Burrendong Wind Farm

Amendment Report

Ark Energy

ecological AUSTRALIA

A TETRA TECH COMPANY

DOCUMENT TRACKING

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Template 2.8.1

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Abbreviations

Abbreviation	Description
ACHA	Aboriginal Cultural Heritage Assessment
ACMA	Australian Communications Media Authority
AHL	Aviation Hazard Lighting
Ark Energy	Ark Energy Corporation Pty Ltd
BAM	Biodiversity Assessment Method
BAM-C	Biodiversity Assessment Method Calculator
BBAMP	Bird and Bat Adaptive Management Plan
BBUS	Bird and Bat Utilisation Survey
BC Act	*Biodiversity Conservation Act*
BCD	Biodiversity Conservation Division
BCS	Biodiversity Conservation Science Group
BDAR	Biodiversity Development Assessment Report
BTEXN	Benzene, Toluene, Ethylbenzene, Xylenes, and Naphthalene
CASA	Civil Aviation Safety Authority
Cd	Candela
$CO_{2\text{-}e}$	carbon dioxide equivalent emissions
CRM	Collision Risk Model
CWAS	Construction Workforce Accommodation Strategy
CWO	Central West Orana
DAWE	Department of Agriculture Water and Environment
dB	Decibels
DoD	Department of Defence
DPE	Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure
DPIE	Department of Planning Industry and Environment
DRC	Dubbo Regional Council
ED	Emergency Department
EIA	Economic Impact Assessment
EIS	Environmental Impact Statement
ELA	Eco Logical Australia
EP&A Act	*Environmental Planning & Assessment Act*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2021*
EPBC Act	*Environmental Protection Biodiversity Conservation Act*
FTE	Full-Time Equivalent
GHG	Greenhouse Gas
Gl	Gigalitres
Ha	Hectares
HBT	Hollow Bearing Tree
IPC	Independent Planning Commission

Abbreviation	Description
LALC	Local Aboriginal Lands Council
LGA	Local Government Area
LLS	Local Land Service
LSPS	Local Strategic Planning Statement
LTAAEL	Long-term Average Annual Extraction Limit
LVIA	Landscape and Visual Impact Assessment
MDA	Marshall Day Acoustics
MW	Megawatt
MWRC	Mid-Western Regional Council
MWTT	Multiple Wind Turbine Tool
NSW	New South Wales
NVIA	Noise and Vibration Impact Assessment
OSOM	Over Size Over Mass
PAH	Polycyclic Aromatic Hydrocarbons
PHES	Pumped Hydro Energy Storage
Planning Systems SEPP	*State Environmental Planning Policy (Planning Systems) 2021*
RAP	Registered Aboriginal Party
REZ	Renewable Energy Zone
RSA	Rotor Swept Area
SAII	Serious And Irreversible Impact
SEARs	Secretary Environmental Assessment Requirements
SEH	South Eastern Highlands
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan
SSD	State Significant Development
SSDA	State Significant Development Application
SU	Survey Units
SWS	South Western Slopes
TECs	Threatened Ecological Communities
TfNSW	Transport for New South Wales
the Project	Burrendong Wind Farm
the Proponent	Burrendong Wind Farm Pty Ltd
TRH	Total Recoverable Hydrocarbons
TSS	Total Suspended Solids
TTIA	Traffic and Transport Impact Assessment
TWAF	Temporary Workforce Accommodation Facilities
WTG	Wind Turbine Generator
ZVI	Zone of Visual Influence

Executive Summary

ABOUT THE PROJECT

Burrendong Wind Farm Pty Ltd (the Proponent) proposes to construct and operate the Burrendong Wind Farm (the Project), located 30 km west of Mudgee in Central-West Orana region of New South Wales (NSW) (Figure A-1-1).

The Project is seeking approval under the State Significant Development provisions (Division 4.7) of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as the Project is declared to be SSD under Section 2.6 of *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP).

An Environmental Impact Statement (EIS) was prepared for the Project in accordance with the requirements of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). The EIS was publicly exhibited between 16 November 2023 and 20 December 2023 by the former Department of Planning and Environment (DPE) (now known as NSW Department of Planning, Housing and Infrastructure (DPHI).

The Proponent has prepared a Submissions Report which responded to the issues raised in agency advice and public submissions. This Amendment Report has also been prepared to assess the environmental, social and economic impacts of the amendments proposed to the Project.

The Burrendong Wind Farm consists of the installation, operation, maintenance, and decommissioning of up to 70 Wind Turbine Generators (WTGs), electrical infrastructure, ancillary infrastructure, public road upgrades and access tracks and temporary facilities. The Project would introduce an additional 400 – 500 Megawatts (MW) of renewable energy into the NSW electricity grid, supporting both NSW and Commonwealth Government renewable energy targets.

This Amendment Report has been prepared by Eco Logical Australia (ELA) to support applications for State Significant Development (SSD) Consent for the Project (SSD 8950984) under Division 4.7 of Part 4 of the EP&A Act. The Amendment Report has been prepared in accordance with the *State Significant Development Guidelines – Preparing an Amendment Report* (DPIE 2022) and the NSW Wind Energy Guideline (DPHI 2024). The purpose of the report is to describe proposed amendments and refinements to the Project, provide updated environmental, social and economic assessments and recommend additional measures to avoid or minimise impacts. The Proponent has broadly consulted stakeholders during the amendment and submission phase to better refine the output of the Amendment Report.

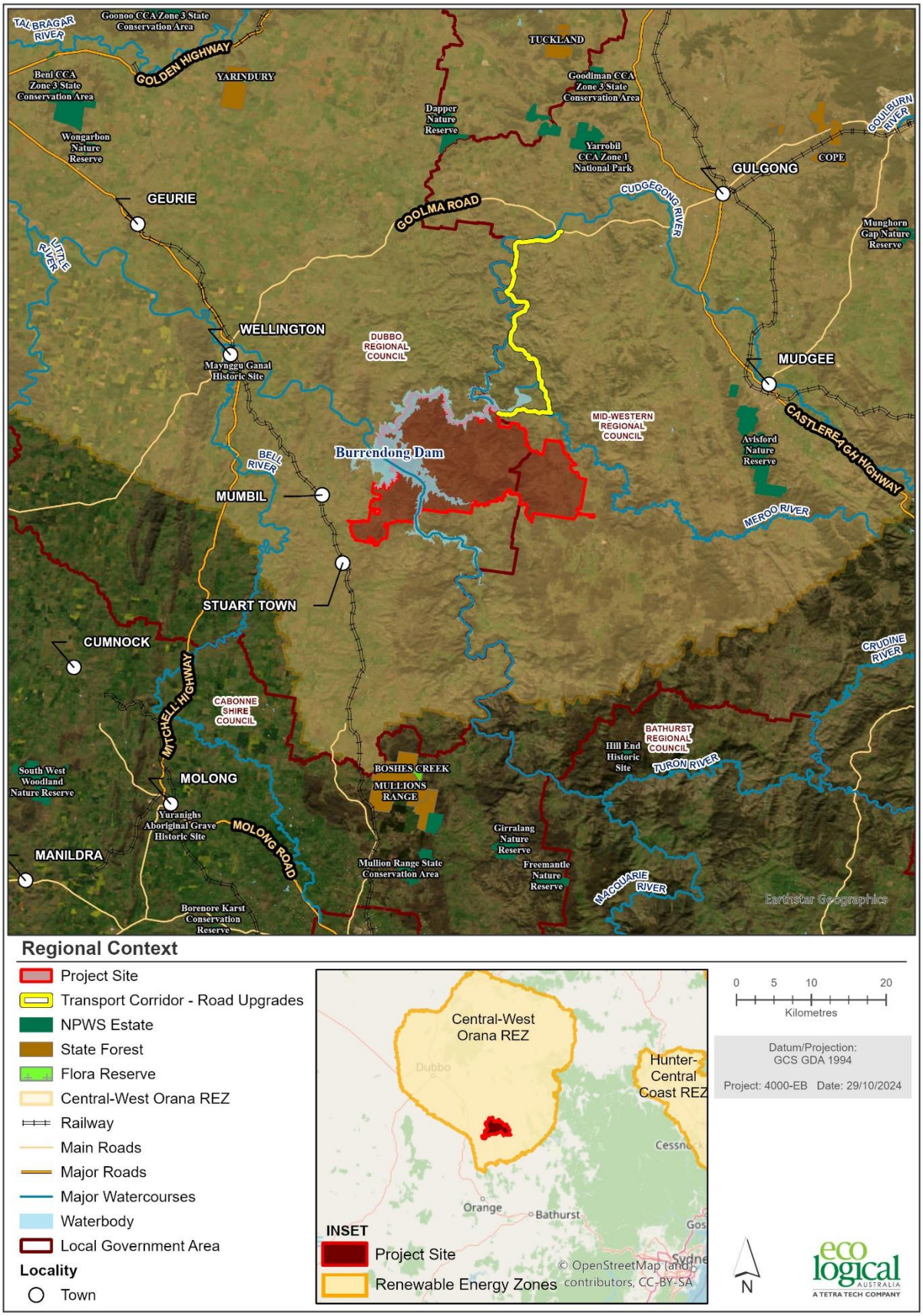

Figure A-1-1: Project Site Regional Context

WHAT ARE THE KEY AMENDMENTS TO THE PROJECT

This Amendment Report contains assessments and updates to the Project package that was submitted during the EIS phase. This report details the changes and updates that have been made following the response to submissions phase where stakeholders raised a number of topics and issues requiring further clarification or assessment. As a result, this Amendment Report details how the Project will further reduce or mitigate impacts, with the key changes including:

Removal of the northern transmission line option

Change to the Project Site boundary to accommodate removal of the northern transmission line

Realignment of the southern transmission line to avoid proposed Yarrabin Phoenix Pumped Hydro infrastructure

Refinement of the southern transmission line and power pole design to reduce the development footprint around the powerline easement and include power pole construction access tracks, utilising existing farm tracks where possible

Realignment of sections of access tracks in order to reduce impacts to Box Gum Woodland that was classified in 'good condition'

Additional site access options to reduce impacts to native vegetation

Inclusion of a Temporary Workers Accommodation Facility as part of the Project infrastructure situated within the Development Footprint

WHAT ARE THE KEY PROJECT BENEFITS

Displacing 900,00 tonnes of CO2-e from the current NSW energy generation supply, helping to tackle climate change and reduce reliance on coal power

Provision of clean energy to power the equivalent of approximately 247,000 average NSW households each year.

An estimated 250 Full Time Equivalent positions during construction and 12 direct full-time positions during the operation of the Project.

Community benefit fund through a planning agreement with Dubbo Regional Council (DRC) and Mid-Western Regional Council (MWRC) to support local communities

Providing a diversified income stream for rural landholders and neighbours of the Project

Contribute to achieving Australia's annual renewable energy target to install 33,000 GWh of renewable energy

KEY REPORT UPDATES

The preparation of the EIS and supporting technical documentation assessed the potential impacts of the Project on a variety of environmental factors, including biodiversity, noise, traffic. This Amendment Report includes amendments to previously prepared reports as well as the preparation of new technical studies (Figure A-1-2). Additionally, new mitigation measures have been identified to account for changes to the Project design following further assessment and Project revision.

Figure A-1-2: Key Report Updates

1. Introduction

1.1. Overview

Burrendong Wind Farm Pty Ltd (the Proponent), a wholly owned subsidiary of Ark Energy Corporation Pty Ltd (Ark Energy) is proposing to develop Burrendong Wind Farm (the Project), located within Dubbo Region Council (DRC) Local Government Area (LGA) and Mid-Western Regional Council (MWRC) LGA in central west New South Wales (NSW).

The Project Site is located 30 km west of Mudgee with Lake Burrendong bordering the site to the west. The Project will contribute to reducing greenhouse gas (GHG) emissions by up to 900,000 tonnes of carbon dioxide equivalent emissions (CO_2e) associated with energy generation and provide significant economic benefits to the region.

The Environmental Impact Statement (EIS) for the Project was placed on public exhibition by the NSW Department of Planning, Housing, and Infrastructure (DPHI) from 16 November 2023 to 20 December 2023. During the public exhibition period DPHI received 256 submissions. This included 15 government agency/local government submissions and 241 community submissions.

The 241 submissions received from the community included 231 submissions objecting to the Project, six (6) submissions in support and four (4) comments. A full analysis of the submissions and the associated responses are provided in the Burrendong Wind Farm Submissions Report and not included within this Amendment Report (ELA 2026a).

This Amendment Report has been prepared by Eco Logical Australia (ELA) on behalf of the Proponent in accordance with the NSW Department of Planning Industry and Environment *State Significant Development Guidelines – preparing an amendment report (DPIE 2022).*

1.2. The Proponent

The Proponent of the Project is Burrendong Wind Farm Pty Ltd, a wholly owned subsidiary of Ark Energy, an Australian renewable energy company and subsidiary of Korea Zinc Co Ltd. In 2022, Ark Energy acquired Epuron Pty Ltd (Epuron), a highly experienced wind energy development company in NSW, as well as a significant developer of solar projects across Australia. Ark Energy is also at the forefront of development of Australia's green hydrogen industry.

Following the acquisition of Epuron in 2022, Ark Energy also took over ownership of Epuron's large portfolio of wind and solar energy projects across Queensland, New South Wales, and Tasmania. The portfolio of renewable energy assets under Ark Energy includes the following projects in development, under construction and currently operating:

- White Rock Wind Farm – 175 MW wind farm in Glen Innes, NSW (operating, owned by Goldwind)
- Liverpool Range Wind Farm – 185 WTGs, approx. 1,332 MW in the Upper Hunter Valley, NSW (pre-construction, owned by Tilt Renewables)
- Bowmans Creek Wind Farm – 54 WTGs in Muswellbrook, NSW (approved, owned by Ark Energy)

- Coppabella Wind Farm – 284 MW 20 km west of Yass, NSW (pre-construction, owned by Goldwind)
- Rye Park Wind Farm – 327 MW, north of Yass, NSW (operating, owned by Tilt Renewables)
- Silverton Wind Farm – 200 MW, west of Broken Hill, NSW (operating, owned by AGL Energy)
- Gullen Range Wind Farm – 165.5 MW, Crookwell, NSW (operating, owned by Goldwind)
- Cullerin Range Wind Farm – 30 MW, Cullerin, NSW (operating, owned by EDL).

Further details can be found at the website www.arkenergy.com.au.

1.3. Project History

The EIS for the Project was prepared by ELA on behalf of the Proponent to support the State Significant Development Application (SSDA) to develop a wind farm at Burrendong, NSW. The EIS was prepared in accordance with *State Significant Development Guidelines – Preparing an EIS* (DPIE 2022) and Secretary's Environmental Assessment Requirements (SEARs), dated 30 September 2022.

The Project has an estimated capital value of $250 million. Under the *State Environmental Planning Policy (Planning Systems) 2021*, electricity generating works that have a capital investment value of more than $30 million are classified as "State Significant Development" (SSD) and require approval under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) through the preparation of an EIS.

As such, the EIS was prepared under Part 4 of the EP&A Act, in accordance with the SEARs, dated 14 September 2018, and the requirements of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (now repealed and in accordance with Part 8 of *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation)).

Key environmental issues investigated and addressed in the EIS through specialist assessments, based on the requirements of the SEARs and that were considered higher risk environmental issues, included:

- Aboriginal cultural heritage
- Agriculture
- Air quality
- Aviation
- Biodiversity
- Bushfire
- Economic
- Groundwater
- Landscape and Visual
- Noise and vibration
- Social
- Surface water
- Telecommunications
- Traffic and transport.

Lower risk issues were investigated primarily by desktop assessment (such as soils, waste and blade throw). Based upon the impacts identified within the assessments, a set of mitigation measures were

proposed to ensure that all environmental impacts associated with the Project could be managed appropriately.

The EIS for the Project was placed on public exhibition between 16 November and 20 December 2023 and exhibited online at https://pp.planningportal.nsw.gov.au/major-projects/projects/burrendong-wind-farm.

