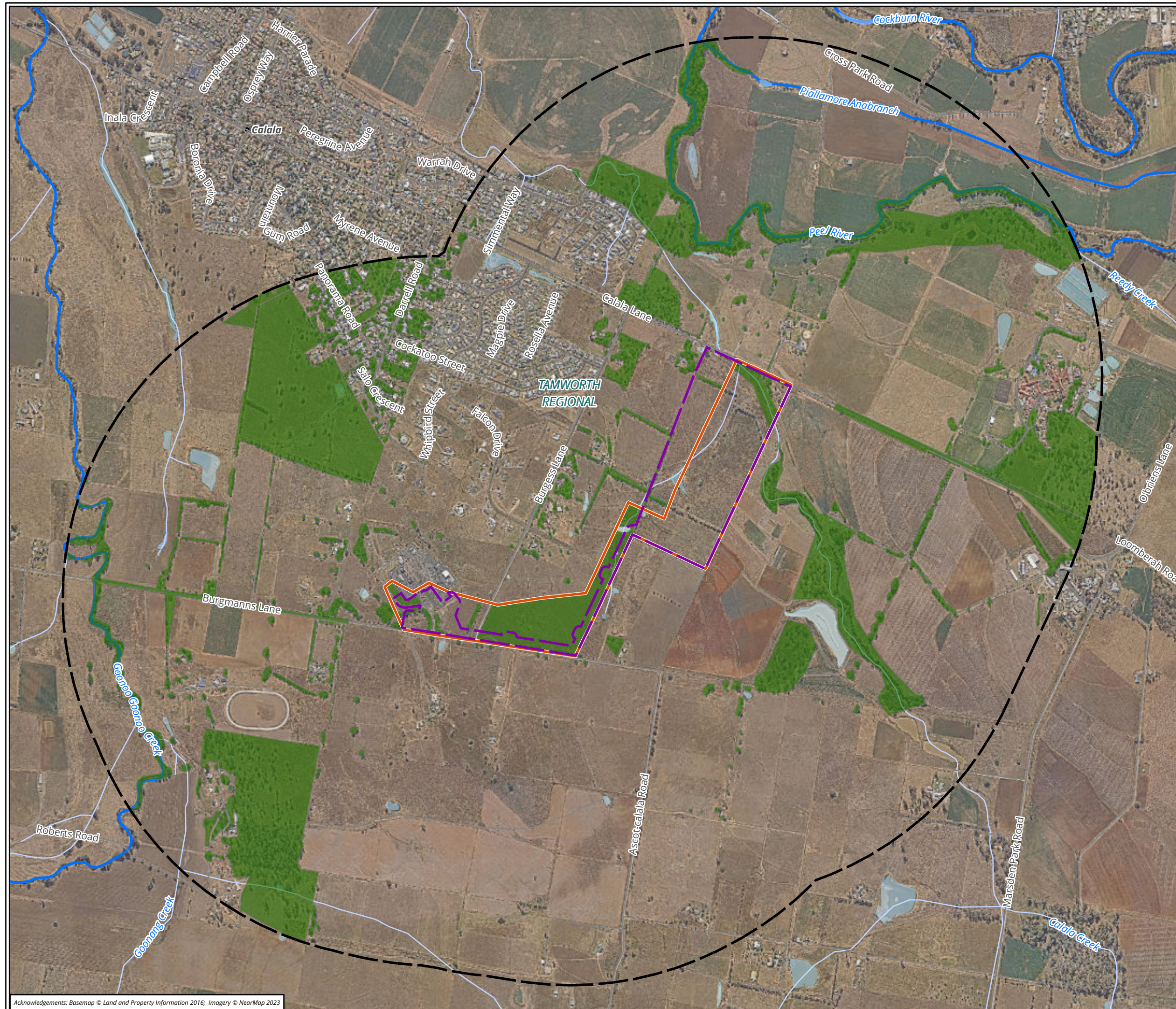
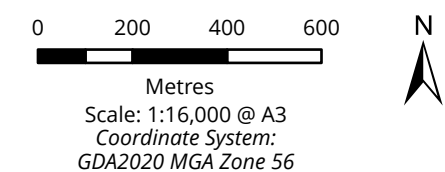


Figure 5 Patch size locations



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 Location: P:\40100s\40128\Mapping\40128_Calala_BESS_BDAR_Mod_F5-10.aprx
 Layout: 40128_F5_PatchSize

3.3 Plant community types

Two PCTs were found to occur within the subject land of the Project BDAR:

- PCT 84: River Oak - Rough-barked Apple - red gum - box riparian tall woodland (wetland) of the Brigalow Belt South Bioregion and Nandewar Bioregion.
- PCT 599: Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion.

Of these, PCT 599 was also found to occur within the area subject to the proposed modifications. PCT 599 was found to be in two condition states (vegetation zones), 599_Woodland and 599_DNG within the subject land of the Project BDAR. These vegetation zones also occur within the revised subject land and a third vegetation zone, 599_DNG_Low, has been added to account for a remediated and regenerated grassland located within the TransGrid substation.

599_Woodland and 599_DNG are consistent with that previously described in detail in the BDAR (Biosis 2024), and a description for these zones has not been reproduced in this report. A brief description of 599_DNG_Low is provided below.

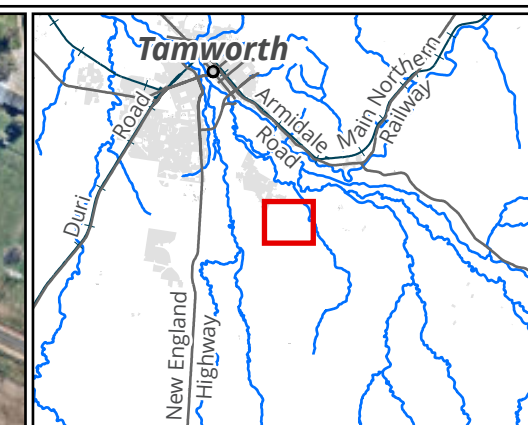
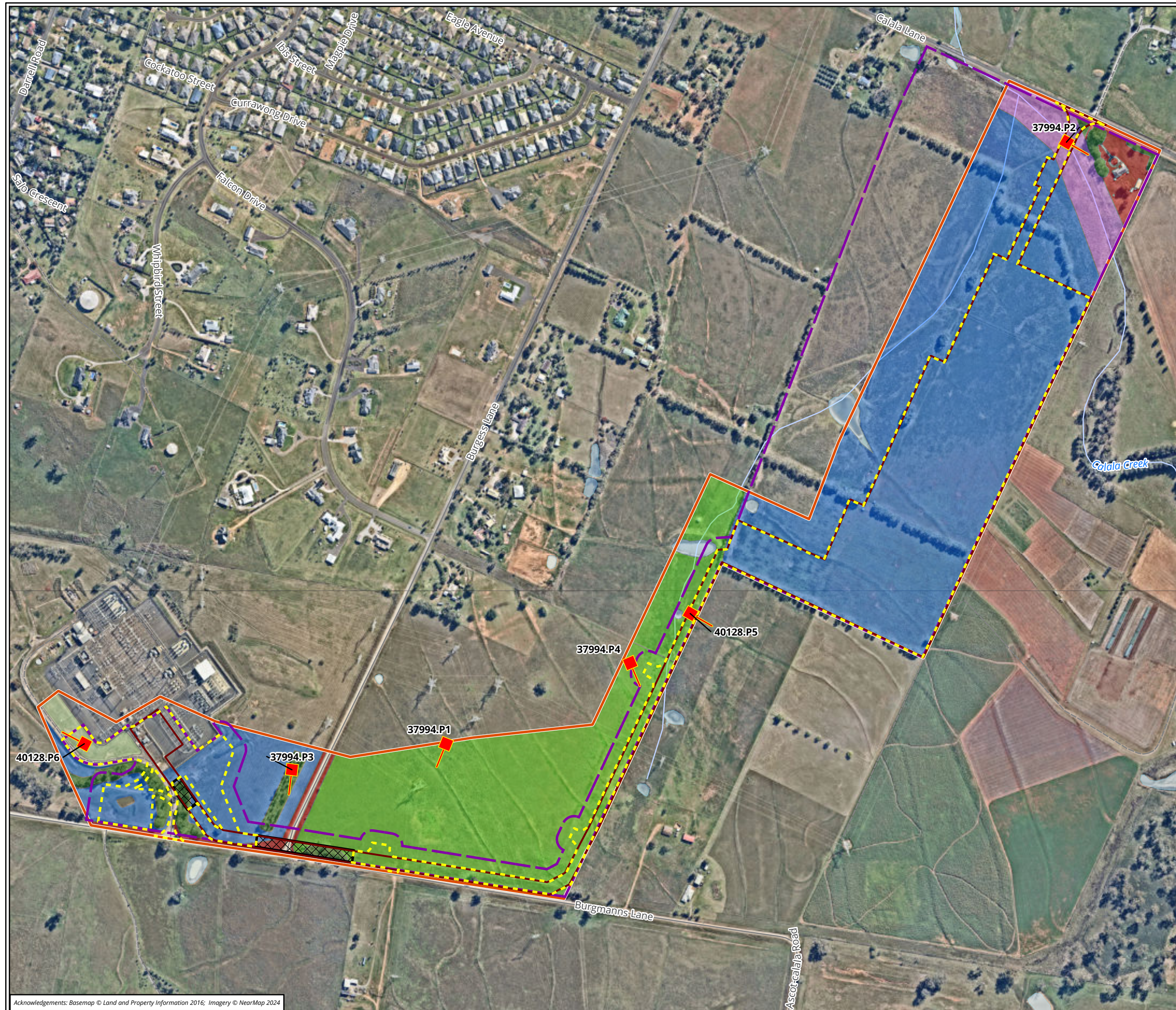
As mentioned, the new vegetation zone, 599_DNG_Low occurs within the TransGrid substation in an area that was cleared and remediated post upgrade works to the substation. What occurs now is a derived grassland that has appreciably less native diversity and cover when compared to 599_DNG, however, still has a sufficient native component to be attributed a vegetation zone. Grasses make up the largest native component including species found in 599_DNG such as Redgrass *Bothriochloa macra*, Windmill Grass *Chloris truncata* and Queensland Bluegrass *Dichanthium sericeum*. Forbs present include Kidney Weed *Dichondra repens* and Native Bluebell *Wahlenbergia* sp.

Non-native species make up a significant portion of the groundcover, with the most prevalent including *Trifolium* spp., Lamb's Tongues *Plantago lanceolata* and Buffalo Grass *Stenotaphrum secundatum*.

Vegetation zone distribution is shown on Figure 6.