During the exhibition period, submissions were received from members of the public, community groups and government agencies. These were collated and provided to Ark Energy by DPHI on 21 December 2023 except for Airservices Australia (ASA), Biodiversity Conservation Division (BCD) (previously Biodiversity Conservation Science Group (BCS) and now Conservation Program and Heritage Regulatory Group (CPHR)), Commonwealth Department of Defence (DoD) and Transport for NSW (TfNSW). The TfNSW response was received 11 January 2024 and BCS response was received 14 February 2024. No responses were received from ASA or DoD.

1.4. Project Description

The Project is proposed to be located within the traditional lands of the Wiradjuri Aboriginal Nation. The location of the Project spans the jurisdictions of two local Councils, DRC LGA and MWRC LGA in the state suburbs of Yarrabin and Mumbil. The Project Site is located 30 km west of Mudgee, within the Mudgee Local Land Services (LLS) region and the Central-West Orana (CWO) Renewable Energy Zone (REZ) (Figure 1-1). The Project Site borders Lake Burrendong on the western side and is located on predominantly privately owned land used for agricultural purposes.

The Project consists of the installation, operation, maintenance, and decommissioning of up to 70 Wind Turbine Generators (WTGs), electrical infrastructure, ancillary infrastructure, public road upgrades and access tracks and temporary facilities. The Project is designed to accommodate WTGs up to 250 m in height, with a nameplate capacity of approximately 6-8 MW. On these terms, and subject to Development Consent and market changes, the Project is estimated to have an installed generating capacity of approximately 400-500 MW. The Project would connect to the existing Transgrid 330 kV transmission line to the west of the Project Site, on the western side of Lake Burrendong.

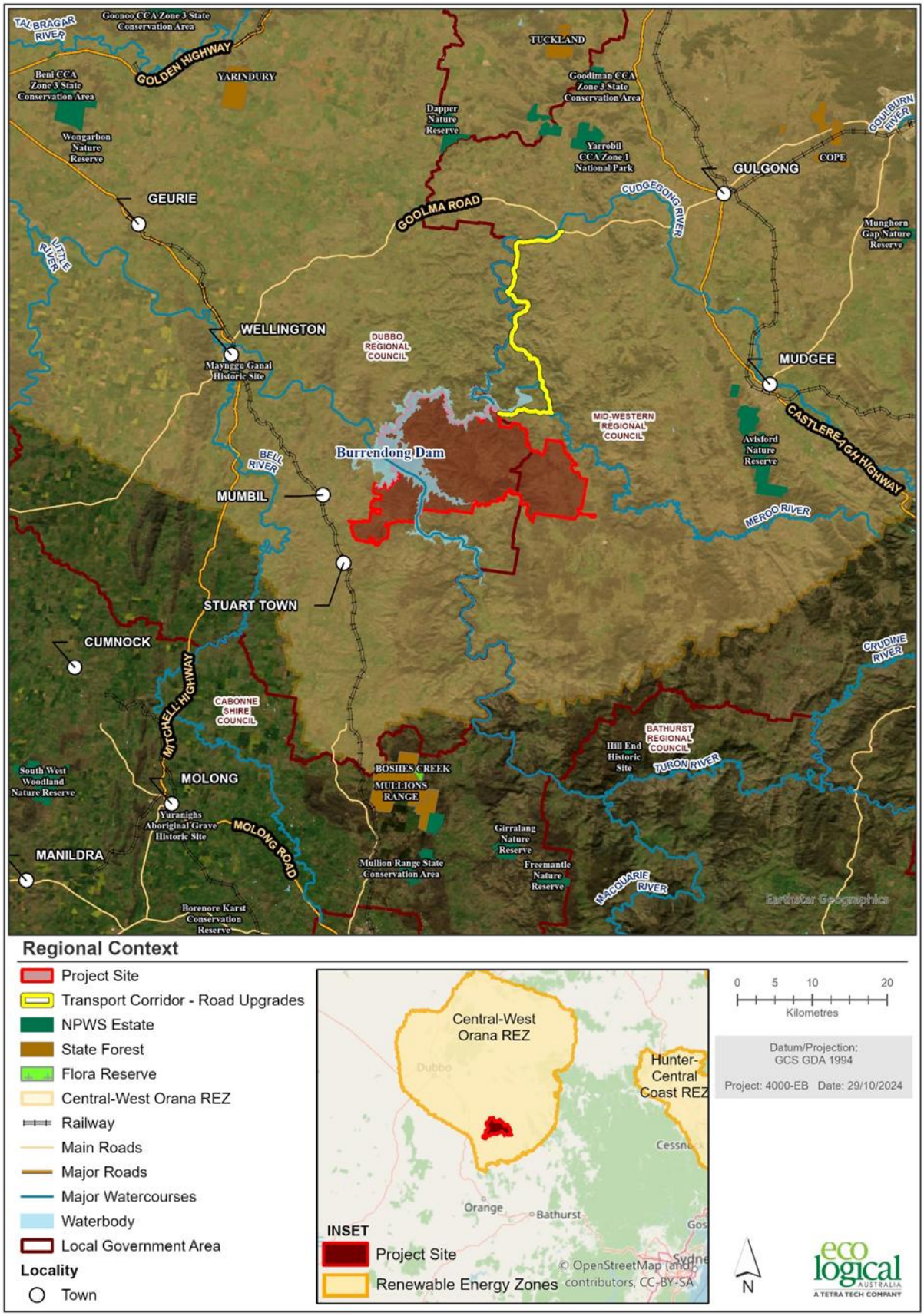

Figure 1-1: Regional Context of the Project Site

1.5. Project Amendments and Clarifications

ELA has prepared this Amendment Report on behalf of the Proponent to fulfil the requirements of Schedule 1 of the EP&A Act. This Amendment Report has been prepared in accordance with the *State Significant Development Guidelines – preparing an amendment report* (DPIE 2022).

The purpose of this Amendment Report is to:

- present the amendments to the Project
- assess the environmental, economic, and social impacts
- assist communities, councils, government agencies, and the consent authority in understanding the nature and implications of the changes, thereby enabling informed submissions (if exhibited) or decisions on the merits of the amended Project.

The Project has been refined and amended in response to:

- submissions received during the exhibition of the EIS, refer to Figure 3-2 in Section 3 for a summary of amendments made in response to specific submissions
- findings from revised environmental assessments (including biodiversity and heritage)
- consultation with relevant government agencies, local councils and other stakeholders.

These refinements aim to further minimise the environmental, economic, and social impacts of the Project. As a result, the following updated documentation has been prepared:

- Appendix A.1 – Updated Project Description
- Appendix A.2 – Temporary Workers Accommodation Facility (TWAF) Addendum Report and appendices (Barnson 2025)
- Appendix A.3 – Detailed Project Figures
- Appendix B – Statutory Compliance Table
- Appendix C – Mitigation Measures Table.

Key updates to technical assessments include:

- Appendix D – Landscape and Visual Impact Assessment (LVIA) Addendum (Moir Studios 2026)
- Appendix E.1 – Noise and Vibration Impact Assessment (NVIA) Addendum – Wanda Vale (Marshall Day Acoustics (MDA) 2024a)
- Appendix E.2 Noise and Vibration Memorandum (MDA 2026)
- Appendix F.1 – Revised Biodiversity Development Assessment Report (BDAR) (ELA 2026b)
- Appendix G – Revised Route Survey Assessment Report (Rex J Andrews 2024)
- Appendix H.1 – Revised Traffic and Transport Impact Assessment (TTIA) (Stantec 2026)
- Appendix H.2 - Intersection Strategic Designs (EMM 2026)
- Appendix I – Aviation Lighting Plan (Aviation Projects 2024)
- Appendix J – Blade Throw assessment (Middleton Group 2026)
- Appendix K – Revised Telecommunications Assessment (Middleton Group 2024b)
- Appendix L.1– Revised Aboriginal Cultural Heritage Assessment (ACHA) Report (ELA 2026c)
- Appendix L.2 – OSOM Road Upgrades Heritage Memorandum (ELA 2026d)
- Appendix M – Revised Surface Water Assessment (ELA 2024a)

- Appendix N – Revised Groundwater Assessment (ELA 2024b)
- Appendix O – Preliminary Site Investigation (PSI) (Ramboll 2025)
- Appendix P – Social impact Assessment (SIA) Addendum (Ethos Urban 2024a)
- Appendix Q – Construction Workforce and Accommodation Strategy (CWAS) (Ethos Urban 2024b).

1.5.1. Relationship to Other Reports

This Amendment Report accompanies a Submissions Report, which has been lodged concurrently (ELA 2026a). The Submissions Report provides detailed responses to all submissions received from the public and government agencies in relation to the EIS. To avoid duplication, those responses are not repeated in this Amendment Report.

2. Strategic Context

The strategic context of the Project remains consistent with Chapter 2 (Strategic Context) presented within the EIS (ELA 2023a).

The strategic need for the Project remains consistent with the EIS (ELA 2023a), with Project helping to reduce carbon emissions by displacing approximately 900,000 tonnes of CO_2e annually (based on current NSW emission figures of 0.68kg of CO_2 equivalent per kWh (CO_2e/kWh)), providing progress towards the NSW net zero emissions target, as well as national and international environmental commitments.

The Project is consistent with the directions and actions of several local and regional plans including:

- **Central West and Orana Regional Plan 2041:** The Plan reinforced the significant potential of the region for renewable energy projects with vast open spaces and elevated tablelands suitable to wind energy. The Project will seek consent to develop a wind farm that will assist in delivering the following objectives set out in the plan:
    - *Objective 3:* Plan for resilient places and communities by providing a clean renewable energy source in the region.
    - *Objective 13*: Protect agricultural production values and promote agricultural innovation, sustainability, and value-add opportunities by diversifying revenue streams for involved landowners on agricultural lands.
    - *Objective 20*: Leverage the CWO REZ to provide economic benefit to communities by providing jobs, stimulating local economies.

    The Central West and Orana Regional Plan 2041 also builds on 19 Local Strategic Planning Statements (LSPSs) to ensure the region's ongoing prosperity by providing a robust, up to date strategic framework.

- **Dubbo and Mid-Western Regional Council Local Strategic Planning Statements:** Both the DRC and MWRC LSPSs plans for the economic, social, and environmental land use needs for their communities. As the Project Site falls within both LGAs, the two LSPSs apply. These planning statements set out land use planning priorities to ensure that future development within the respective LGA is appropriate for the local context.
    - The Dubbo LSPS sets out 4 main themes to deliver on their vision of becoming a "key strategic centre, to be a place with a strong community spirit, a key centre for economic activity and a centre for education and the servicing of a significant population" (DRC 2020). The Project will assist in delivering on the DRC vision for the future by specifically addressing the Planning Priorities:
        - 1: Plan for the delivery of infrastructure to support growth
        - 3: Promote Renewable Energy generation
        - 5: Protect and enhance our agricultural industries and agribusiness
        - 18: Develop resilience to climate change.

- The MWRC LSPS sets out 3 main themes to deliver on their vision "to provide for sustainable growth and development, having regard to the Region's unique heritage, environment and rural character, and to support agricultural enterprises and the Region's economic base" (MWRC 2020). The Project will assist in delivering on the MWRC vision for the future by specifically addressing the Planning Priorities:
  - 4: Provide infrastructure and services to cater for the current and future needs of our community
  - 5: Ensure land use planning and management enhances and protects biodiversity and natural heritage
  - 8: Provide leadership on economic development initiatives and identify resources and infrastructure required to drive investment and economic growth in the Region.

- **NSW Wind Energy Guidelines**: The Project has been developed in accordance with the typical assessment and approval processes of SSD. The Wind Energy Guidelines (DPE 2016a) which were developed by Department of Planning and Environment (DPE), specifically for large scale wind energy projects, outline the environmental issues relevant to wind energy developments that must be considered in the environmental assessment. These issues have subsequently been included in the SEARs for the Project, dated 30 September 2022, and include strategic context (compliance with climate change policies and RETs), visual and landscape, noise and vibration, biodiversity, traffic and transport, hazards and risk, heritage, water, and soils, waste, and socio-economic impacts, decommissioning and cumulative impacts.

  The Wind Energy Guidelines (DPE 2016a) have been an integral component in the development of the Project and each of the environmental assessment requirements are addressed by the Proponent. The Project complies with and is consistent with the requirements of the Guidelines to ensure coherence with the SEARs as well as other relevant Plans and Policies pertaining to large scale wind farm developments.

  To note, whilst the new Wind Energy Guidelines were released in November 2024, the 2016 Wind Energy Guidelines still apply due to the submission date of the EIS as outlined in the Renewable Energy Planning Framework Transitional Arrangements (DPHI 2024).

3. Description of Amendments

Since the submission of the EIS, the Project has been refined (Figure 3-1) in response to feedback received during discussions with stakeholders (Table 3-1), and as knowledge of the Project Site and constraints have increased. Following the exhibition of the EIS, the Proponent has made additional design modifications in response to the consideration of stakeholder feedback, advice from technical consultants and additional biodiversity constraints mapping, including:

- refinement in windfarm ancillary infrastructure layout to reduce environmental and heritage impacts resulting in a reduced Project Site, Development Corridor and Development Footprint
- removal of the northern (alternative) wind farm connection powerline and switchyard to avoid sensitive Aboriginal heritage areas following consultation with Aboriginal stakeholders and Registered Aboriginal Parties (RAPs)
- refinement of wind farm access tracks and turbine hardstand locations to reduce impacts to Box -Gum Woodland, Derived Native Grasslands and aboriginal heritage sites
- 330kV wind farm powerline, inclusion of:
    - Additional access tracks have been identified and assessed to enable access for the construction of power poles and installing of powerline. The location of the tracks were informed by following existing farm-tracks where possible to reduce clearing and ground disturbance
    - Re-alignment of the powerline to avoid proposed Yarrabin Phoenix Pumped Hydro Energy Storage (PHES) infrastructure
    - Refined design and power pole location to reduce to impacts to Threatened Ecological Communities (TECs)
- an intersection upgrade at Goolma and Twelve Mile Road (near Two Mile Flat) to accommodate OSOM turbine blade movement
- An onsite TWAF has been proposed and assessed as part of the wind farm temporary ancillary infrastructure to house 100% of non-local workforce required to construct the Project, reducing the impact on housing and tourism accommodation in the local area.

Table 3-1: Project amendments as a result of specific submissions

#	Amendment	As a result of specific submission(s) from:
1	Removal of northern powerline option	RAPs and CHPR
2	Realignment of 330kV powerline	ACEN Phoenix PHES
3	Addition of TWAF	DPHI and MWRC
4	Minor realignment of access tracks to reduce impact on Box Gum Woodland	CHPR

An overview of the Project amendments compared to the project included in the original development application is provided in Table 3-2 and Figure 3-1 shows the EIS Project while Figure 3-3 shows the amended Project. Further details of the amendments are described and depicted in more detail throughout this section.

A consolidated description of the amended project is provided in Appendix A.1 and detailed Project Layout figures have been included within Appendix A.3 of this Amendment Report (ELA 2026).

Table 3-2: Project Amendments Summary

Project Element	Original Project (EIS 2023)	Amended Project	Change
Project Site	29,176 ha	27,086 ha	Reduction of 2,090 ha
Development Corridor	3,058 ha	1,322 ha	Reduction of 1,736 ha
Development Footprint	855 ha[1]	730.73 ha (includes Option A and Option B)	Reduction of 124.3 ha
Number of Connection powerlines	Two options considered (preferred and alternate)	One connection power line (17km)	Alternate powerline no longer proposed - decrease of 74 ha footprint
Switchyard	Two	One	Northern switchyard associated for alternate grid connection point removed
Access points	Three	Two	Access via Burrell Creek Road no longer needed due to removal of 'alternate' powerline
Access Track near site entry off Burrendong Dam Road	Wind farm access Option B included as part of access track	Additional section of access track included and assessed providing optionality - Option A and B included	Additional portion of track (Option A) near Project Site access included - additional 2.1 km of track assessed (Development Footprint area approx. 9.6 ha)
Powerline pole/line access tracks	Not assessed	39 km assessed	Reduction of 34.8 ha in vegetation clearing and ground disturbance in powerline easement
TWAF – up to 260 beds	Not assessed	Included as temporary ancillary infrastructure to the wind farm	3.1 ha increase in Development Footprint

[1] Windfarm, Southern Connection Powerline, Local Road Upgrades

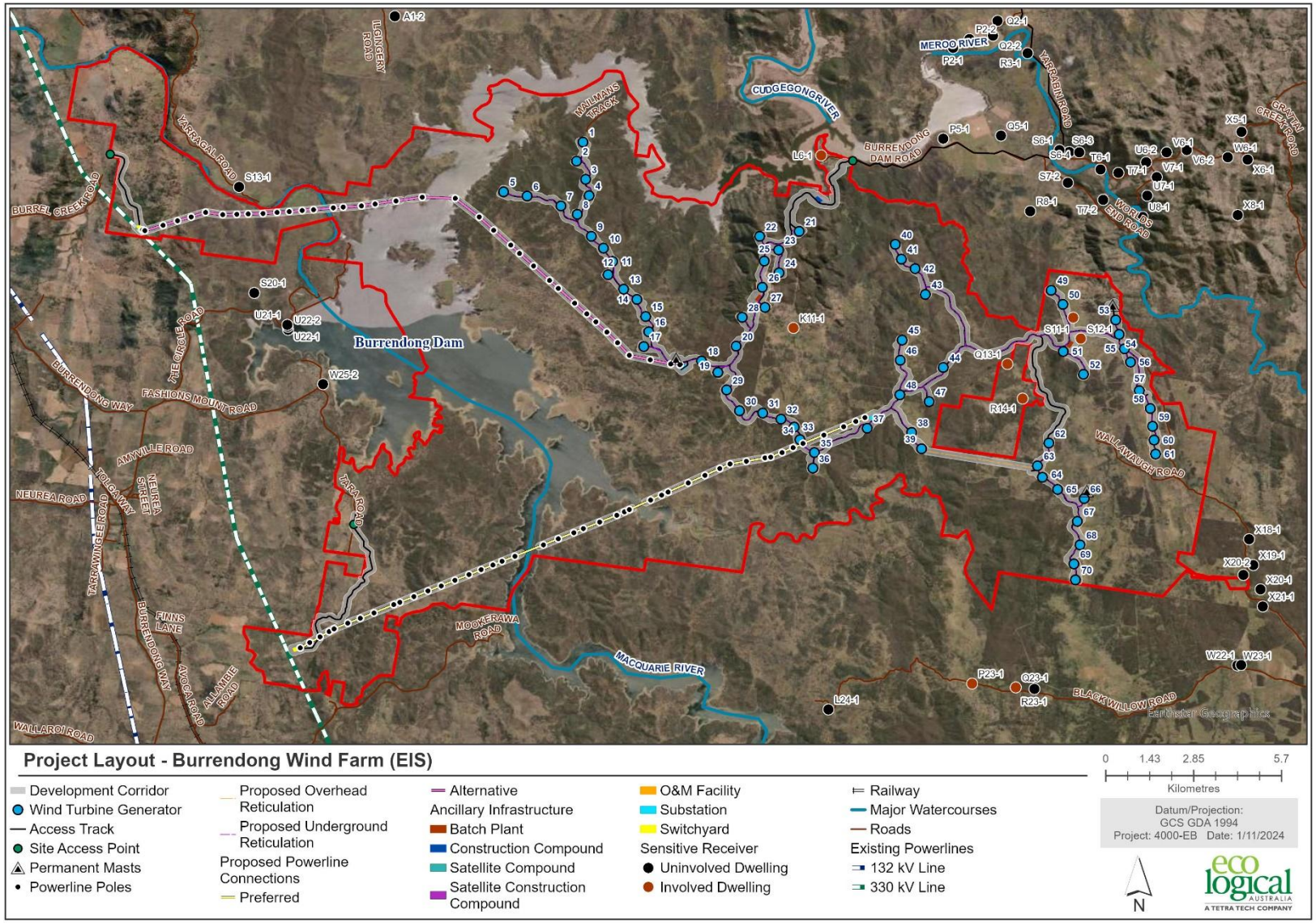

Figure 3-1: EIS Project Layout

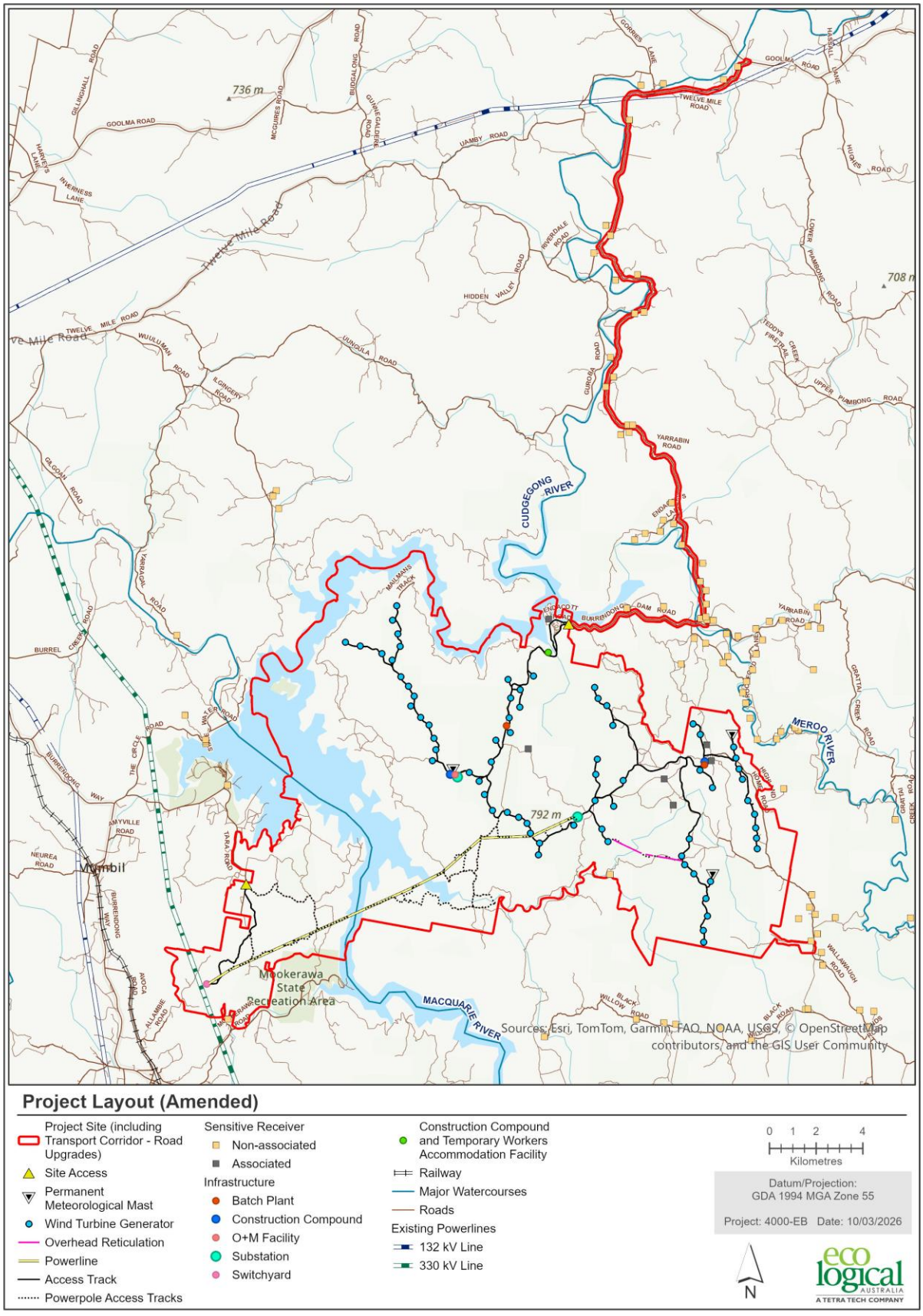

Figure 3-2: Amended Project Layout

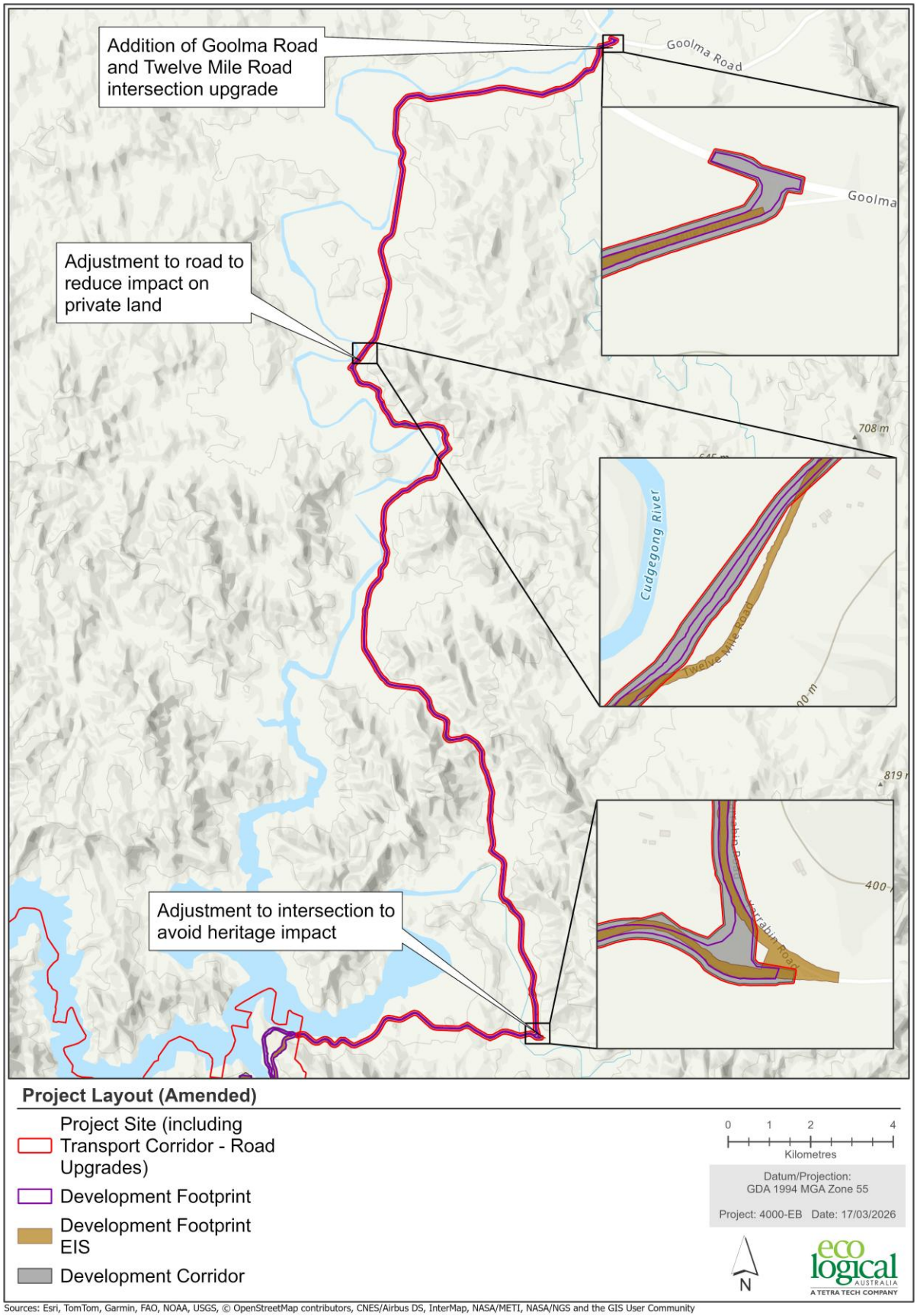

Figure 3-3: Amended Project Site – Site Access upgrades (Public road and intersection)

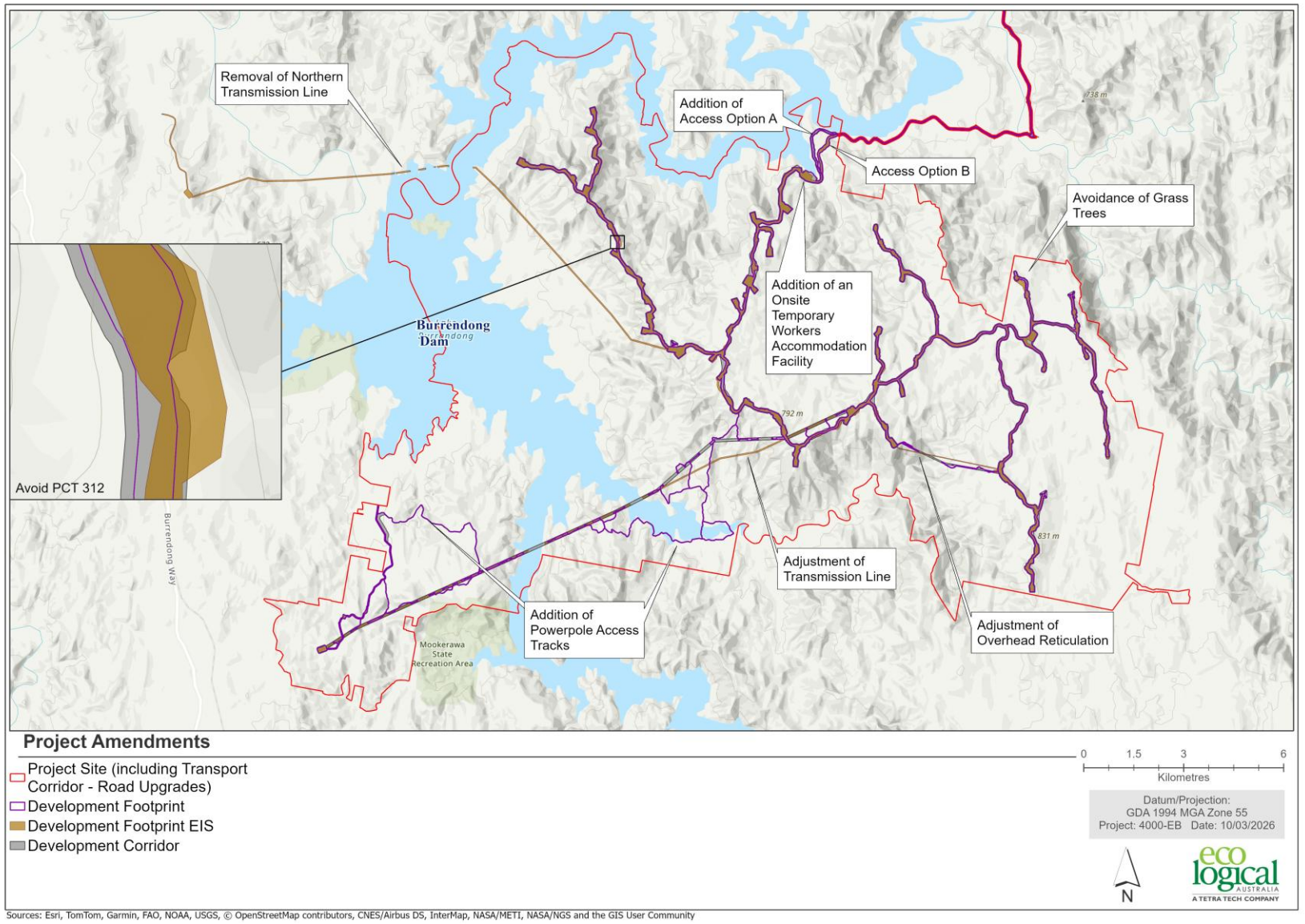

Figure 3-4: Amended Project Site – Wind Farm Area

3.1. Project Site

The Project Site boundary has been amended as a result in changes to the Project design.