Photo 1 PCT 599_DNG_Low within the TransGrid substation



Legend

- Subject land (Approved site boundary)
- Modified site boundary
- Approved development footprint
- Modified development footprint
- Underground
- NSW BAM Site V6

Vegetation zone

- 599_Woodland
- 599_DNG
- 599_DNG_Low
- 84_Low
- Category 1 Land
- Non-native vegetation

Figure 6 Vegetation zone and plot locations

0 50 100 150 200

Metres

Scale: 1:5,800 @ A3

Coordinate System:

GDA2020 MGA Zone 56



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Layout: 40128_F6_VZs

3.4 Threatened ecological communities

PCT 599 is consistent with the following threatened ecological communities (TEC), with varying coverage due to the condition thresholds of the EPBC Act listing:

- *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* (Critically Endangered, BC Act) – all PCT 599 within the subject land covering 16.36 hectares.
- *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Critically Endangered, EPBC Act) - covering 13.55 hectares.

The above TECs are henceforth referred to as Box Gum Woodland CEEC.

TEC distribution within the subject land is shown on Figure 7.

3.5 Vegetation integrity assessment

3.5.1 Vegetation zones and patch size

PCTs within the subject land were assessed and stratified, based on broad condition state, into vegetation zones. Table 2 presents impacts to vegetation zones that will experience a change as a result of the proposed modifications. Vegetation zones unaffected by the proposed modifications are not detailed here. Further information on the project's vegetation zones and patch size can be found in the BDAR (Biosis 2024).

Table 2 Vegetation zones within the modified development footprint

Vegetation zone	Plant Community Type	Condition	Approved impact (SSD-52786213)	Impact after proposed modification	Change in impacts	Max. patch size
599_DNG	PCT 599: Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion	DNG	1.60	1.77 ha	0.17	>100 ha
599_DNG_Low	PCT 599: Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion	DNG	-	0.37 ha	0.37	>100 ha
599_Woodland	PCT 599: Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow	Woodland	0.03	0.09 ha	0.06	>100 ha

Vegetation zone	Plant Community Type	Condition	Approved impact (SSD-52786213)	Impact after proposed modification	Change in impacts	Max. patch size
	Belt South Bioregion and Nandewar Bioregion					

3.5.2 Vegetation integrity

Vegetation integrity was assessed using data obtained from undertaking BAM plots for the Project BDAR, and on additional plot (Table 3), as per the methodology outlined in Section 4.3.4 of the BAM (DPIE 2020). Plot data was collected via:

- A 20 metre x 50 metre quadrat and 50 metre transect for assessment of site attributes and function.
- A 20 metre x 20 metre quadrat, nested within the larger quadrat for full floristic survey to determine composition and structure of the PCT.

Table 3 below displays the newly collected BAM plot undertaken to inform vegetation integrity assessment of vegetated areas within the TransGrid substation, and to determine if additional zoning to that of the BDAR was required. As the vegetation surveyed was found to be of appreciably lower condition than previously mapped areas of DNG, the zone 599_DNG_Low was created. Plot data collected has been incorporated into the BAM-C assessment for 599_DNG_Low. A list of flora species was compiled for the above BAM plot and is included in Appendix 1 of this report.

None of the proposed modifications have resulted in an increase of impacts to a vegetation zone which require additional BAM plots to be collected. Vegetation zones unaffected by the proposed modification are not detailed here. Further information on the remainder of the project's vegetation integrity assessment can be found in the BDAR (Biosis 2024).

Table 3 BAM plots completed within the modified development footprint

BAM plot reference	Vegetation zone
37994_06	DNG_Low

3.5.3 Vegetation integrity score

Plot data was entered into the BAM calculator to determine vegetation integrity score of those vegetation zones affected by the proposed modifications. This is detailed in Table 4.

Table 4 Vegetation zone integrity scores

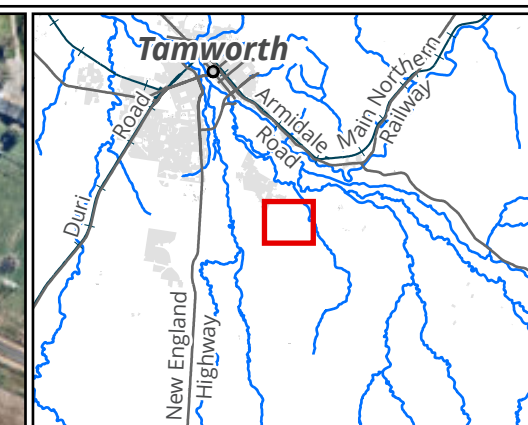
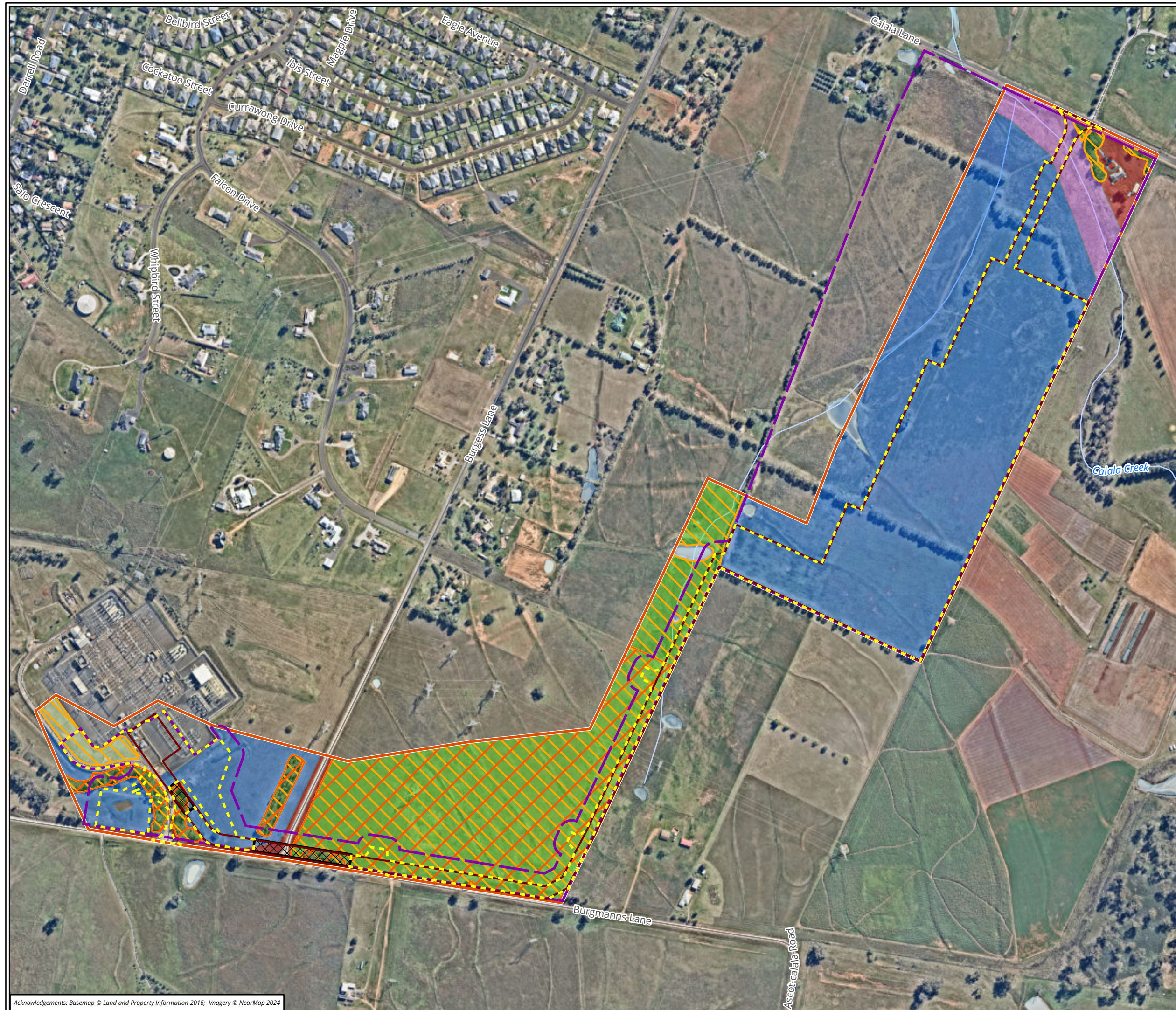
Vegetation zone	Composition score	Structure score	Function score	Vegetation integrity (VI) score*
599_DNG	32.2	67.3	14.8	32.1
599_DNG_Low	26	49.4	5	18.6
599_Woodland	59.8	96.3	45	63.8

*Benchmark (pristine) condition vegetation would receive a VI score of 100.

As outlined in Section 9.2.1 of the BAM, an offset is required for impacts on native vegetation where the vegetation integrity score is:

- ≥ 15 where the PCT is representative of an endangered or critically endangered ecological community.
- ≥ 17 where the PCT is associated with threatened species habitat (as represented by ecosystem credits), or is representative of a vulnerable ecological community.
- ≥ 20 where the PCT is not representative of a TEC or associated with threatened species habitat.

As such, ecosystem credit offsets are required for all vegetation zones detailed in Table 4.



Legend

- Subject land (Approved site boundary)
- Modified site boundary
- Approved development footprint
- Modified development footprint
- Underground

Threatened ecological communities

- Box Gum Woodland (BC Act)
- Box Gum Woodland (EPBC Act)

Vegetation zone

- 599_Woodland
- 599_DNG
- 599_DNG_Low
- 84_Low
- Category 1 Land
- Non-native vegetation

Figure 7 Threatened ecological communities within the subject land

0 50 100 150 200

Metres
Scale: 1:5,800 @ A3
Coordinate System:
GDA2020 MGA Zone 56



Matter: 40128, Date: 08 September 2025,
Prepared by: JB, Prepared for: BT, Last edited by: jbeckius
Location: P:\40100s\40128\Mapping\40128_Calala_BEES_BDAR_Mod_F5-10.aprx
Layout: 40128_F7_TECs

3.6 Predicted species (ecosystem credit species)

A list of predicted species (ecosystem credit species) expected to occur within the subject land was generated as per Section 5 of the BAM. Impacts to these species require assessment, however targeted surveys are not required as these species are assumed to occur, based on the occurrence of the PCTs, habitat constraints, native vegetation cover in the landscape and calculated patch sizes. Table 5 lists the ecosystem credit species that could not be discounted, based on geographical restrictions or a lack of suitable habitat. This list includes species associated with all vegetation within the development footprint as per the previous BDAR (Biosis 2024) as no additional PCTs have been added for this assessment.

Table 5 Ecosystem credit species (predicted species) with potential to occur

Common name	Species name
Regent Honeyeater	<i>Anthochaera phrygia</i>
Dusky Woodswallow	<i>Artamus cyanopterus cyanopterus</i>
South Eastern Glossy Black-Cockatoo	<i>Calyptorhynchus lathami lathami</i>
Little Pied Bat	<i>Chalinolobus picatus</i>
Speckled Warbler	<i>Chthonicola sagittata</i>
Spotted Harrier	<i>Circus assimilis</i>
Brown Treecreeper (eastern subspecies)	<i>Climacteris picumnus victoriae</i>
Varied Sittella	<i>Daphoenositta chrysoptera</i>
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>
Black-necked Stork	<i>Ephippiorhynchus asiaticus</i>
Black Falcon	<i>Falco subniger</i>
Little Lorikeet	<i>Glossopsitta pusilla</i>
Painted Honeyeater	<i>Grantiella picta</i>
White-bellied Sea-Eagle (Foraging)	<i>Haliaeetus leucogaster</i>
Black-breasted Buzzard	<i>Hamirostra melanosternon</i>
Little Eagle (Foraging)	<i>Hieraetus morphnoides</i>
White-throated Needletail	<i>Hirundapus caudacutus</i>
Swift Parrot	<i>Lathamus discolor</i>
Square-tailed Kite (Foraging)	<i>Lophoictinia isura</i>
Black-striped Wallaby	<i>Macropus dorsalis</i>
Hooded Robin (south-eastern form)	<i>Melanodryas cucullata cucullata</i>
Black-chinned Honeyeater (eastern subspecies)	<i>Melithreptus gularis gularis</i>
Large Bent-winged Bat	<i>Miniopterus orianae oceanensis</i>
Turquoise Parrot	<i>Neophema pulchella</i>
Corben's Long-eared Bat	<i>Nyctophilus corbeni</i>
Flame Robin	<i>Petroica phoenicea</i>
Grey-crowned Babbler (eastern subspecies)	<i>Pomatostomus temporalis temporalis</i>

Common name	Species name
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>
Yellow-bellied Sheath-tail-bat	<i>Saccolaimus flaviventris</i>
Diamond Firetail	<i>Stagonopleura guttata</i>

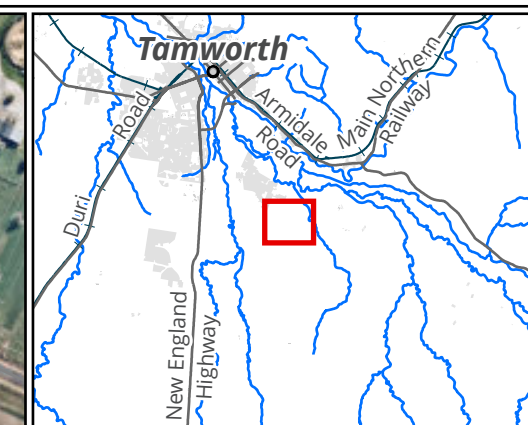
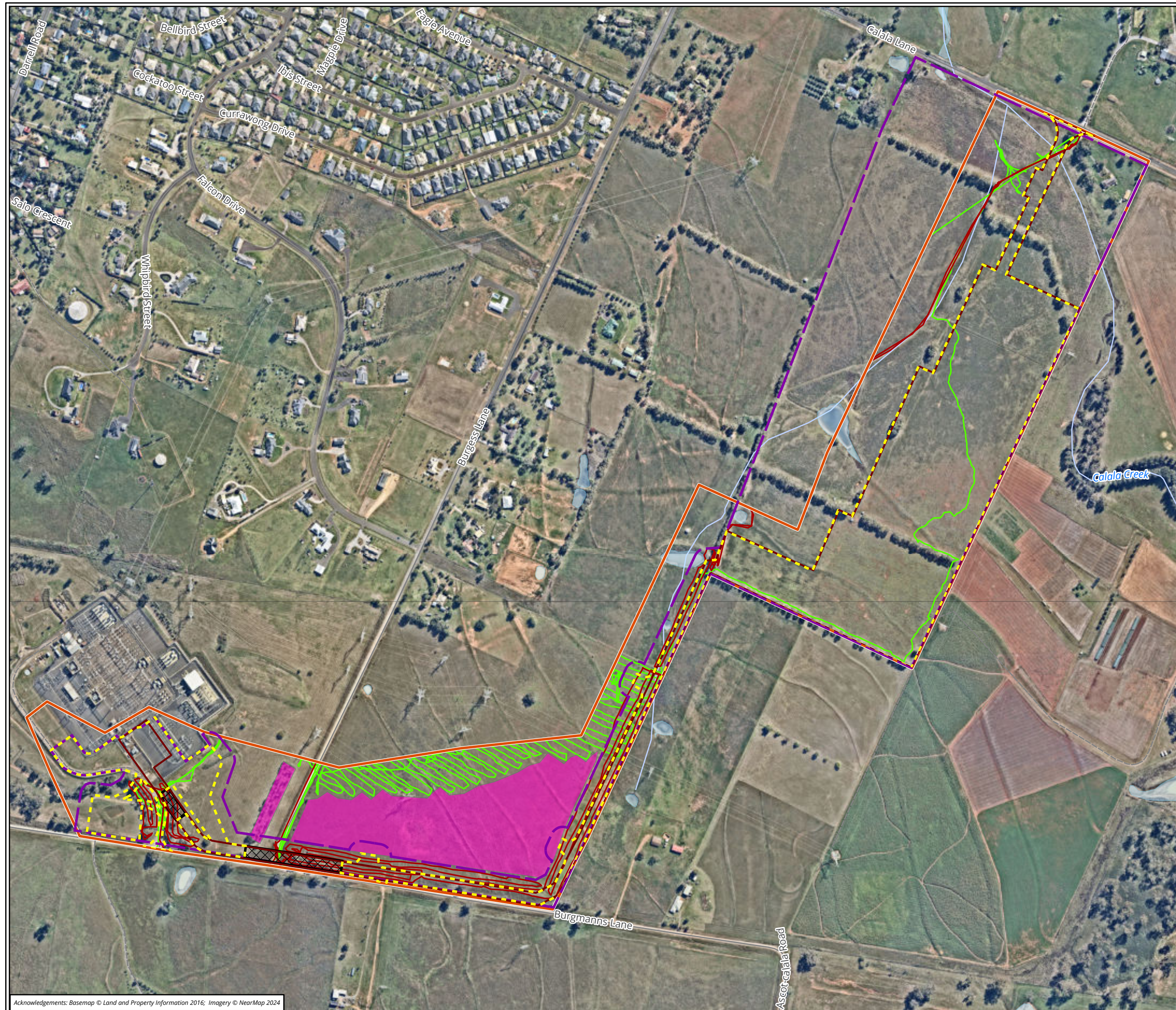
3.7 Species credit species

The potential for a species to occur within the impact area was assessed in accordance with Sections 5.1.2 and 5.2 of the BAM and species with geographical restrictions, or habitat constraints not present, were not required to be surveyed. A detailed assessment of potential for occurrence, and potential for impact, for all species credit species predicted to occur within the subject land is provided in Appendix 2 of the BDAR (Biosis 2024). The BAM-C case opened for the purposes of this addendum report did not generate any additional species credit species requiring consideration when compared to the Project BDAR.

As was the case for the Project BDAR, the following threatened flora species are considered to have suitable habitat within the revised subject land in the form of PCT 599_Woodland and 599_DNG:

- Bluegrass *Dichanthium setosum* (Vulnerable, BC Act and PBC Act)
- Finger Panic Grass *Digitaria porrecta* (Endangered, BC Act)
- Belson's Panic *Homopholis belsonii* (Vulnerable, BC Act and Endangered, EPBC Act)
- Hawkweed *Picris evae* (Vulnerable BC Act and EPBC Act)
- Austral Toadflax *Thesium australe* (Vulnerable BC Act and EPBC Act)

By virtue of the coverage of targeted surveys for the Project BDAR, all areas of 599_DNG and 599_Woodland have been subject to targeted surveys for the above species. Vegetation zone 599_DNG_Low is not considered to contain suitable habitat for the above, or any other candidate species, due to its recent disturbance history (the entire area was cleared to soil) and remediated/regenerated condition that is subject to ongoing maintenance (mowing).



Legend

- Subject land (Approved site boundary)
- Modified site boundary
- Approved development footprint
- Modified development footprint
- Underground

Survey tracks

- February 2023
- February 2024

Threatened species polygon

- Bluegrass, Belson's Panic, Austral Toadflax, Finger Panic Grass

Figure 8 Targeted species survey and species polygons

0 50 100 150 200

Metres

Scale: 1:5,800 @ A3

Coordinate System:

GDA2020 MGA Zone 56



Matter: 40128, Date: 08 September 2025,
Prepared by: JB, Prepared for: BT, Last edited by: jbeckius
Location: P:\40100s\40128\Mapping\40128_Calala_BESS_BDAR_Mod_F5-10.aprx
Layout: 40128_F8_TrgSpecies

3.8 Matters of National Environmental Significance

Matter of National Environmental Significance (MNES) Assessments have been undertaken, and are presented in the BDAR (Biosis 2024). This includes assessments in accordance with the Significant Impact Guidelines 1.1 - Matters of National Environmental Significance (CoA 2013), for *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Critically Endangered, EPBC Act) and Bluegrass *Dichanthium setosum* (Vulnerable, EPBC Act). The conclusions of the BDAR were that the approved project is unlikely to cause a significant impact to either entity.

Table 6 provides a summary of impacts to MNES as a result of the proposed modifications only, compared to the approved project.

Table 6 Assessment of MNES entities

Matter of NES	Project specifics	Assessment against Commonwealth of Australia (2013)
Threatened species (flora and fauna)	Bluegrass. Disturbance of potential Bluegrass habitat will increase from 1.63 ha to 1.86 ha with the proposed modifications.	The proposed modifications are considered not to alter the conclusions of the previously completed BDAR (Biosis 2024) given the small increase in impact. An updated assessment against the Significant Impact Criteria (CoA 2013) has been prepared and provided Appendix 2.
Threatened ecological communities	One EPBC Act listed TEC, <i>White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland</i> , is located within the area subject to the proposed modifications. Impact to this TEC will increase from 1.31 ha to 1.55 ha.	The proposed modifications are considered not to alter the conclusions of the previously completed BDAR (Biosis 2024) given the small increase in impact. An updated assessment against the Significant Impact Criteria (CoA 2013) has been prepared and provided Appendix 2.
Migratory species	No change to impacts on migratory species are expected as a result of the proposed modifications.	Refer to the BDAR (Biosis 2024).