Land has been removed in the northwest area of the Project Site due to the removal of the northern transmission line option (see Figure 3-5) for the amended Project Site (in red) and the (old) EIS Development Footprint (in gold)).

The Project Site (boundary) has been expanded to include the road upgrade corridor which encapsulates the proposed upgrades works on the local public roads (Figure 3-2 and Figure 3-3). The impacts of the road upgrades have been assessed as part of the overall impact of the Project.

A schedule of lands is presented within the Project description, Appendix A.1 (ELA 2026).

Overall, the Project Site area has been reduced by 2,090 ha (Table 3-2).

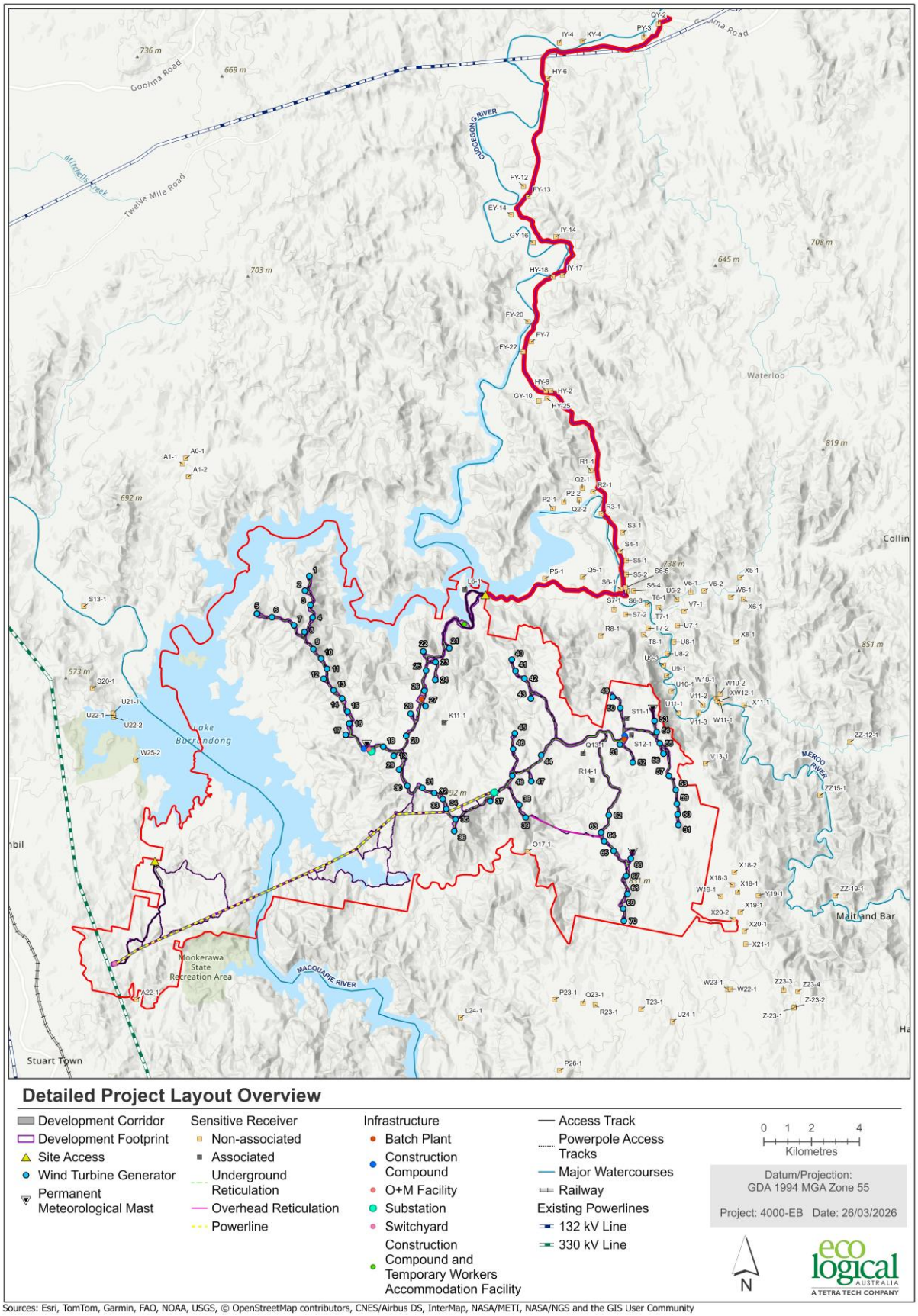

Figure 3-5: Amended Project Layout

3.2. Development Corridor

The Development Corridor was reduced based on feedback from CHPR regarding the coverage of the biodiversity surveys (an example of Development Footprint reduction is provided in Figure 3-6). As part of reducing the extent of the Development Corridor, the Proponent reviewed the likely micro-siting, particularly where the WTGs and associated access tracks were located on the crest of a ridge, with very limited ability to micro-site on either side of the ridgeline. Some micro-siting flexibility, typically a 20m buffer on either side of the Development Footprint, has been retained.

Overall, the Development Corridor has been reduced by 1,736 ha (Table 3-2).

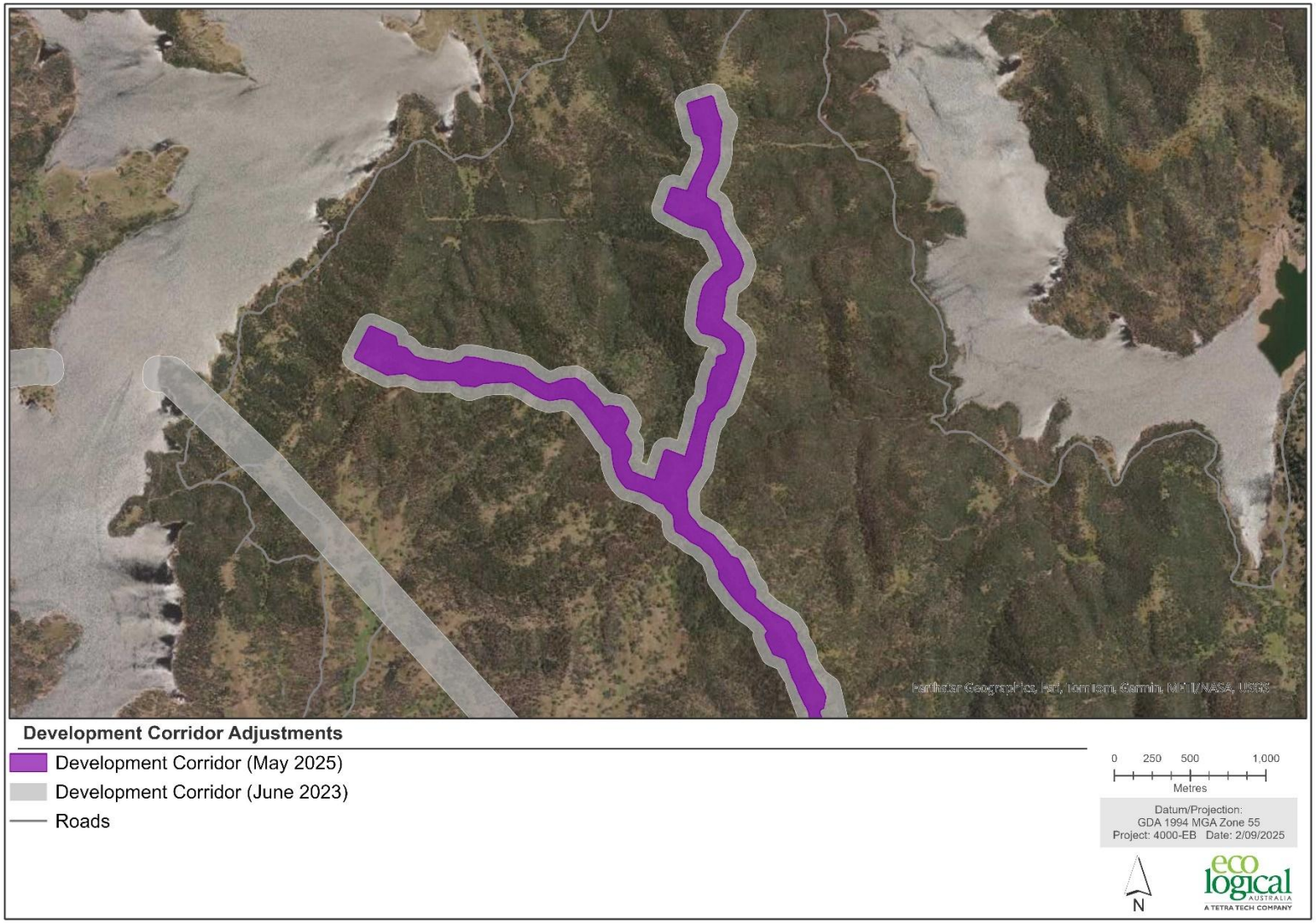

Figure 3-6: Example of reduction in Development Corridor

(The EIS corridor (in Purple) was a buffer of 100m around the Development Footprint, included highly vegetated steep slopes not suitable for the construction of access tracks, the amended Development Corridor (in green) presents a reduced area)

3.3. Refinements

The Development Footprint has been reduced from 855 ha (EIS) to 730.73 ha (amended Project) through refinements to the Project design, primarily to minimise the impacts to biodiversity (Section 6.3). The changes and refinements include:

- An existing track near the Project Site access that passes through the Reflections Cudgegong River holiday park has been incorporated as part of the proposed wind farm access track. This amendment provides flexibility during detailed design. While both options have been included and assessed as part of the amended project, only one option will be selected during detailed design. The route options can be seen in Figure 3-7:
  - Option A: Following the existing access route through the Cudgegong River holiday park
  - Option B: New access route alignment through the Cudgegong River holiday park
- Realigning sections of access track between WTG 29 and WTG 30 (Figure 3-8) and adjustment of access track and WTG hardstand orientation at WTG 49 (Figure 3-9)
- Incorporating the TWAF within the area assessed for the construction compound (Figure 3-7)
- Adjustments and refinement of the wind farm 330 kV powerline (Figure 3-10) as follows:
  - Realigned section of the to avoid the proposed Phoenix PHES
  - Use of existing farm tracks for powerline construction
  - Refinement in pole location to reduce biodiversity impact
  - Power line/pole access tracks identified and assessed.

The amended project includes proposed power line and pole access tracks designed to minimise environmental disturbance by following existing farm tracks wherever possible. In areas where no suitable paths exist, new tracks have been proposed and categorised based on their condition and the level of upgrade required:

- Existing tracks: Well-defined farm tracks that require minimal upgrades, such as surface grading.
- Semi-existing tracks: Less defined paths that may need moderate vegetation clearing, with an assumed impact width of approximately 4 m.
- New tracks: Proposed in areas without any prior access, requiring more substantial clearing and excavation, with an assumed impact width of approximately 8 m.

The use of existing farm tracks ensures efficient construction access while reducing vegetation clearing and ground disturbance across the Project Site (Figure 3-10).

VEGETATION IMPACTS

Vegetation clearance impacts have been reduced from 855 ha as outlined in the EIS (ELA 2023a) to 730.73 ha (Option A and Option B). Refer Section 6.3 for further details.