3.9 Application of avoid and minimise principles

As outlined in Section 5 of the BDAR, the overall project design and alignment underwent updates in consideration of the principles of avoidance and minimisation of impacts to biodiversity values, chiefly the avoidance and minimisation of impacts to TECs. See Section 5 of the BDAR for further details.

The proposed modifications subject to this assessment, continue to follow the avoid and minimise impact principles. The proposed modifications, aside from small additional areas of woody vegetation removal, are all located on previously cleared areas and those within Lot 6 DP219993 largely impact Category 1 land only.

The modifications within Lot 6 DP219993 has sought to take advantage of previously cleared tracks and canopy gaps to avoid and minimise remove of woody CEEC as much as practicable.

Ongoing minimisation of impacts during the construction and operational phases of the project will be ensured through implementation of the mitigation measures outlined in Section 7 of the (Biosis 2024).



Photo 2 Cleared track within 599_Woodland that will be utilised for access.

3.10 Updated direct impacts

The proposed modifications detailed in Section 3.1 have resulted in a change in the project's direct impacts to native vegetation and BC Act and EPBC Act listed TECs. Impacts listed in Table 7 as 'approved' are based on those assessed as part of the approved Project (SSD-52786213).

The modified impacts to PCTs, vegetation zones, and TECs are depicted in Table 7. Avoidance of threatened species habitat is illustrated on Figure 9.

Table 7 Changes in direct impacts as a result of proposed modifications

PCT / Species	Listing status	Approved impact (SSD-52786213)	Impact after proposed modification	Change in impacts
599: Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion	Box Gum Woodland (CEEC BC Act and EPBC Act)	599_DNG: 1.60 ha 599_Woodland: 0.03 ha Total: 1.63 ha	599_DNG: 1.77 ha 599_DNG_Low: 0.37 ha 599_Woodland: 0.09 ha Total: 2.23 ha	599_DNG: 0.17 ha 599_DNG_Low: 0.37 ha 599_Woodland: 0.06 ha Total: 0.60 ha

*Note: Due to the nature of these updates often dealing with a small change in square meters of impact, some rounding errors may appear in the above table when changes in impacts are presented in hectares.

4 BAM impact assessment

This section includes an updated assessment of residual project impacts as a result of the proposed modifications detailed in Section 3. Previous assessment of residual impacts were included in Section 6 of the BDAR (Biosis 2024) and subsequently approved (SSD-52786213).

4.1 Modified direct impacts

The direct impacts relating to the entire project following the proposed modifications outlined in Section 3 detailed below in Table 8.

Table 8 Summary of direct impacts as a result of the proposed modification

PCT / Species	Listing status	Modified direct impacts
Plant community types		
599: Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion	Box Gum Woodland (CEEC BC Act and EPBC Act)	599_DNG: 1.77 ha 599_DNG_Low: 0.37 ha 599_Woodland: 0.09 ha Total: 2.23 ha

4.2 Modified indirect and BAM prescribed impacts

The indirect and BAM prescribed impacts as a result of the proposed modifications outlined in Section 3 are detailed below in Table 9.

Table 9 Summary of indirect and BAM prescribed impacts as a result of the proposed modifications

Potential impact	Location / description of impact	Significance of impact
Indirect impacts		
Inadvertent impacts on adjacent habitat or vegetation	Inadvertent impacts that may occur within this wider area are expected to be most likely during the construction phase of the project, and include factors such as: - Clearing, or excavation, of vegetation and habitats (including threatened species habitats) outside the approved extents or over and above approved areas. - Impacts associated with soil compression, trampling and dumping via access to the impact area. - Stockpiling of materials outside approved areas. - Sedimentation of areas resulting from poor environmental controls surrounding excavations.	Generally, the potential for the approved Project and proposed modifications to cause substantial indirect impacts to vegetation and habitats adjacent or further afield from the development footprint is very low. Whilst there is some potential that inadvertent impacts, such as those listed adjacent may occur, construction safeguards (as outlined in Section 7 of the BDAR) will be implemented and documented in a Construction Environmental Management Plan. It can be expected that these safeguards will be implemented by the professional contractors engaged to construct the project, and this will be sufficient to manage the potential for inadvertent impacts to adjacent habitats or

Potential impact	Location / description of impact	Significance of impact
	Introduction and/or spreading of exotic weed species.	vegetation. The proposed modifications are not likely to have changed the risk of these inadvertent impacts occurring. They generally utilise Category 1 land or derived native grasslands. Clearing limits in woodland areas can be effectively demarcated and managed.
Reduced viability of adjacent habitat due to edge effects	The extent of this indirect impact is unpredictable, as noted in the BDAR. However, there is likely to be very little increase over what was originally assessed and approved.	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Reduced viability of adjacent habitat due to edge effects	The extent of this indirect impact is unpredictable, as noted in the BDAR. However, there is likely to be very little increase over what was originally assessed and approved.	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Reduced viability of adjacent habitat due to edge effects	The extent of this indirect impact is unpredictable, as noted in the BDAR. However, there is likely to be very little increase over what was originally assessed and approved.	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Increased risk of starvation, exposure and loss of shade or shelter	A small increase to this indirect impact is anticipated as an additional area (0.06ha) of 599_Woodland will be removed. No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Loss of breeding habitats	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Trampling of threatened flora species	No change as a result of project modifications. No threatened flora are known to occur within the modified development footprint. 599_DNG_Low within the substation is unlikely to harbour the candidate flora species assessed for the BDAR. Remaining modifications are outside the species polygon of the BDAR.	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Inhibition of nitrogen fixation and increased soil salinity	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Fertiliser drift	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Rubbish dumping.	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Wood collection	No change as a result of project modifications	As per impact assessment outlined in the

Potential impact	Location / description of impact	Significance of impact
		Project BDAR (Biosis 2024).
Removal and disturbance of rocks, including bush rock	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Increase in predatory species populations	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Increase in pest animal populations.	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Changed fire regimes	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Disturbance to specialist breeding and foraging habitat, e.g. Beach nesting for shorebirds	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Fragmentation of movement corridors	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Prescribed impacts		
Karst, caves, crevices, cliffs, rocks and other geological features of significance	No change as a result of project modifications	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Impacts to habitat associated with human-made structures and non-native vegetation	No human-made structures will be impacted as part of the modifications. Removal of non-native vegetation will increase, however, this is no likely to impact native species appreciably.	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Impacts to connectivity of habitat for threatened entities	The modifications will not introduce any barriers to movement or appreciably reduce connectivity of habitat for threatened entities.	As per impact assessment outlined in the Project BDAR (Biosis 2024).

Potential impact	Location / description of impact	Significance of impact
Water quality, water bodies or any hydrological processes that sustain threatened entities	There may need to be a small increase to the basin capacity on Tamworth Substation land, but this basin is not key to sustaining any threatened entities.	As per impact assessment outlined in the Project BDAR (Biosis 2024).
Vehicle strikes on threatened fauna or fauna that are part of a TEC	Although the construction footprint has increased, the same local road ways and access points would be used for the modifications as the approved Project. Construction traffic is not considered likely to increase appreciably.	As per impact assessment outlined in the Project BDAR (Biosis 2024).

4.3 Amendments to mitigation measures

The proposed modifications do not require any additional specific mitigation measures or strategies to ensure impacts to biodiversity values continue to be avoided and minimised through construction and operational phases of the Project.

Relevant mitigation measures are outlined in Section 7 of the BDAR (Biosis 2024) and these are proposed to be spatially expanded to include areas subject to the proposed modifications.

It should be noted that with the modified site boundary proposed, lands that are subject to an approved Biodiversity Management Plan (BMP) would be excluded. These excluded lands would be managed by the current land owner TransGrid. Please refer to the Project's Modification Report for further details.

4.4 Amended Serious and Irreversible Impact assessment

The approved Project was found to result in impacts to one threatened entity considered to be at risk of Serious and Irreversible Impact (SAIL), and as such an SAIL assessment was prepared in accordance with Section 9.1 of the BAM (DPIE 2020) for:

- *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* (Box Gum Woodland CEEC) (Critically Endangered, BC Act) – direct impacts to 2.23 ha.

As the proposed modifications have increased the total area of impact to the above TEC, and altered aspects of potential fragmentation and impacts associated with edges effects, the SAIL assessment prepared for the TEC in the BDAR has been updated below.

In accordance with Clause 6.7 Of the BC Regulation an impact is to be regarded as serious and irreversible if it is likely to contribute significantly to the risk of a threatened species or ecological community becoming extinct because:

- it will cause a further decline of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline, or*

- b) it will further reduce the population size of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to have a very small population size, or*
- c) it is an impact on the habitat of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution, or*
- d) the impacted species or ecological community is unlikely to respond to measures to improve its habitat and vegetation integrity and therefore its members are not replaceable.*

Assessments undertaken in accordance with Section 9.1 of the BAM for the above listed potential SAI entities are included below.

SAIL assessment for Box Gum Woodland CEEC

Box Gum Woodland CEEC (PCT 599) is listed under the NSW BC Act as a Critically Endangered Ecological Community. The CEEC is listed in the BioNet Threatened Biodiversity Data Collection (TBDC) as an entity subject to SAIL in NSW. The CEEC is considered an entity at risk of SAIL based on the following principles (DPIE 2019):

- Principle 1: an ecological community that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline.
- Principle 2: an ecological community that is observed, inferred or reasonably suspected to be severely degraded or disturbed.

Given the absence of definitive impact thresholds stated for the community, the potential for a SAIL will be determined by the consent authority, guided by the additional assessment provided in Table 10 below.