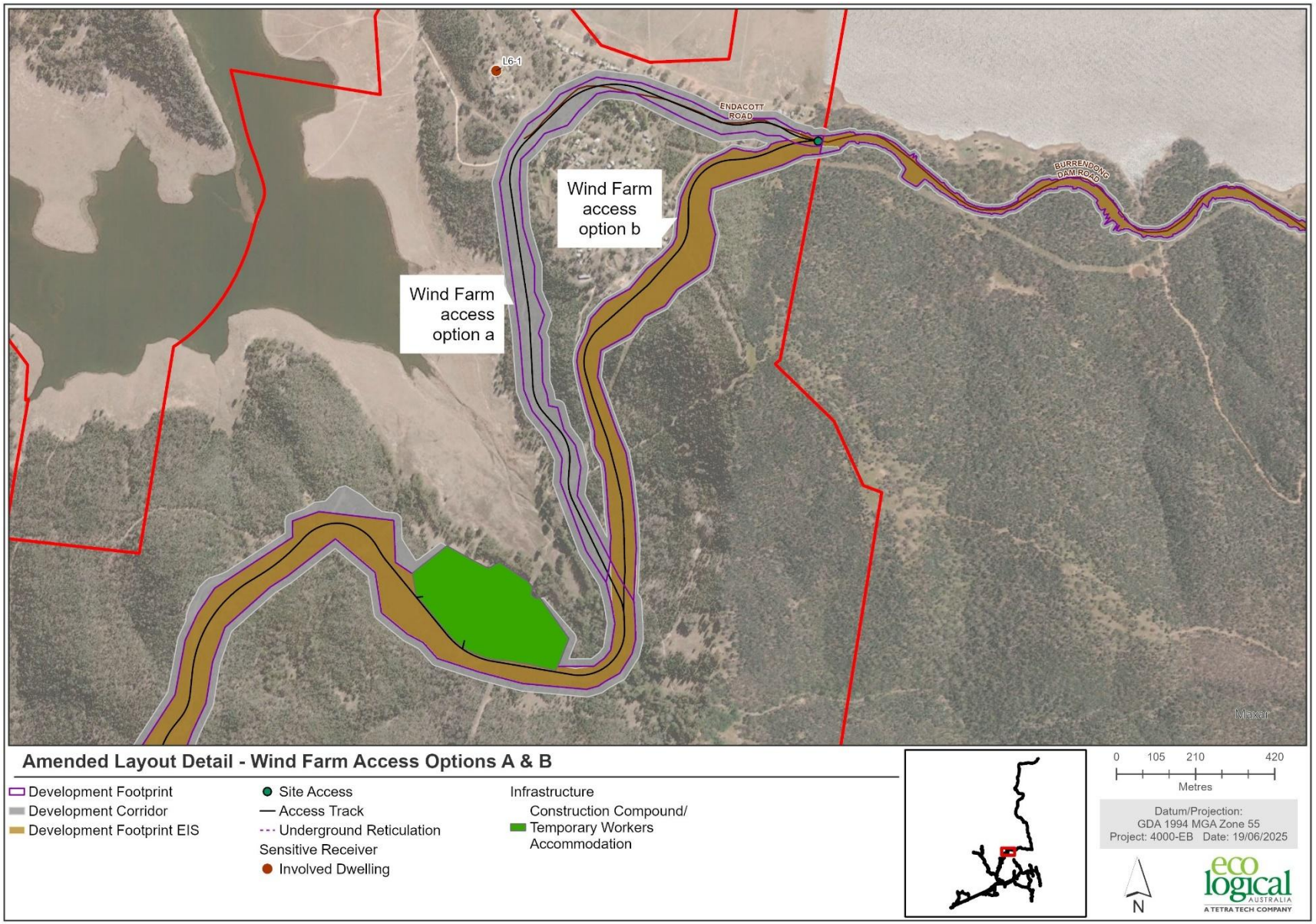

Figure 3-7: Amended Project Layout – Access Options

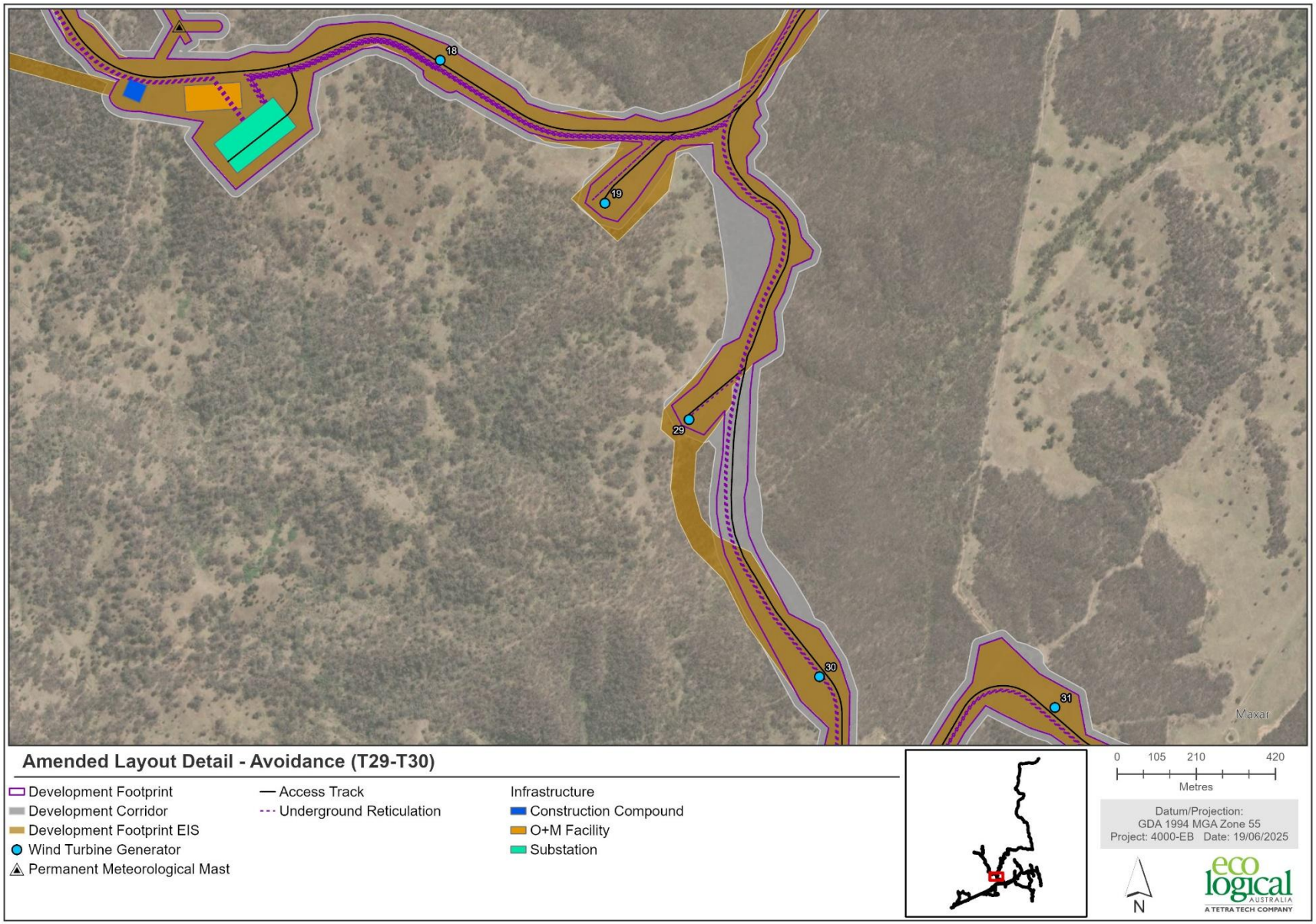

Figure 3-8: Amended Project Layout - Access Track Realignment

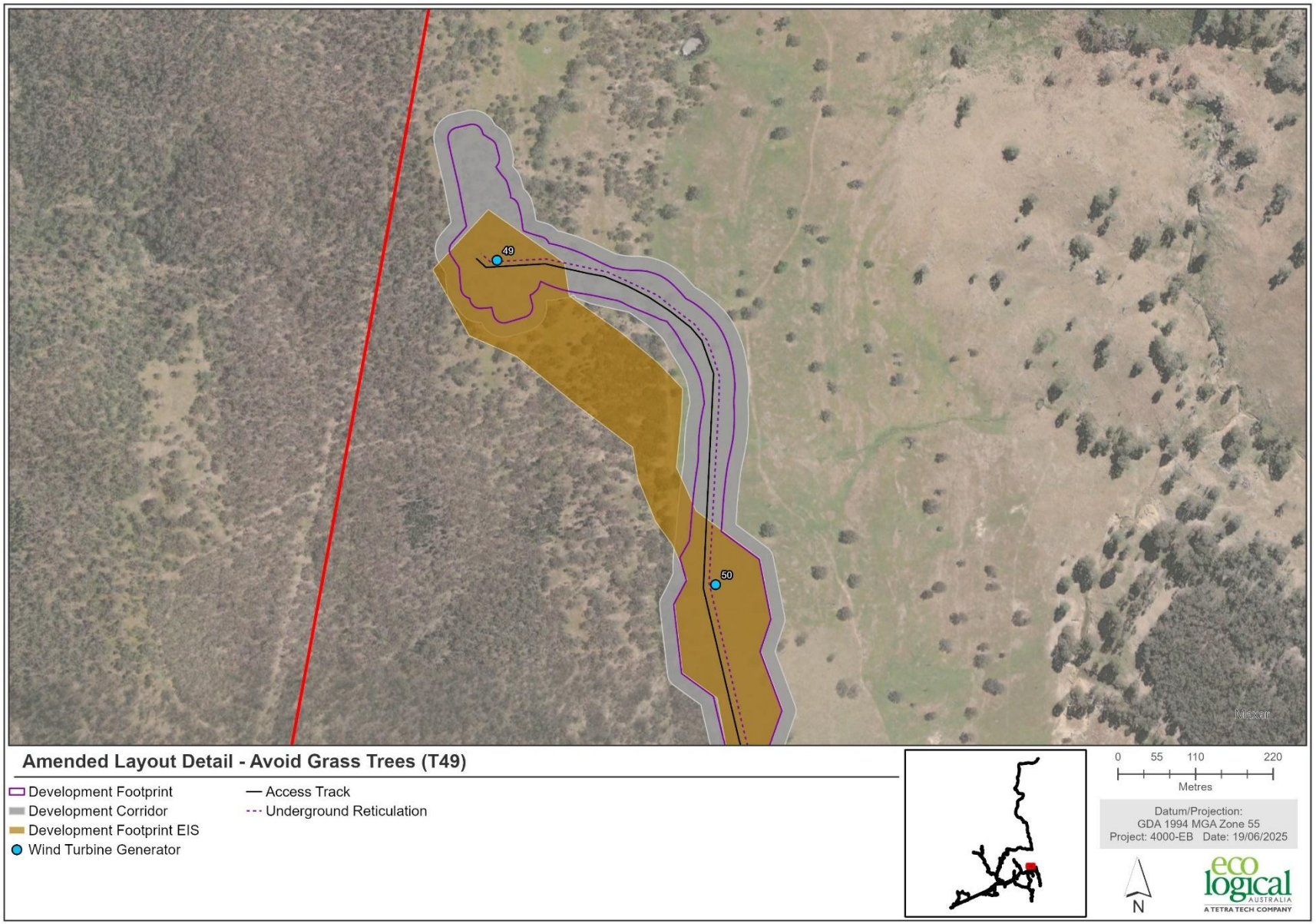

Figure 3-9: Access track and hardstand realignment at WTG 49

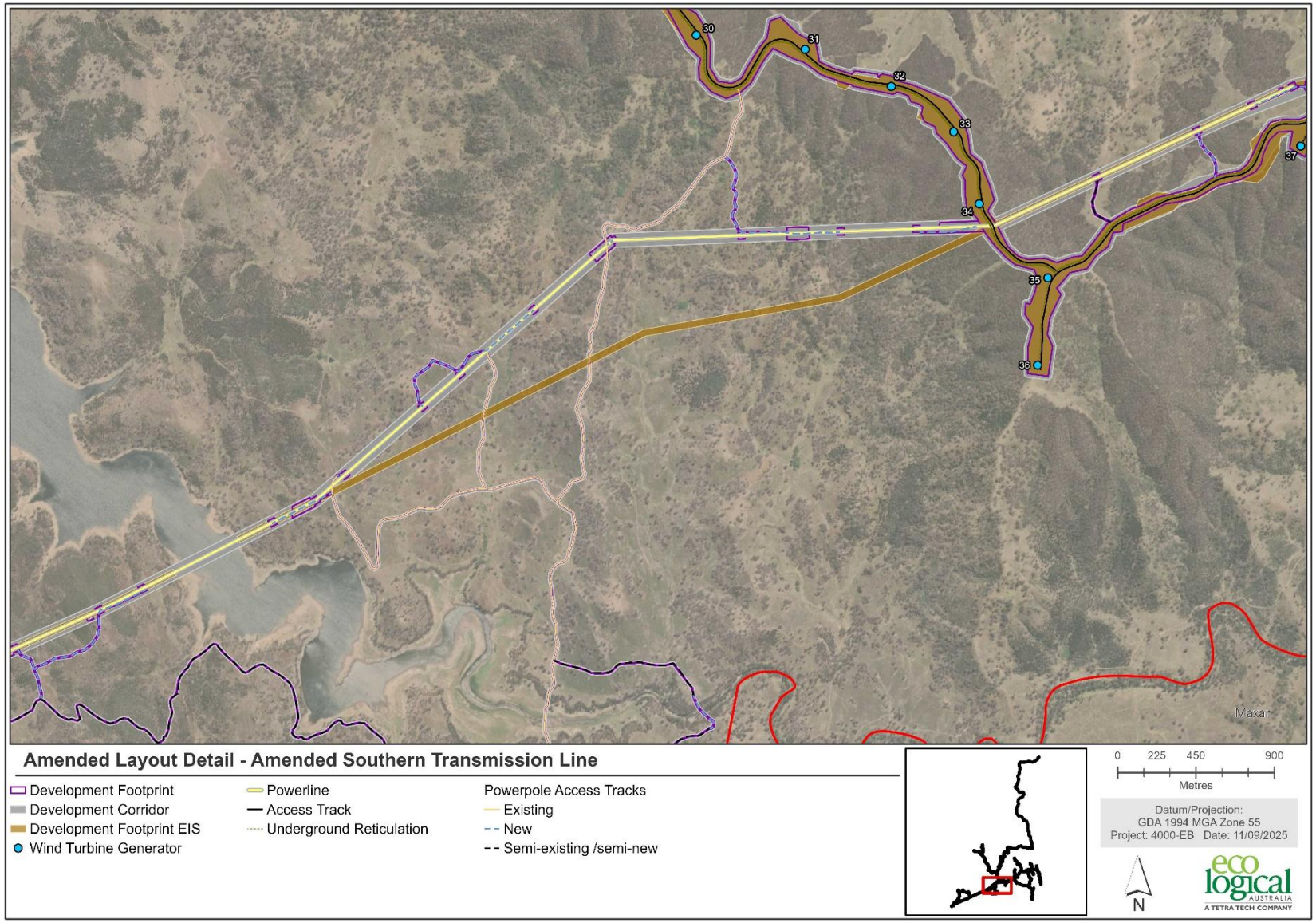

Figure 3-10: Amended Project Layout – Southern Transmission Line

3.3.1. Proposed Intersection Upgrade

The amended Project includes an upgrade to the intersection of Goolma Road (classified road) and Twelve Mile Road (local road) near Two Mile Flat. This intersection was identified in the *Rex J Andrews Port to Site OSOM Route Study* (Appendix G) as requiring an extension of pavement on the northern side of Goolma Road and additional pavement on the inside of the corner to facilitate the OSOM transport of turbine blades.

The *Traffic and Transport Impact Assessment* (TTIA) prepared by Stantec (2026) (Appendix H.1) included a turn-warrant assessment, which identified the need for a Basic Auxiliary Right-turn (BAR) treatment to accommodate the anticipated increase in traffic volumes associated with construction. This upgrade is required for vehicles travelling eastbound on Goolma Road turning right into Twelve Mile Road.

The proponent commissioned a strategic design (EMM, Appendix H.2) that details both required upgrades and identifies additional hardstand areas. These areas have been incorporated into the revised Project Development Footprint and assessed for biodiversity (Appendix F), heritage (Appendix L.2), and noise and vibration impacts (Appendix E.2).

Figure 3-3 illustrates the expansion of the project footprint corridor to account for the intersection upgrade impacts.

Figure 3-11 presents the EMM strategic design. The complete strategic design package is provided in Appendix H.2.

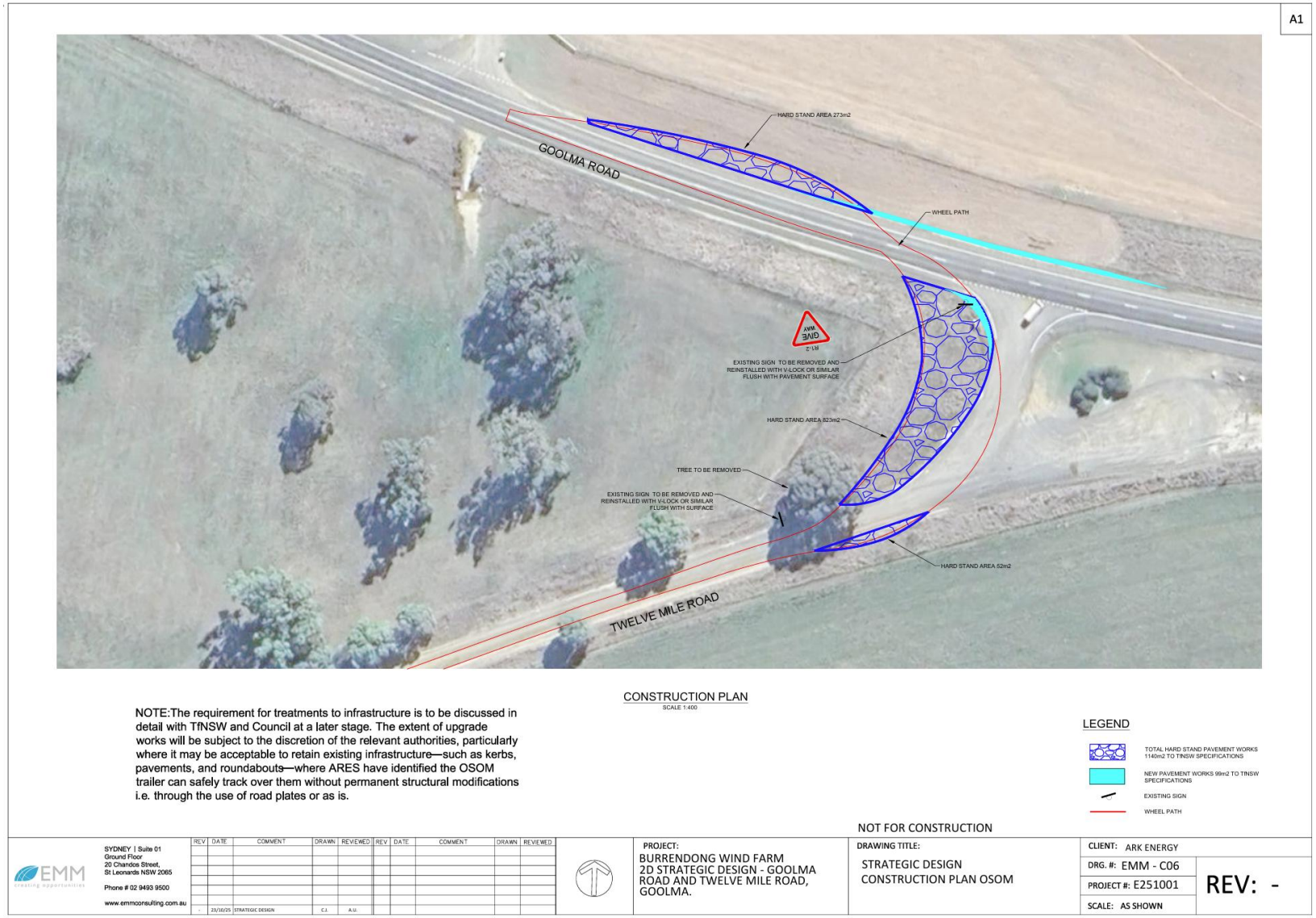

Figure 3-11: Concept strategic design of Goolma Road / Twelve Mile Road Intersection

3.4. Temporary Workers Accommodation Facility

The amended Project includes construction, operation and decommissioning of a self-contained onsite workers accommodation proposed as part of the wind farm temporary ancillary infrastructure. This facility will provide accommodation for the peak non-local workforce required for the construction of the Project.

The facility is proposed on Lot 6 DP 240821 within the DRC LGA and accessed from MWRC LGA via Burrendong Dam Road and the main windfarm access track – refer to Figure 3-7.

The proposed TWAF has been co-located with the main construction compound and laydown area with a combined area of 7.9 ha. The preliminary layout for the TWAF and construction compound is shown in Figure 3-12 includes:

- 64 x 4 bed accommodation units
- 2 x 2 bed accessible accommodation units
- Site office including first aid room
- Amenities including kitchen and laundry
- Leisure facilities including gymnasium
- Power supply
- Water and sewer treatment plants
- Parking including for Heavy Vehicles (HV)
- Laydown area
- Asset Protection Zone.

The TWAF is proposed to be constructed over 2 -3 months at the start of the construction phase of the Project. The TWAF will operate until the Project construction is complete and will be decommissioned prior to the Project operational phase.

Barnson was engaged to provide a preliminary design and assessment of the TWAF (Appendix A.2 Barnson 2025) and supplementary assessments have been prepared to support the assessment including:

- Appendix A.2 - A – Construction Workforce Accommodation Strategy (Ethos Pty Ltd 2024)
- Appendix A.2 - B – Construction Noise Assessment (Memo) (Marshall Day Acoustics 2025)
- Appendix A.2 - C – Bushfire Assessment Report (Barnson Pty Ltd 2025)
- Appendix A.2 - D – Transport and Traffic Impact Assessment (Stantec 2025)
- Appendix A.2 - E – Temporary Workers Accommodation Facility – Heritage Memorandum (ELA 2025a)
- Appendix A.2 - F – Temporary Workers Accommodation Facility Plans (Barnson 2025)
- Appendix A.2 - G – Temporary Workers Accommodation Facility – Biodiversity Memorandum (ELA 2025b).

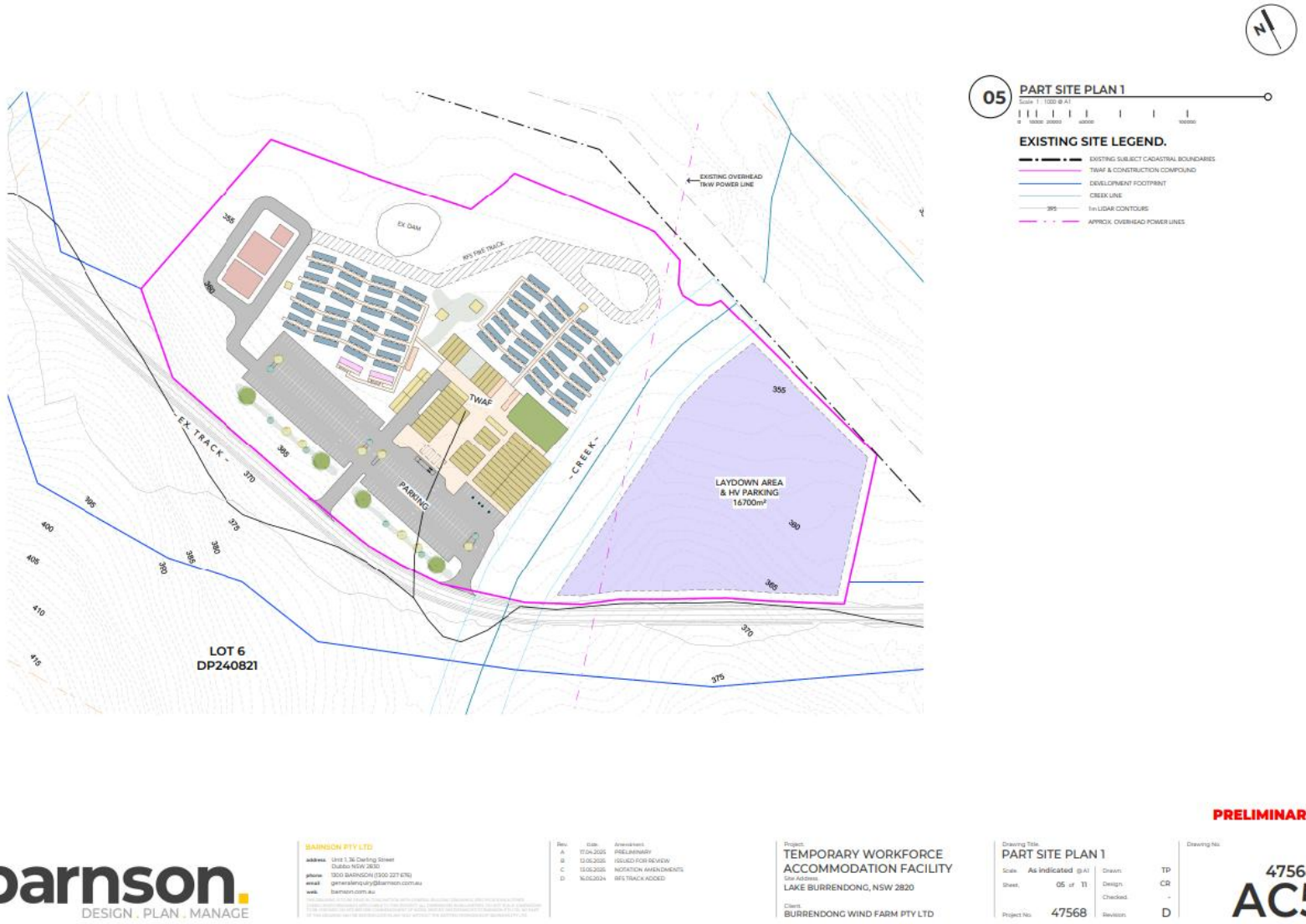

Figure 3-12: Proposed TWAF layout (Barnson 2025)

3.5. Updates and Clarifications

3.5.1. Impacted Receivers assessed and status update

Since the submission of the EIS, there has been an update to the receiver status including a change in the status of two dwellings (R14-1 and Q13-1) from "Non-Involved" to "Involved", resulting from agreements being reached with the respective property owners. Additionally, two dwellings (P23-1 and Q23-1) have changed status from "Involved" to "Non-involved" following the termination of an agreement with the property (and dwelling) owner.

Further, since the EIS was exhibited, four additional dwellings (X20-2, X18-2, T23-1, and U24-1) have been identified and fully assessed. In addition, at the request of DPHI, a further 19 potential dwellings and building locations have been assessed.

As a result of the changes in status and the inclusion of additional receivers, the LVIA Addendum (Moir Studio 2026), NVIA Addendum (MDA 2026) and Hazard and Risk – Blade Throw Assessment (Middleton 2026) have been updated accordingly (refer to Appendix D , Appendix E.2 and Appendix J of this Amendment Report).

3.5.2. Subdivision Update

Consistent with Section 4.1 within the EIS (ELA 2023a), Transgrid have advised that as part of connecting the Project to their existing 330 kV network they would require a sub-divided parcel of land for the switching station. The Transgrid network infrastructure will be owned by the Electricity Ministerial Holding Corporation (ETMHC) which will lease the infrastructure to Transgrid as part of the State's 99-year network lease arrangements with Transgrid. The site will need to be transferred as freehold title into the ETMHC's name.

Preliminary subdivision details and transfer of ownership to Transgrid (the ETMHC) for the grid connection switchyard is as outlined below (Figure 3-13). The actual size, dimensions and location of the switchyard land will be determined during the connection application process. The land size, dimensions, location, and orientation will be determined as the connection process is progressed with TransGrid. The switching station is approximately 100 m x 200 m (2 ha) and located on Lot 124//DP756871.

- Preliminary subdivided Lot B – 6 ha
- Residual Lot A – 116 ha.

A subdivision certificate will be required under Part 6 of the EP&A Act. Selection of the final connection configuration will be completed as part of the final detailed Project layout and prior to the application for the subdivision certificate. Other minor boundary adjustments or realignments may be required as part of the Project layout finalisation, including adjustments to Crown Road reserves.

Following submission of the EIS, Water NSW has requested that three of the land parcels that host WTGs be sub-divided to provide greater flexibility for the land tenure arrangements for the Phoenix PHES project infrastructure proposed to be located on the same two parcels of land. The three parcels of land are and are shown on Figure 3-14 to Figure 3-16:

- Lot 16 DP 756903
    - Preliminary sub-divided Lot B – 10 ha (wind farm)
    - Residual sub-divided Lot A – 53 ha (pumped-hydro)
- Lot 17 DP 756903
    - Preliminary sub-divided Lot B – 100 ha (wind farm)
    - Residual sub-divided Lot A– 127 ha (pumped-hydro)
- Lot 49 DP756919
    - Preliminary sub-divided Lot B – 2.5 ha (wind farm)
    - Residual sub-divided Lot A– 418 ha (pumped-hydro)

A subdivision certificate will be required under Part 6 of the EP&A Act. Other minor boundary adjustments or realignments may be required as part of the Project layout finalisation, including adjustments to Crown Road reserves.