Table 10 Assessment of SAIL for Box Gum Woodland CEEC

Information required (BAM Section 9.1.1)	Response
1. Impacts to the CEEC and the action and measures taken to avoid the direct and indirect impact on the CEEC at risk of an SAIL.	The Project, including proposed modifications, will impact approximately 2.23 ha of PCT 599 that meets the BC Act listing requirements for Box Gum Woodland CEEC. The vegetation to be removed occurs in the following conditions: • DNG: 1.77 hectares – VI score of 32.1. • DNG_Low: 0.37 hectares – VI score of 18.6 • Woodland: 0.09 hectares – VI score of 63.8. Measures undertaken by the proponent to avoid and minimise impacts to the CEEC (PCT 599) are provided in Section 5 of the BDAR (Biosis 2024). Specifically, substantial efforts have been made to ensure that impacts to Box Gum Woodland CEEC have been avoided and minimised throughout the design phase of the Project and proposed modifications. Ecological constraints information was developed and used to influence alignment design options, construction options, and avoidance opportunities. Throughout the development of the Project layout, design decisions have been implemented to avoid impacts to Box Gum Woodland CEEC. This has included early biodiversity surveys, prior to development of the final footprint. During the design development phase, a wider landscape was reviewed for the potential transmission line corridor. Several potential transmission line routes were identified and discussed in relation to their potential impact to biodiversity, chiefly Box Gum Woodland CEEC. Due to practical constraints, such as existing overhead infrastructure, the transmission line connect must be underground and follow the boundaries of the Lots affected. As a result,

Information required (BAM Section 9.1.1)	Response
	the route intersects areas of PCT 599_Woodland, arguably of highest conservation value within the subject land. Given this potential direct impact, sections of the transmission line corridor, totalling approximately 207 metres, will be constructed using trenchless methods to avoid direct impacts to all but one small White Box along the transmission line. However, works within the Tamworth Substation will require small areas of woodland to be removed, as CEEC DNG within the substation itself. Due to access requirements, a single Yellow Box and disturbed groundcover adjacent to Calala Lane would also be removed. Opportunities to complete revegetation works along the transmission line corridor and using groundcover species characteristic of Box Gum Woodland CEEC have been committed to in Section 7 of the BDAR with all revegetation seed / plantings sourced to ensure appropriate local provenance. This same commitment has been made to any disturbed areas of PCT 599 that would result from proposed modifications. Additional indirect impacts associated with construction will be managed through the preparation and implementation of an updated BMP. The updated BMP will highlight ecologically sensitive areas, including areas with Box Gum Woodland CEEC, and ensure these areas are maintained as no-go zones. This will ensure the current condition of retained areas are maintained and improved, and no indirect impacts associated with water, materials storage, access etc occur and ongoing weed control will occur.
2a. Evidence of reduction in geographic distribution, 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). (SAII Principle 1)	Species and ecological communities that have undergone large reductions or are likely to undergo large reductions in the future are considered to be at greater risk of extinction than those that have undergone or are likely to undergo smaller reductions (NSW TSSC 2018). To be considered under this principle, the ecological community should have been observed, estimated, inferred, or reasonably suspected to have undergone, or be Projected to undergo, a very large reduction in distribution (DPIE 2019). The Final Determination for the listing of Box Gum Woodland as a CEEC under the BC Act states the community has undergone “a very large reduction in geographic distribution” evidenced by the community having been extensively cleared throughout its range, and remnants typically are small, isolated, highly fragmented, that occur in predominantly cleared landscapes and exhibit a highly modified understorey (TSSC 2006). Based on a compilation of available maps depicting the current extent of the community at the national scale, TSSC (2006) estimated that less than 5% of the original distribution remained (NSW TSSC 2020a). The NSW Threatened Species Scientific Committee (TSSC) Conservation Assessment of Box Gum Woodland (NSW TSSC 2020b) presents indicative estimates of the historical decline in geographic distribution compiled by the Commonwealth TSSC (2006) for state jurisdictions from sub-jurisdictional vegetation maps. The total reduction in NSW is stated as being approximately 93% of the pre-1750 distribution of the community (with 250,729 hectares remaining from a historical area of 3,717,366 hectares). It is noted that there are uncertainties around the pre-1750 distribution of the community, however the plausible ranges for variants of the community estimated to have been most extensively distributed in NSW suggest that these have almost certainly been reduced to less than 10% of their pre-1750 distribution (NSW TSSC 2020b). Data is not available on the community’s reduction in geographic extent since 1970 (i.e. over the last 50 years), however NSW TSC (2020b) states there is evidence that clearing of Box Gum Woodland CEEC is ongoing and has increased in recent years. During the period 2009 – 2016 it is noted that: • An average of 395 ha of Grassy Woodland (sensu Keith 2004, of which Box Gm Woodland CEEC is a major component) was lost annually across NSW to agriculture-related activities (cropping, conversion to pasture and thinning).

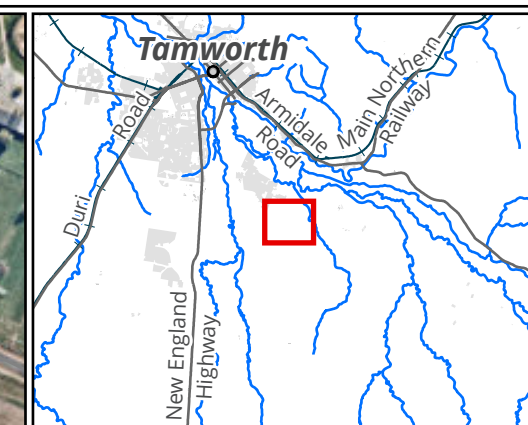
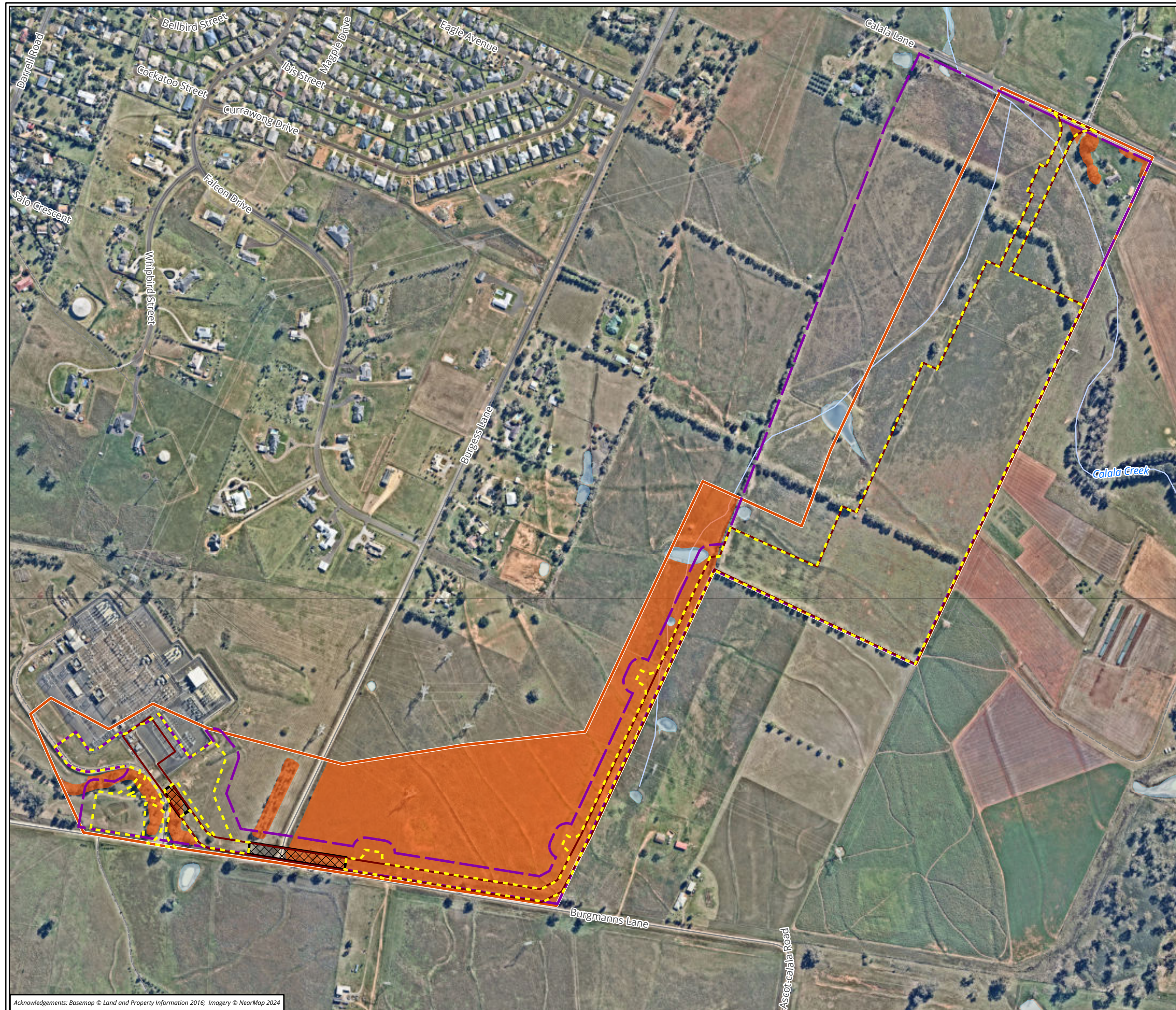
Information required (BAM Section 9.1.1)	Response
	• A further 155 ha per annum of Grassy Woodland is lost due to infrastructure developments (NSW DPIE 2019). • Losses due to agriculture rose during the period 2016-2017 to 654 ha (166% of the average over the preceding seven years) and to 1,344 ha (340%) for the period 2017-2018. • Losses attributable to infrastructure rose to 216 ha (138% of the 2009-2016 average) and 589 ha (378% of the 2009-2016 average), respectively (NSW DPIE 2019). It should be noted that these figures include other forms of grassy woodland communities, and impacts to Box Gum Woodland CEEC only form a sub-component of these impacted figures, however the data illustrates ongoing pressures and an expected ongoing reduction in geographic extent of the TEC since 1970.
2b. Extent of reduction in ecological function for the TEC using evidence that describes the degree of environmental degradation or disruption to biotic processes. (SAII Principle 2)	Reduction in ecological function relates to the IUCN principle of “very small population size” which for ecological communities means communities have very high levels of either environmental degradation or disruption of biotic processes, and interactions have an increased risk of failure to sustain their characteristic native species assemblages (Bland et al. 2016). Ecological communities that are considered to have a very large degree of environmental degradation or disruption of biotic processes or interactions are those with: • ≥90% extent and severity where the disruption or impacts are measured since 1970. • ≥80% extent and severity where the disruption or impacts are over a 50-year period, either in the past, future, or any part of the past, present and future (as per (Bland et al. 2016). (DPIE 2019). Box Gum Woodland CEEC is listed as being Data Deficient for an assessment of environmental degradation of ecological community by NSW TSSC (2020a), however it is listed in the same document as being subject to very large disruption of biotic processes or interactions. NSW TSSC (2020a) states that Box Gum Woodland CEEC is subject to a number of threatening processes that have negatively impacted upon biotic processes and interactions throughout its range and are likely to cause continuing decline in the future. An almost complete conversion of the community to agricultural production has occurred which invariably includes the removal and/or thinning of the tree canopy resulting in top-down pressures on the ecosystem, with follow-on grazing of domestic stock being the most widespread activity. The impacts of grazing vary depending on the historical grazing regime (timing, intensity, continuity), methods employed to improve pasture (fertilizer application, augmentation with exotic or native species) and the extent of associated impacts on soil structure and biota (soil erosion, compaction). Grazing has also been shown to lead to a reduction in understorey species diversity and richness due to the loss of native species that are both highly palatable and intolerant of grazing by domestic stock, with many previously widespread species now confined to the least disturbed remnants NSW TSSC (2020a). Shifts in the dominance of pasture species have also been observed as grazing intensity increases and is attributed to differential palatability and resilience to grazing among species, and the reduction of native plant cover by grazing presents opportunities for the invasion of the community by exotic plant species NSW TSSC (2020a). NSW TSSC (2020b) also states that Box Gum Woodland CEEC is subject to a number of other threatening processes associated with fragmentation, increased soil salinity, inappropriate fire regimes, and reduced recruitment of tree species.
2c. Evidence of	The geographic distribution of ecological communities is defined by the area of occupancy, sensu (Bland et al. 2016). Ecological communities with a very limited