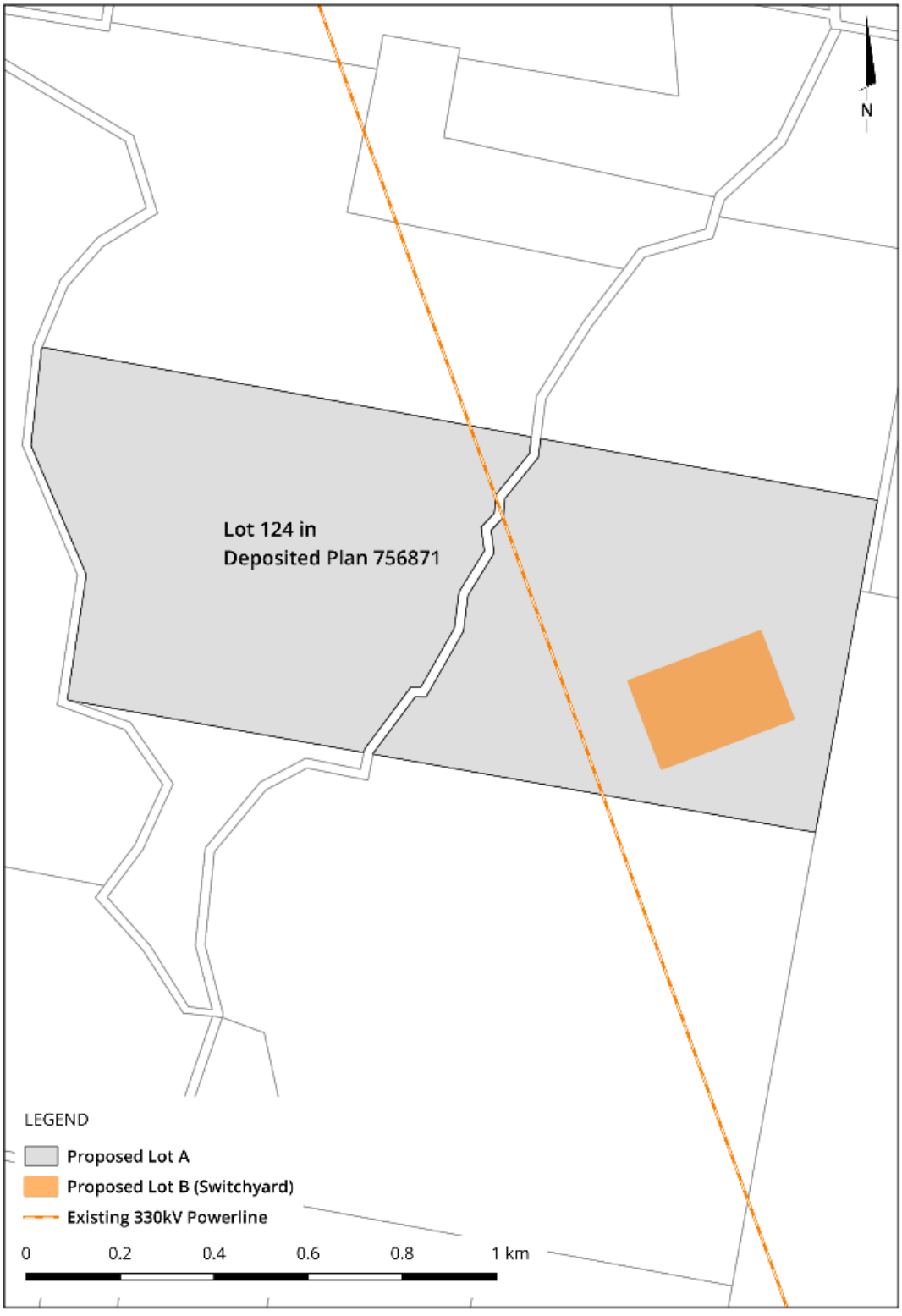

Figure 3-13: Subdivision Grid Connection Switchyard Lot 124

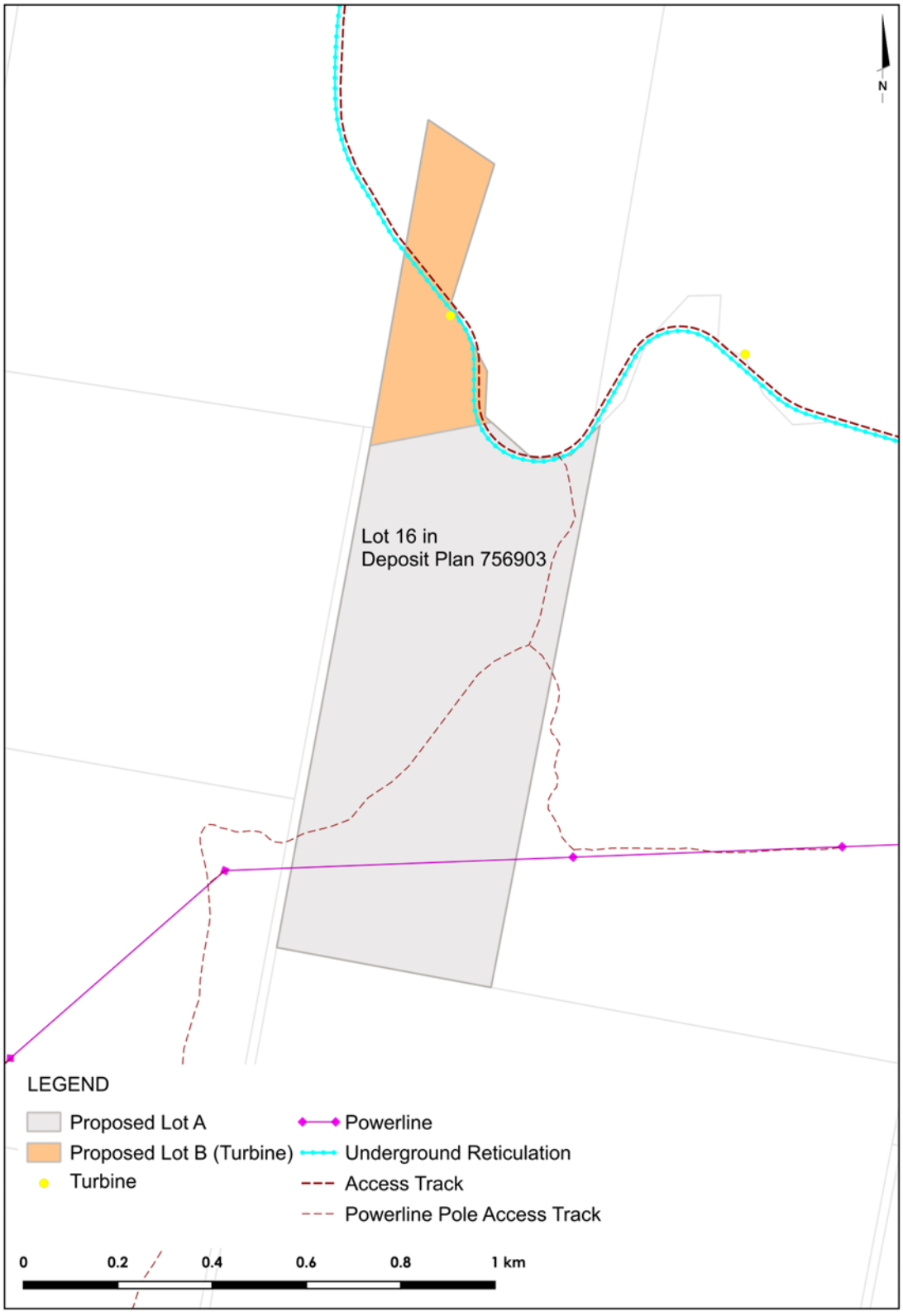

Figure 3-14: Subdivision Water NSW Lot 16

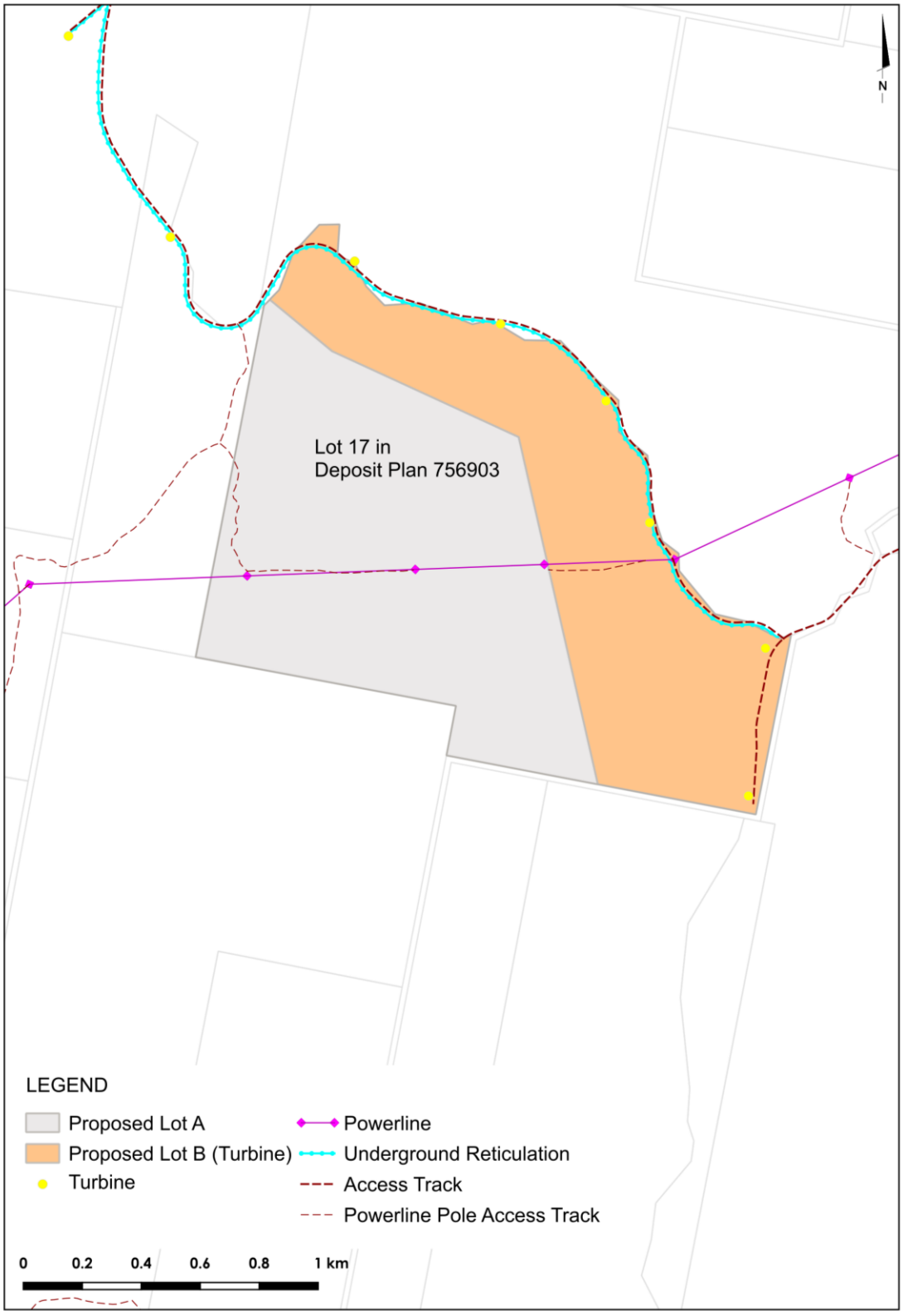

Figure 3-15 Subdivision Water NSW Lot 17

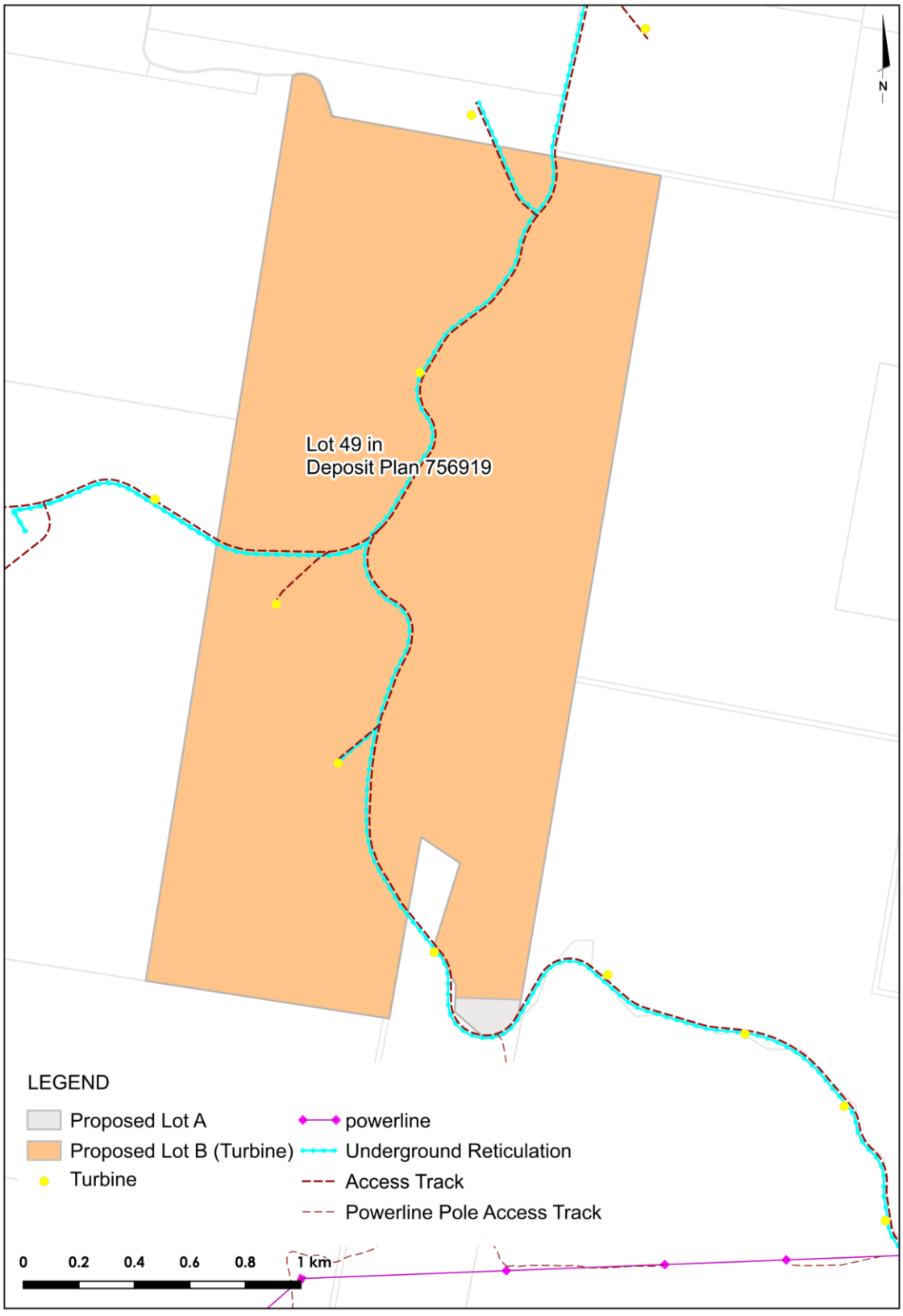

Figure 3-16: Subdivision WaterNSW Lot 49

3.6. Updated Technical Studies

The outcomes of the updated technical studies have been used to respond to specific issues raised during the exhibition of the EIS and have assisted with the development of amendments to the Project. These are outlined in Table 3-3.

Table 3-3: Updated technical studies and outcomes for the Project

Technical Study		Author & Date	Scope/Issue Raised	Outcomes	Amendments to Project
ACHA Report and Heritage Memorandum	Revised Assessment (Appendix L.1 and L.2)	ELA 2026c	To update the ACHA Report to address comments received from Heritage Council of NSW and RAPs. To provide an assessment of the OSOM road upgrades to access the Project Site.	Following the amendments to the Project including the road upgrades and additional information requested by Heritage Council of NSW, the ACHA Report has been revised. The revised draft ACHA Report and Memo has been reviewed by the RAPs and their comments incorporated into the revised final ACHA Report. Impacts to Aboriginal heritage artefacts within the Project Site have been reduced based on the amendments to the Project.	Further input from the RAPs has resulted in amendments to the alignment of the Project Site, Development Footprint and Development Corridor in part to avoid potential impacts to identified Aboriginal heritage sites or valued areas. To note, re-alignment of access tracks to WTG 49 has avoided impacts to BWF IF2.
BDAR	Revised Assessment (Appendix F)	ELA 2026b	To update the BDAR to address comments received from the BCS (now CPHR) and to incorporate additional seasonal Bird and Bat Utilisation Surveys (BBUS), whilst meeting the requirements of Biodiversity Assessment Method (BAM) 2020 and to amend the BAM Calculator (BAM-C) to include the reduced impact area form the amended Project.	The BDAR has been updated with reference to the scope agreed during consultation with BCS.	The amended Project design has reduced the impact upon biodiversity within the Project Site. The design has been amended to reduce impacts upon native vegetation and the Serious and Irreversible Impact (SAII) Box-Gum woodland. Overall, impacts have been reduced by 36.2 ha since the submission of the EIS.
Blade throw Assessment	New Technical Assessment (Appendix J)	Middleton Group 2026	The Blade Throw Assessment prepared as part of the EIS was high level and did not follow guidelines. To address comments received from DPE: Hazards, a new technical assessment was prepared for Blade Throw. .	A Project specific Blade Throw Assessment has been prepared as request by DPE: Hazards. The new assessment has not identified any further impacts or required mitigation.	No amendments were required as a result of the Project specific Blade Throw Assessment.
LVIA Addendum	Addendum (Appendix D)	Moir Studio 2026	Updated assessment to consider the change of status of four dwellings (Q13-1 and R14-1 now involved and P23-1 and Q23-1 now non-involved four additional	The results of the additional dwelling assessments were negligible for X20-2, Low for X18-2, Low for T23-1, and Low for U24-1.	No Project amendments were required as a result of the LVIA Addendum.

Technical Study		Author & Date	Scope/Issue Raised	Outcomes	Amendments to Project
			dwelling assessments (X20-2, X18-2 T23-1 and U24-1), and assessment for the Wanda Vale Farm Stay has been undertaken. An assessment of Aviation Hazard Lighting (AHL) has been considered as well as an updated cumulative impact assessment for potential visual impacts associated with the Project and Piambong Wind Farm. An assessment of 19 additional potential dwellings and buildings previously not assessed	The Wanda Vale Farm Stay assessment concluded that the existing location would not meet all the performance objectives outlined within the Wind Bulletin and proposed an alternative location for the Farm Stay which would meet all the performance objectives outlined within the Wind Bulletin.	
NVIA Addendum	Addendum (Appendix E.1)	MDA 2024	To assess the noise impacts at Wanda Vale Farm Stay. The assessment of this receiver was requested by DPHI.	The assessment of Wanda Vale Farm Stay identified that the predicted noise levels would be 47.4dB, approximately 12.4dB over the base noise limit for non-associated receivers, however the predicted noise level at the identified alternative farm stay location more than 3.35 km from the nearest WTG would be within the base noise limit of 35.0dB.	No amendments were made as a result of the NVIA Addendum.
NVIA Addendum	Addendum (Appendix E.2)	MDA 2026	Updated to reflect change in dwelling status and to assess additional potential dwelling and building locations as requested by DPHI October 2025	Operational noise, the predicted WTG noise levels at the nearest receiver U11-1 are below the NSW Noise Assessment Bulletin base (minimum) criterion of 35 dB LAeq. Indicative construction noise assessment indicates that construction nose could exceed the nose affected management level at non-associated receivers U11-1 and U10-1 could be exceeded by 0-5 dB LAeq however construction noise can be comfortably	No amendments were made because of the NVIA Addendum

Technical Study		Author & Date	Scope/Issue Raised	Outcomes	Amendments to Project
				managed by adopting standard work methods and noise management practices.	
SIA Addendum	Addendum (Appendix P)	Ethos Urban 2024a	The SIA Addendum was prepared to address comments received from DPHI, MWRC and DRC. The SIA Addendum was focused on providing additional social baseline data to support the impact assessment.	The SIA Addendum updated the assessment of impacts relevant to the Project and cumulative impacts. Social impact mitigation measures have been updated reflecting the updated assessment outcomes from the incorporation of the additional social baseline data.	No amendments were required as a result of the SIA Addendum. In response to the DRC and MWRC comments relating to social matters, a draft CWAS has been prepared in response.
Surface Water and Groundwater	Revised Assessment (Appendix M and N)	ELA 2024a; ELA 2024b	The revised surface water and groundwater assessments were prepared to address comments received from DPE – Water, WaterNSW and MWRC.	The updated surface water and groundwater assessments have further outlined the water supply options for the Project, the results of water quality modelling, mitigation measures relating to water quality impacts, and provided an updated cumulative impact assessment.	No amendments were required as a result of the revised surface water and groundwater assessments.
TTIA	Revised Assessment (Appendix H)	Stantec 2026	The TTIA has been revised to reflect the updated route study prepared by Rex J Andrews (2024) and to provide additional information as requested by TfNSW and DPHI. The TTIA has been updated to reflect the change in expected traffic volumes because of the onsite TWAF	The revised TTIA has been updated to consider the comments received on the EIS. Responses to the submissions received have been addressed and outlined within Appendix A of the TTIA (Appendix H). As the TWAF is expected to house 100% of non-local workforce, the expected light vehicle traffic numbers on local roads during weekday peak hours has been reduced by 89 % on average. At the intersection of Goolma Road/ Twelve Mile Road, the cumulative right turn volumes from Goolma Road into Twelve Mile Road indicate that only a Basic Right Turn (BAR) intersection treatment is warranted.	The proposed upgrade to the intersection at Goolma Road and Twelve-Mile Road includes a BAR and enables OSOM vehicle movements. The impacts of the upgrade have been assessed.