Information required (BAM Section 9.1.1)	Response
restricted geographic distribution, based on the TEC's geographic range in NSW. (SAII Principle 3)	geographic distribution have an area of occupancy of less than or equal to two 10 x 10 km grid cells (200 km²) or an extent of occurrence of $\leq 1,000$ km², sensu (Bland et al. 2016), and one of the following: • An observed or inferred continuing decline in: – A measure of spatial extent appropriate to the ecological community. – A measure of environmental quality appropriate to characteristic biota of the ecological community. – A measure of disruption to biotic interactions appropriate to the characteristic biota of the ecological community. • Observed or inferred threatening processes that are likely to cause continuing declines in geographic distribution, environmental quality or biotic interactions within the next 20 years. • An ecological community that exists at one location (DPIE 2019). NSW TSSC (2020a) states that the geographic distribution of Box Gum Woodland CEEC is not restricted. The best estimate of the extent of occurrence (EOO) is 702,800 km², based on a minimum convex polygon enclosing likely occurrences of the community, the method of assessment recommended by (Bland et al. 2016). The best estimate of the area of occupancy (AOO) is 151,100 km² based on 10 x 10 km grid cells (with a minimum of 1% occupied by the community), the scale recommended for assessing AOO by (Bland et al. 2016). The best estimates of EEO and AOO derive from a compilation of maps from multiple sources. Not all of the areas occupied by the community are covered by maps of appropriate scale and accuracy. Therefore, the values for EEO and AOO quoted above may underestimate the true values.
2d. Evidence that the TEC is unlikely to respond to management. (SAII Principle 4)	This principle encompasses two components, firstly whether there are any particular traits of the community which limits its response to management, and secondly whether there are any key threatening processes affecting the community which cannot be effectively managed (DPIE 2019). Conservation management of the community in areas subjected to historical clearing and agricultural grazing has resulted in some measurable recovery, provided the soil has not been disturbed by earthworks, cultivation, fertiliser application or other means of nutrient of moisture enrichment (OEH 2019). Conversely in areas that have been exposed to these soil disturbances, restoration has been proven to be problematic, with one abandoned pasture planting site showing no evidence of convergence in species composition with nearby remnant woodland stands over a 10 year period (OEH 2019). However, several management measures are detailed within the TBDC for this community. These include: • Community and land-holder liaison/ awareness and/or education. • Habitat management: Fire. • Habitat management: Ongoing EIA - Advice to consent and planning authorities. • Habitat management: Promote regeneration by avoiding mowing or prolonged or heavy grazing. • Habitat management: Protect habitat by controlling run-off entering the site if it would change water, nutrient or sediment levels or cause erosion. • Habitat management: Weed Control. • Habitat Rehabilitation/Restoration and/or Regeneration.

Information required (BAM Section 9.1.1)	Response
	Generally those entities which are listed as unlikely to respond to management (and thus are irreplaceable) tend to include species where the ability to control key threats is negligible and known reproductive characteristics that severely limit their ability to increase the existing population (DPIE 2019). Ecological communities as a whole do not typically align well with these criteria. The response to management practices of Cumberland Plain Woodland has been demonstrated to be based on site specific conditions and therefore it does not meet SAI Principle 4.
3. Where the TBDC indicates data is 'unknown' or 'data deficient' for a TEC, the assessor must record this in the BDAR or BCAR.	Not applicable.
4a. The impact on the geographic extent of the TEC, by estimating the total area of the TEC to be impacted by the proposal.	The impacted area of Box Gum Woodland within the development footprint have been calculated based on a worst case clearing footprint requirement for the transmission line corridor. In total, 1.77 hectares of PCT 599_DNG, 0.37 hectares of 599_DNG_Low and a small portion (0.09 hectares) of PCT 599_Woodland will be impacted. Box Gum Woodland present along the transmission line and in the surrounding landscape largely occurs as fragmented and isolated patches in an over-cleared landscape. The construction and operation of the transmission line will not result in negative ongoing impacts to the CEEC in the landscape, nor will it increase existing pressures associated with fragmentation, isolation and edge effects. Based on the above, additional indirect impacts to Box Gum Woodland are not expected to be substantial or significant as a result of the Project and therefore only the direct impacts are considered in the calculation of the Project's impacts on the geographic extent of the TEC. As outlined above, the NSW (2020b) states the current geographic extent of Box Gum Woodland as being estimated as 250,729 hectares. The Project will remove a total of 2.23 hectares of Box Gum Woodland, or approximately 0.0008% of the extant area of the community.
4b. The extent that the proposed impacts are likely to contribute to further environmental degradation or the disruption of biotic processes of the TEC.	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. Patches of potential Box Gum Woodland CEEC present in the wider landscape surrounding the subject land is in an already highly fragmented state. GIS was used to determine the range and average size of mapped (NSW DCCEEW 2024) occurrences of PCTs representative of Box Gum Woodland CEEC within a 500 metre buffer of the development footprint. The results of which are provided below both for those patches intersected by the development footprint (i.e. subject to vegetation removal) and those patches not intersected by the development footprint (i.e. not directly impact by the Project). Mapped areas of known and potential Box Gum Woodland within 500m not directly impacted: • Size range: 0.01 ha to 12.6 ha • Average size: 2.71 ha

Information required (BAM Section 9.1.1)	Response
	• Median: 0.23 ha • Total no. mapped patches (dissolved Box Gum Woodland PCT polygons): 5 Mapped areas of known and potential Box Gum Woodland within 500m directly impacted: • Size range: 0.07 ha to 4.09 ha • Average size: 0.98 ha • Median: 0.40 ha • Total no. mapped patches: 3 It can be seen that there are a large number of mapped known and potential Box Gum Woodland patches within 500 metres of the development footprint, ranging from 0.07 hectares to 4.09 hectares in area. Patches directly impacted by the Project are generally larger with a larger minimum size, average size and median size, than those patches not impacted by the Project. The Project is not expected to result in impacts that will substantially increase fragmentation, and/or increase perimeter to area ratios of retained patches of known and potential Box Gum Woodland vegetation based on both the generally large patch sizes of impacted patches and high level of variation in patch sizes within 500 metres of the development footprint. ii. describing the impacts on connectivity and fragmentation of the remaining areas of TEC measured by: • 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 • estimated maximum dispersal distance for native flora species characteristic of the TEC, and • 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 GIS was used to undertake a nearest neighbour analysis of mapped (DPIE 2019, DPIE 2015) occurrences of potential Box Gum Woodland CEEC prior to and post vegetation removal to determine the distance between impacted areas of the CEEC before and after the proposed development. The average and median distance between mapped occurrences of potential Box Gum Woodland CEEC within a 500 m buffer of the impact area, include: • An average before development separation distance of 30 m. • An average after development separation distance of 34 m. As can be seen from the above calculations the proposed vegetation removal will not result in an increase of the average separation distance between patches of known and potential Box Gum Woodland CEEC. This is due to the fact that no patches will be completely removed or split into two or more patches. Native flora species characteristic of the CEEC include a range trees, shrubs, grasses, forbs and other groundcover species, the majority of which are dispersed via wind or animal vectors, with some species primary method of dispersal likely to be via non-flying insects such as ants. As there will be no expected changes to average separation distance between patches of retained known and potential Box gum Woodland CEEC within 500 m of the impact area are not expected, an impediment to the dispersal of native species between these patches, in an already highly fragmented landscape, will not be created. iii. describing the condition of the TEC according to the vegetation integrity score

Information required (BAM Section 9.1.1)	Response
	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. The TEC occurs in three conditions within the subject land: • 599_DNG: ○ Composition condition score: 33.2 ○ Structure condition score: 67.2 ○ Function condition score: 14.8 ○ Presence of hollow-bearing trees: No ○ VI score: 32.1 • 599_DNG_Low: ○ Composition condition score: 26 ○ Structure condition score: 49.4 ○ Function condition score: 5 ○ Presence of hollow-bearing trees: No ○ VI score: 18.6 • 599_Woodland: ○ Composition condition score: 59.8 ○ Structure condition score: 96.3 ○ Function condition score: 45 ○ Presence of hollow-bearing trees: No ○ VI score: 63.8 The proposed works will result in the removal of 2.23 ha of the CEEC. This includes 2.14 ha in DNG conditions, and 0.09 in woodland condition.



Legend

- Subject land (Approved site boundary)
- Modified site boundary
- Approved development footprint
- Modified development footprint
- Underground

SAIL Entities

- Box Gum Woodland
- (PCT 599_DNG, 599_Woodland)

Figure 9 Serious and Irreversible Impacts

0 50 100 150 200



Metres
Scale: 1:5,800 @ A3
Coordinate System:
GDA2020 MGA Zone 56



Matter: 40128, Date: 08 September 2025,
Prepared by: JB, Prepared for: BT, Last edited by: jbeckius
Location: P:\40100s\40128\Mapping\40128_Calala_BEES_BDAR_Mod_F5-10.aprx
Layout: 40128_F9_SAIL

5 Assessment against EPBC Act

5.1 EPBC Act assessment amendments

MNES Assessments have been undertaken and are presented in the BDAR (Biosis 2024). Including assessments in accordance with the Significant Impact Guidelines 1.1 - Matters of National Environmental Significance (CoA 2013), for Box Gum Woodland CEEC and Bluegrass.

Significant impacts have previously been assessed as unlikely to occur to these MNES as a result of the Project and this conclusion remains valid following the proposed modifications presented in this report, due to the overall minimal increase in impacts to those MNES considered most at risk of potential significant impact.

6 Biodiversity Offset Strategy

As outlined in the project's BDAR (Biosis 2024), and the sections above, residual impacts to biodiversity values as a result of the Project and proposed modifications will require biodiversity offsets to be secured in accordance with the NSW BOS. The BDAR (Biosis 2024) concluded that there will not be residual significant impacts to MNES listed under the Commonwealth EPBC Act, which has not changed as a result of the proposed modifications, and therefore biodiversity offsets are not required to meet the criteria outlined in *EPBC Act Environmental Offsets Policy* (DSEWPaC 2012). Residual impacts to MNES will however be offset in accordance with the requirements of the NSW BOS.

Under the BOS, the proponent has three main avenues for securing biodiversity offsets for the project, those being:

- Payment to the Biodiversity Conservation Fund managed by the Biodiversity Conservation Trust.
- Purchase (transfer) and retire credits from existing credit holders.
- Establish a Biodiversity Stewardship Site to generate credits required by the project.

Table 11 provides the approved project's biodiversity credit requirement, and the additional requirement as a result of the proposed modifications detailed within this report. A BAM Credit Summary Report (BAM Calculator case 00052610/BAAS18155/24/00052611) based on the proposed modifications detailed within this report is included in Appendix 3.

The proponent is committed to securing the required number and type biodiversity credit to offset residual impacts of the proposed modifications through payment to the Biodiversity Conservation Fund managed by the Biodiversity Conservation Trust.

Table 11 Offsets required (ecosystem credits) by the proposed modifications

Vegetation zone	VI score	Offset required	TEC	HBTs	Area - SSD-52786213 (ha)	Credits retired (SSD-52786213)	Area - Mod (ha)	Credits (Mod)
599_DNG	33.1	Yes	Yes	No	1.60	32	0.17	3
599_Woodland	63.8	Yes	Yes	No	0.03	1	0.06	2
599_DNG_Low	18.6	Yes	Yes	No	-	-	0.37	4

As outlined in Section 9.2.2 of the BAM, an offset is also required for the impacts to habitat of threatened species that require species credits. In this instance, as no species credit species habitat or individuals is considered present within the development footprint, no species credit offsets are required for the Project and proposed modifications.

7 Conclusion

The areas subject to the proposed modifications contain either Category 1 land, commensurate or lower condition native vegetation to that within the development footprint approved under the previous BDAR (Biosis 2024). The proposed modifications have continued to apply the principles of avoidance and minimisation of impact to biodiversity values, however, have resulted in small increase of impacts to the biodiversity values assessed within the previous BDAR, detailed in Section 3.10 of this report.

For increased impacts to one SAI entity, Box Gum Woodland CEEC, the associated SAI assessment has been updated and included in Section 4.4.

The proposed modifications do not require any additional specific mitigation measures or strategies to ensure impacts to biodiversity values continue to be avoided and minimised through construction and operational phases of the Project. Relevant mitigation measures are outlined in Section 7 of the BDAR (Biosis 2024) and these are proposed to be spatially expanded to include areas subject to the proposed modifications.

This BDAR Addendum Report supports the conclusions of the BDAR (Biosis 2024) and provides an updated biodiversity offset credit requirement for the Project.

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Appendices

Appendix 1 BAM Plot data

Appendix 1.1 BAM plot field data

Table A 1 BAM plot floristics

Family	Scientific name	Common name	37994.P1		37994.P2		37994.P3		37994.P4		37994.P5		37994.P6	
			Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund
Native species														
Amaranthaceae	<i>Alternanthera denticulata</i>	Lesser Joyweed			0.1	1								
Amaranthaceae	<i>Amaranthus spp.</i>	Amaranth			0.1	1								
Poaceae	<i>Aristida ramosa</i>	Purple Wiregrass			1	200	20		5					
Poaceae	<i>Aristida spp.</i>	A Wiregrass	15											
Poaceae	<i>Aristida vagans</i>	Threeawn Speargrass									15			
Poaceae	<i>Austrostipa aristiglumis</i>	Plains Grass			0.5	50	1	90						
Poaceae	<i>Bothriochloa macra</i>	Red Grass	20		1	200	15	200					15	
Poaceae	<i>Bothriochloa spp.</i>	Red grass, Bluegrass						15		6				
Asteraceae	<i>Calotis cuneifolia</i>	Purple Burr-Daisy	0.3											
Asteraceae	<i>Calotis lappulacea</i>	Yellow Burr-daisy	0.2				4	800						
Asteraceae	<i>Calotis spp.</i>	A Burr-daisy							0.2	200			0.1	20
Pteridaceae	<i>Cheilanthes sieberi</i>	Rock Fern	0.1				0.2	30						
Poaceae	<i>Chloris truncata</i>	Windmill Grass			1	200			5				5	
Poaceae	<i>Chloris ventricosa</i>	Tall Chloris	7											
Convolvulaceae	<i>Convolvulus graminetinus</i>	None	0.1											
Poaceae	<i>Cynodon dactylon</i>	Common Couch			65					8			5	
Cyperaceae	<i>Cyperus spp.</i>	None					15							
Poaceae	<i>Dichanthium sericeum</i>	Queensland Bluegrass							10				3	2000
Poaceae	<i>Dichelachne micrantha</i>	Shorthair Plumegrass	5											

Family	Scientific name	Common name	37994.P1		37994.P2		37994.P3		37994.P4		37994.P5		37994.P6	
			Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund
Convolvulaceae	<i>Dichondra repens</i>	Kidney Weed					0.3	50					1	5000
Poaceae	<i>Digitaria spp.</i>	A Finger Grass	0.5											
Chenopodiaceae	<i>Einadia spp.</i>	None			3	400	2	800						
Poaceae	<i>Eragrostis leptostachya</i>	Paddock Lovegrass	8											
Geraniaceae	<i>Erodium spp.</i>	Crowfoot	0.5											
Myrtaceae	<i>Eucalyptus albens</i>	White Box					50							
Geraniaceae	<i>Geranium solanderi</i>	Native Geranium	0.3		2	300	0.5	50						
Juncaceae	<i>Juncus spp.</i>	A Rush	0.1		0.7	50								
Poaceae	<i>Lachnagrostis filiformis</i>	None			1	200	2	200	5					
Lomandraceae	<i>Lomandra spp.</i>	Mat-rush					0.3	50						
Poaceae	<i>Microlaena stipoides</i>	Weeping Grass	4				15	700	15				2	2000
Oxalidaceae	<i>Oxalis perennans</i>	None			0.2	50	0.2	50						
Poaceae	<i>Panicum effusum</i>	Hairy Panic							10					
Poaceae	<i>Panicum spp.</i>	Panicum	1							7				
Polygonaceae	<i>Persicaria spp.</i>	Knotweed			0.3	50								
Poaceae	<i>Rytidosperma pallidum</i>	Red anther Wallaby Grass; Silvertop Wallaby Grass	2											
Poaceae	<i>Rytidosperma spp.</i>	None					10		5		1		2	2000
Malvaceae	<i>Sida corrugata</i>	Corrugated Sida	0.1				0.2	9						
Poaceae	<i>Sporobolus creber</i>	Slender Rat's Tail Grass	8								20			
Poaceae	<i>Sporobolus elongatus</i>	Slender Rat's Tail Grass			2	400	15		25		3	400		
Verbenaceae	<i>Verbena spp.</i>	None	0.3		7		0.5	30	0.2	50				
Plantaginaceae	<i>Veronica spp.</i>	None			0.2	10								
Campanulaceae	<i>Wahlenbergia spp.</i>	Bluebell			0.1	1	0.4	400					0.1	20
Introduced species														
Asteraceae	<i>Aster spp.</i>	None							0.1	20				
Asteraceae	<i>Aster subulatus</i>	Wild Aster			0.3	20								

Family	Scientific name	Common name	37994.P1		37994.P2		37994.P3		37994.P4		37994.P5		37994.P6	
			Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund
Poaceae	<i>Avena spp.</i>	Oats					0.1	2						
Asteraceae	<i>Bidens spp.</i>	None			0.5	50	0.1	1						
Brassicaceae	<i>Brassica spp.</i>	Brassica			2	200								
Poaceae	<i>Briza subaristata</i>	None	0.1											
Poaceae	<i>Bromus catharticus</i>	Prairie Grass			2	300								
Poaceae	<i>Bromus hordeaceus</i>												0.5	500
Asteraceae	<i>Carthamus lanatus</i>	Saffron Thistle	0.2		0.2	10	0.3	10	0.2	30	0.5	200		
Asteraceae	<i>Centaurea calcitrapa</i>	Star Thistle	0.3											
Gentianaceae	<i>Centaureum erythraea</i>	Common Centaury	0.4								0.1	1		
Asteraceae	<i>Cirsium vulgare</i>	Spear Thistle					0.2	1						
Apiaceae	<i>Conium maculatum</i>	Hemlock												
Asteraceae	<i>Conyza spp.</i>	A Fleabane	0.1		3	300	0.5	20	0.5	200				
Apiaceae	<i>Cyclospermum leptophyllum</i>	Slender Celery	2		0.8	100			0.3	300	0.1	20	0.5	1000
Cyperaceae	<i>Cyperus aggregatus</i>	None					5							
Cyperaceae	<i>Cyperus eragrostis</i>	Umbrella Sedge			1	80								
Poaceae	<i>Eleusine indica</i>	Crowsfoot Grass			2	300								
Poaceae	<i>Eragrostis cilianensis</i>	Stinkgrass					0.5	50						
Aizoaceae	<i>Galenia pubescens</i>	Galenia			3	500								
Poaceae	<i>Hyparrhenia hirta</i>	Coolatai Grass	0.3										2	2000
Clusiaceae	<i>Hypericum perforatum</i>	St. John's Wort	6						0.1	5				
Asteraceae	<i>Lactuca serriola</i>	Prickly Lettuce			0.2	10	0.1	1			0.3	50	0.3	100
Poaceae	<i>Lolium spp.</i>	A Ryegrass	0.2											
Primulaceae	<i>Lysimachia arvensis</i>	Scarlet Pimpernel	0.2				0.1	1					1	2000
Fabaceae (Faboideae)	<i>Medicago sativa</i>	Lucerne			1	100								
Malvaceae	<i>Modiola caroliniana</i>	Red-flowered Mallow			0.3	20								
Plantaginaceae	<i>Plantago lanceolata</i>	Lamb's Tongues	1		0.2	10	10		3	400	2	500	25	

Family	Scientific name	Common name	37994.P1		37994.P2		37994.P3		37994.P4		37994.P5		37994.P6	
			Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund	Cvr%	Abund
Polygonaceae	<i>Rumex crispus</i>	Curled Dock	0.5											
Polygonaceae	<i>Rumex obtusifolius</i>	Broadleaf Dock			0.4	10								
Malvaceae	<i>Sida rhombifolia</i>	Paddy's Lucerne	0.1				6		0.1	10				
Solanaceae	<i>Solanum nigrum</i>	Black-berry Nightshade			0.1	1	0.1	1						
Asteraceae	<i>Sonchus oleraceus</i>	Common Sowthistle											0.2	80
Poaceae	<i>Sorghum halepense</i>	Johnson Grass					0.5	10						
Lamiaceae	<i>Stachys arvensis</i>	Stagger Weed	2											
Poaceae	<i>Stenotaphrum secundum</i>	Buffalo Grass											5	
Fabaceae (Faboideae)	<i>Trifolium spp.</i>	A Clover	10		0.4	200							20	
Verbenaceae	<i>Verbena bonariensis</i>	Purpletop									30			
Poaceae	<i>Vulpia spp.</i>												5	

Appendix 2 Significant Impact Criteria assessments

White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands (Critically Endangered).

White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands (Box Gum Woodland) is strongly associated with more fertile soils on lower elevations across the known range in Queensland, New South Wales and Victoria. Over much of its range, this Threatened Ecological Community (TEC) has been subject to extensive clearing and modification for agriculture and grazing, so it often occurs as derived native grasslands (DNG) with no overstorey. For the purposes of this assessment, all PCT 599_DNG and PCT 599_Woodland is considered Box Gum Woodland.

Based on this conservative assumption, the Project will impact on 1.55 hectares of Box Gum Woodland, of which over 95% occurs as a DNG, with impacts to higher condition patches (PCT 599_Woodland) largely avoided via use of trenchless construction methods for portions of the transmission line.

An assessment of the potential significant of this impact is presented below, with a significant impact to Box Gum Woodland determined to be unlikely.

Table A 2: EPBC Act significant impacted assessment for Box Gum Woodland

Criteria	Assessment response
Is there a real chance or possibility that the action will reduce the extent of an ecological community	As outlined in the EPBC Act Listing Advice, the national extent of Box Gum Woodland occurs in an arc along the western slopes and tablelands of the Great Dividing Range from Southern Queensland through NSW to central Victoria (Beadle 1981). It occurs in the Brigalow Belt South, Nandewar, New England Tableland, South Eastern Queensland, Sydney Basin, NSW North Coast, South Eastern Highlands, South East Corner, NSW South Western Slopes, Victorian Midlands and Riverina Bioregions (Environment Australia 2000). The current extent of Box Gum Woodland in NSW is estimated at approximately 250,000 hectares, comprising just 7% of its pre-1750 extent of an estimated 3,700,000 hectares. Of this current estimated extant of 250,000 hectares, approximately 9,000 hectares is estimated to occur within the Nandewar IBRA bioregion, and approximately 39,000 hectares within the NSW North Coast IBRA bioregion (Commonwealth of Australia 2006). The Project will impact upon a total of 1.55 hectares of Box Gum Woodland, within the Nandewar IBRA bioregion. This impact represents a tiny fraction of the extant of Box Gum Woodland at the National scale, and at the bioregional scale.
Is there a real chance or possibility that the action will fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines	Box Gum Woodland occurs within the development footprint in association with the transmission line corridor. Along the transmission line, Box Gum Woodland occurs in an already highly fragmented landscape where there is little connectivity of the community other than what could be considered a 'stepping stone' in nature. Given the woodland patches of the community will largely be avoided and that trenching of DNG will not detract from the present level of connectivity, the Project is considered to have a real chance of increasing fragmentation of the community.
Is there a real chance or possibility that the action will adversely affect	Habitat critical to the survival of Box Gum Woodland is on the moderate to highly fertile soils of the western slopes of NSW, which includes the sections of the

Criteria	Assessment response
habitat critical to the survival of an ecological community	transmission line corridor, albeit in generally poor condition. Critical habitat for the survival of the community also includes areas that contain the floristic structure and patch size requirements listed in the recovery plan for Box Gum Woodland. The Project will impact on 1.55 hectares of this habitat. Based on the scale of the impact, and the tiny proportions of existing Box Gum Woodland and its habitat this equates to in the locality, the Projects is not considered likely to adversely affect habitat critical to the survival of the ecological community.
Is there a real chance or possibility that the action will modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	The construction and operation of the transmission line built to the required Australian Standards is unlikely to result in changes to any abiotic factors that are critical to the long term survival of Box Gum Woodland in areas adjacent to the development footprint. The construction of the transmission line will not require substantial earthworks and measures will be in place during construction and operation to mitigate potential impacts to surface water or groundwater flow patterns.
Is there a real chance or possibility that the action will cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting	The impacts to Box Gum Woodland associated with the Project are, which the exception of one White Box, confined to areas in DNG condition. Impacts will not result in clearing of vegetation unique to the locality, or to species locally common when compared to elsewhere in the development footprint or broader locality. As such the Project is not considered likely to cause a substantial change in the species composition of an occurrence of Box Gum Woodland such that it would continue to decline.
Is there a real chance or possibility that the action will cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to: • assisting invasive species, that are harmful to the listed ecological community, to become established, or • causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community	As outlined above, impacts to Box Gum Woodland associated with the Project are almost wholly confined to areas of DNG associated with the transmission line. Box Gum Woodland present along the transmission line and in the surrounding landscape largely occurs as fragmented and isolated patches in an over-cleared landscape. The construction and operation of the transmission line will not result in negative ongoing impacts to the community in the landscape, nor will it increase existing pressures associated with fragmentation, isolation and edge effects. Generally, the Project is not expected to exacerbate sources of negative impacts such as weed encroachment above the levels that already existing in the landscape. It cannot be said that the Project is likely to cause a substantial reduction in the quality or integrity of an occurrence of an ecological community through vectors such as invasion of weeds, or the increase of chemicals or other pollutants.
Is there a real chance or possibility that the action will interfere with	Given Box Gum Woodland within the subject land occurs as DNG and small wooded patches on private land, there is limited opportunity for recovery of Box

Criteria	Assessment response
the recovery of an ecological community	Gum Woodland in this setting. It is envisioned that areas of trenching and disturbance along the transmission line, through active rehabilitation and natural regeneration, are likely to return to a condition commensurate to pre-construction. In light of the above, the Project will not result in direct or future ongoing impacts that are likely to interfere with the recovery of Box Gum Woodland.
Conclusion The potential for the Project to cause a significant impact to Box Gum Woodland is considered unlikely as: • Impacts to Box Gum woodland are minor (1.55 ha), somewhat temporary in nature and no critical habitat will be impacted. • The Project will not substantially reduce the extent or increase fragmentation of Box Gum Woodland. • The Project cannot be said to substantially interfere with the recovery of Box Gum Woodland.	

Bluegrass *Dichanthium setosum* (Vulnerable)

Bluegrass *Dichanthium setosum* is an upright perennial grass less than 1 metre tall. Bluegrass is associated with heavy basaltic black soils and stony red-brown hardsetting loam with clay subsoil and is found in moderately disturbed areas such as cleared woodland, grassy roadside remnants, grazed land and highly disturbed pasture. The extent to which this species tolerates disturbance is unknown, however habitat for this species is considered present within PCT 599_DNG and PCT 599_Woodland. Targeted searches of suitable habitat within the development footprint were undertaken within 99% of suitable habitat within the development footprint and Bluegrass was not detected. As such, direct impacts are not envisioned, however, areas that were not surveyed may still contain the species and be subject to indirect impacts.

An 'important population' is a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- key source populations either for breeding or dispersal.
- populations that are necessary for maintaining genetic diversity, and/or
- populations that are near the limit of the species range.

For the purposes of this assessment, an important population of Bluegrass is not considered present.

Table A 3: EPBC Act significant impacted assessment for Bluegrass *Dichanthium setosum*.

Bluegrass
Lead to the long-term decrease in the size of an important population of a species.
An important population of Bluegrass is not considered present, therefore this criterion does not apply.
Reduce the area of occupancy of an important population.
An important population of Bluegrass is not considered present, therefore this criterion does not apply.
Fragment an existing important population into two or more populations.
An important population of Bluegrass is not considered present, therefore this criterion does not apply.
Adversely affect habitat critical to the survival of a species.
Habitat critical to the survival has not been determined. The species is considered to not occur within the development footprint and given an important population would not be present, it cannot be said habitat critical to the survival of Bluegrass would be adversely affected.
Disrupt the breeding cycle of an important population.
An important population of Bluegrass is not considered present, therefore this criterion does not apply.
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

Bluegrass

The Project will impact, somewhat temporarily, 1.86 ha of potential Bluegrass habitat. Similar habitat value is widespread within the locality including contiguous lands that would not be impacted, therefore, it is considered unlikely that the Project would cause the species to decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.

Bluegrass habitat within the subject land is already prone to pressure from invasive flora, such as common roadside weeds including Coolatai Grass. The Project would introduce disturbance via trenching and construction movements, which has the potential to facilitate further establishment of invasive flora within Bluegrass habitat. Counter measures to this include rehabilitation of disturbed areas, and hygiene protocols for plant and equipment entering and exiting the development footprint.

Introduce disease that may cause the species to decline.

Bluegrass is not known to be susceptible to any particular diseases. Although trenching and associated machinery movements will be required, the potential for this to introduce soil borne pathogens is considered unlikely as hygiene protocols for plant and equipment entering and exiting the development footprint will be in place.

Interfere substantially with the recovery of the species.

Bluegrass has a broad distribution within the Border Rivers–Gwydir, Central West, Namoi, Northern Rivers (NSW), South East and Fitzroy (Queensland) Natural Resources Management Regions. In this context, the negligible habitat removal; proposed by the Project is unlikely to interfere substantially with the recovery of Bluegrass.

Conclusion.

The potential for the Project to cause a significant impact to Bluegrass is considered unlikely as:

- An important population of Bluegrass is not present.
- The Project is unlikely to cause the species as a whole to decline.
- The Project cannot be said to interfere with the recovery of the species.

Appendix 3 BAM-C report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00052610/BAAS18155/24/00052611	Calala BESS SSD-52786213 Modification	05/08/2025
Assessor Name	Report Created	BAM Data version *
Brendon True	11/09/2025	Current classification (live - default) (82)
Assessor Number	BAM Case Status	Date Finalised
BAAS18155	Finalised	11/09/2025
Assessment Revision	BOS entry trigger	Assessment Type
4		Major Projects

* 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 SAI	Ecosystem credits

Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion

1	599_DNG	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	32.1	32.1	0.17	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	3
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BAM Credit Summary Report

2	599_Woodland	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	63.8	63.8	0.06	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	2
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BAM Credit Summary Report

3	599_DNG_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	18.6	18.6	0.37	Population size	High Sensitivity to Gain	Critically Endangered Ecological Community	Not Listed	2.50	True	4
											Subtotal	9
											Total	9

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