Technical Study		Author & Date	Scope/Issue Raised	Outcomes	Amendments to Project
Telecommunications Impact Assessment	Revised Assessment (Appendix K)	Middleton Group 2024	To address the WaterNSW comment regarding an Australian Communications and Media Authority (ACMA) link that transects the Project Site which should be assessed considering the antenna heights.	The height of the two antennas at Burrendong Dam and Mount Bocoble have been considered within the revised assessment. There will be an increased level of interference when compared with the 2021 assessment. However, the Project will not cause any material impact to the link. The link direction/location has been shifted slightly; the assessment has considered this shift.	No amendments were required as a result of the revised Telecommunications Impact Assessment.
Route Survey Assessment	Revised Assessment (Appendix G)	Rex J Andrews 2024	To update the Route Study to consider the upgrades to the Over Size Over Mass (OSOM) routes which have been progressed or completed since the submission of the EIS.	The route study has identified the key constraints encounter on the routes and estimated the work required to make the route viables for the delivery of all components and infrastructure required for the Project.	The route study has been updated based on upgrades to the route from port to Project Site since the submission of the EIS. As a result of the revised Route Study, three (3) routes will be utilised for the Project, Route 1 for OSOM (Blades), Route 2 for OSOM (Towers (max loaded height 6.1m)) and Route 3 for remaining components (max loaded height 5.6m).
CWAS	New Technical Assessment (Appendix Q)	Ethos Urban 2024b	To address the MWRC and DRC comments relating to the lack of accommodation in the region to provide for the peak workforce.	The CWAS has been prepared to consider and minimise impacts on the local housing market. The strategy provides mitigation options, monitoring plans and methods of engagements.	The amendments to the Project have not influenced the outcome of the CWAS and its ability to alleviate local housing constraints.
TWAF Addendum	New assessment of the TWAF (Appendix A.2)	Barnson 2025	To address the MWRC and DRC comments relating to the temporary workers required for the construction of the Project	The TWAF has been included as part of the Project infrastructure and will accommodate up to 260 workers.	The amendments of the Project have included the addition of a TWAF in order to accommodate construction workers during the construction phase of the Project.

Technical Study		Author & Date	Scope/Issue Raised	Outcomes	Amendments to Project
PSI	New Technical Assessment (Appendix O)	Ramboll 2025	To assess whether contamination has the potential to exist within the Project Site and determine if further investigation is required.	The PSI has identified the Project Site as low risk with regards to contamination of soil, surface water or groundwater.	No amendments were required as a result of PSI.

4. Statutory Context

4.1. Overview

This Amendment Report has been prepared in accordance with the *State Significant Development Guidelines – Preparing an Amendment Report* (DPIE 2022).

The statutory context of the Project remains consistent with Chapter 4 of the EIS (ELA 2023a), an updated Statutory Compliance table has been provided in Appendix B. None of the proposed amendments alter the statutory context or require additional licences, approvals, or permits over and above those outlined in the EIS.

4.2. Environmental Planning and Assessment Act 1979

The Project is declared to be SSD by the provision of the *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP).

Development consent is required under Part 4 of the EP&A Act for any project that is considered SSD by a SEPP. The Project is therefore subject to assessment under Part 4, Division 4.7 of the EP&A Act. The Project is also being assessed under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) via the Bilateral Agreement between the Australian Department of Agriculture, Water and the Environment (DAWE) and the NSW DPHI, due to potential impacts to listed threatened species and ecological communities, and migratory species.

4.3. Development Application Update

An SSD Application and accompanying EIS were submitted under Part 4, Division 4.7 of the EP&A in November 2023. The SSD application and EIS were placed on public exhibition from 16 November and 20 December 2023.

DPHI issued the submissions to the Proponent between December 2023 and February 2024. The submissions received from the public and government agencies have been considered and addressed where possible as part of the Submissions Report (ELA 2026a).

This Amendment Report and accompanying Submissions Report (ELA 2026a) is submitted to DPHI to assess any proposed changes to the project and to respond to the matters raised in the submissions received in accordance with clause 59 (2) of the EP&A Regulation.

4.3.1. Determination

Following receipt of this amendment report and the response to submissions report, DPHI will prepare its assessment report which will consider the EIS, this amendment report and all submissions received during the exhibition process, and the response provided by the Proponent via the response to submissions report.

Under Section 4.38 of the EPBC Act, the NSW Minister for Planning is the consent authority for SSD. However, pursuant to Section 2.4 of the EP&A Act, the Minister may delegate the consent authority function to the Independent Planning Commission (IPC), the Secretary or to any other public authority.

Additionally, in accordance with the Wind Guideline the IPC is the consent authority for SSD in the following circumstances:

- 50 or more unique public objections have been made to DPHI
- the local council has objected to the application
- the applicant has disclosed a reportable political donation in connection with the application or a previous related application.

As DPHI received over 50 objections and one (1) Council objection to the EIS, the IPC is the consent authority for the application and will make a determination on the Project.

4.4. Land Use Zoning

The amended Project Site is located within the land use zones noted within the Table 4-1 and shown on Figure 4-1. The Project remains compatible with the land use zoning objectives as per Table 4-2 within the EIS (ELA 2023a) apart from land use zone W1 Natural Waterways which is now situated outside the Project Site boundary.

Table 4-1 Land Use Zoning within Project Site

Land Zoning	Wind Farm Infrastructure
RU1 Primary Production	40 WTGs, site access track, underground and overhead electrical reticulation, high voltage powerline, power poles, and site access tracks and internal access tracks.
C3Environmental Management	30 WTGs, collector substation, operation and maintenance facility, temporary construction compound, permanent met mast, temporary concrete batch plant, underground and overhead electrical reticulation, high voltage powerline, power poles, and internal access tracks.
RE2 Private Recreation	Internal access tracks
SP2 Infrastructure	Site access tracks
W1 Natural Waterways	None (outside Project Site Boundary)

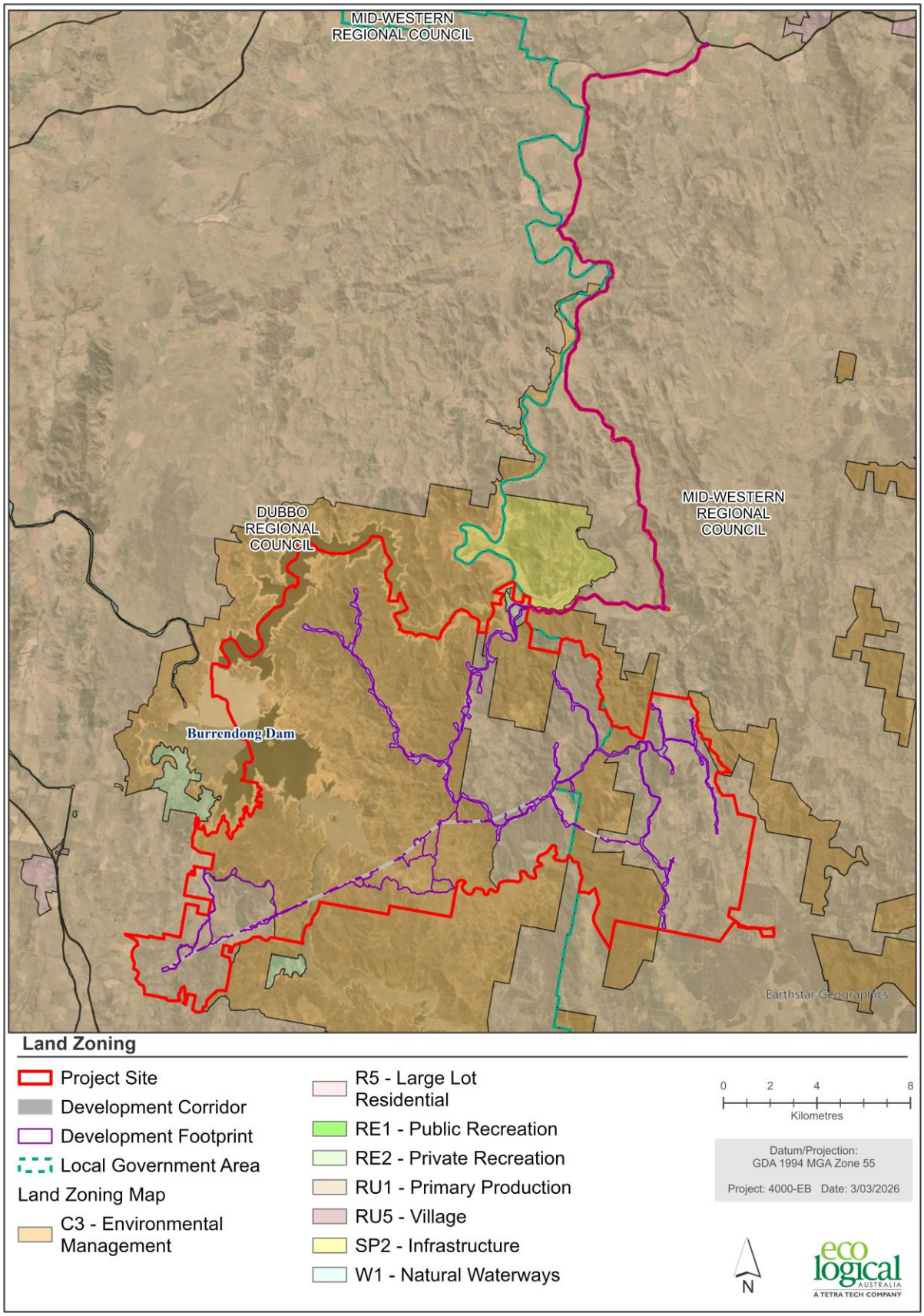

Figure 4-1 Amended Project Site and Land Use Zoning

5. Community Engagement

5.1. During and after EIS exhibition

Public communication of the EIS exhibition process was shared via a Project newsletter, the Project's website and a media release published in the local newspaper on 17 November2023. Specific communications were shared with neighbours, and the community were notified of the EIS process via an email mailout to the Project's database of registered recipients. All notification channels provided clear advice that the EIS was an opportunity for consideration of detailed Project plans and to provide feedback and input to the Project's planning process.

Table 5-1 shows the consultation has been completed following the submission of the EIS.

Table 5-1: Consultation since submission of the EIS

Stakeholder/Meeting/email	Topic	Date
Yarrabin Road landowners meeting	Proposed road upgrades	7 December 2023
Community Consultative Committee meeting	Project information, planning application process and status	8 December 2023
Public information session	Project information, planning application process and status	8 December 2023
DPHI meeting	Additional information requirements	13 February 2024
Australian Energy Infrastructure Commissioner	Feedback received by the Commissioner and details of Proponent response	22 February 2024
MWRC meeting	Issues raised in submissions	27 March 2024
Heritage NSW meeting	Clarification on additional information to be included in heritage assessment	15 April 2024
BCS meeting	Additional site surveys required and assessment methodologies	24 April 2024
BCS letter response	Additional information required in BDAR	22 May 2024
Yarrabin Road Landowner group – follow up meeting	Impacts of road upgrades on adjoining properties	29 May 2024
Consultation with owner of approved farm stay accommodation	Site visit and visual impact assessment at farm stay location	Late May 2024
Site visit with BCS	Familiarisation with wind farm layout and site biodiversity	30 May 2024
BCS letter response	Further additional assessments and information required in BDAR	20 June 2024
DPHI and BCS meeting	Clarification on information requests	5 July 2024
TfNSW meeting	Clarification on submission and outstanding actions	25 July 2024
Workshop with BCS	Site surveys requirements	31 July 2024
DPHI letter response	Request for Additional Information	19 December 2024
DPHI letter response	Request for Additional Information	10 March 2025

Stakeholder/Meeting/email	Topic	Date
DPHI	Feedback on proposed WTG risk assessment methodology	14 May 2025
MWRC Meeting	Proposed MOU and process for re-alignment of public roads. Council expectation for planning agreement terms	20 May 2025
BOS Helpdesk Correspondence - Key's Matchstick Grasshopper and Pink-tailed Legless Lizard	Clarification on survey methodology and timing	23 May 2025
CPHR	Correspondence - proposed additional and appropriate measures for BGW SAII impacts	12 June 2025
CPHR Meeting	Discussion of potential BGW SAII, amended Project and bird and bat activity analysis	1 July 2025
TfNSW	Discuss port to REZ upgrades, inclusions and exclusions	13 August 2025
MWRC meeting	MoU and VPA terms	19 August 2025
Dubbo Council	VPA, TWAF, general update	20 August 2025
DPHI meeting	Update on RtS progress, and MWRC MoU	20 August 2025
DPHI letter	Reject RtS & Amendment Reports - Request for Additional Information	13 October 2025
MWRC	Project update and status Access Road update – Goolma/Twelve Mile intersection, Twleve Mile, Yarrabin and Burrendong Dam Road MOU VPA	20 October 2025
MWRC	Onsite discussion of road upgrades Goolma/Twelve Mile intersection, Twleve Mile, Yarrabin and Burrendong Dam Road Inspected areas that would require change from existing road	13 November 2025
Squadron – meeting with Uungula project team	OSOM road upgrades, Mitchel HWY and Goolma Rd intersection (Wellington) Squadron confirmed that designs were being finalised with TfNSW for the intersection and indicated that works were intended to be complete in 2026	17 December 2025
TfNSW email	Ark provided strategic design for the strategic design of Goolma Rd/Twelve Mile Road intersection	19 December 2025
MWRC	Council briefing before council monthly meeting to indorse the MoU between the parties	19 November 2025
ACEN Pheonix Pumped Hydro project team	Common public road upgrades	22 December 2025
Squadron – Uungula Wind Farm	Squadron provided Ark the final draft intersection design for Mitchell Hwy/Goolma Road for reference	15 January 2025
Project Newsletter - Stakeholder mailing list and project website	Ark provided project update	10 Feb 2026
ACEN Pheonix Pumped Hydro project team	Ark provided a Briefing re MWRC MoU approach, and process	12 Feb 2026
DPHI	Landscape and Visual	16 February 2026

Stakeholder/Meeting/email	Topic	Date
MWRC & ACEN	Access Road update – Goolma/Twelve Mile intersection, Twleve Mile, Yarrabin and Burrendong Dam Road	19 February 2026
Dubbo Regional Council	VPA discussion	20 February 2026
Squadron – Uungula Wind Farm	Email from Squadron confirmed final intersection design is consistent with that that provided on the 15th of January	2 March 2026
Twelve Mile Landholders	Consultation with registered proprietors of land directly impacted by road upgrades via road reserve regularisation and changes including: In person valuations with qualified independent valuer regarding any road reserve changes In person meetings to discuss impacts Surveys and road change inspections Meeting with Ark Energy civil engineers to discuss construction matters, drainage and other matters. Each landholder has had a minimum of three direct interactions (in person meetings or meetings over the phone/teams) and a minimum of 3 additional touchpoints via email or text. Some landholders have had up to 5 in person engagements of approximately 1 hour minimum.	08,10, 17, 22, 23, 24, and 25, September 2025 08, 09, 10, 13,,14, 15, 16, 20, and 27 October 202505, 06, 07, 08, and 21 November 2025 01, 08, 09, 10, 11, 12, and 17 December 2025 13, 14, 15, 20, 27 and 31 January 2026 02, 03, 04, 05, 06, 18, 19 and 20 February 2026 02, 03, 04, and 05 March 2026
Yarrabin Road Landholders	Consultation with registered proprietors of land directly impacted by road upgrades via road reserve regularisation and changes including: In person valuations with qualified independent valuer regarding any road reserve changes In person meetings to discuss impacts Surveys and road change inspections Meeting with Ark Energy civil engineers to discuss construction matters, drainage and other matters. Each landholder has had a minimum of three direct interactions (in person meetings or meetings over the phone/teams) and a minimum of 3 additional touchpoints via email or text. Some landholders have had up to 5 in person engagements of approximately 1 hour minimum.	03, 08, 10, 22, 23, 24, 25 and 26 September 2025 01, 08, 09, 10, 130 14, 15, 16, 21 and 27 October 2025 05, 06, 07, 08, 11, and 27 November 2025 02, 08, 09, 10, 18, and December 2025 13, 14, 15, 23 and 30 January 2026 02, 03, 04, 05, 06, 10, 18, 19 and 20February 2026 02, 03, 04, and 05 March 2026
Burrendong Dam Road Landholders	Consultation with registered proprietors of land directly impacted by road upgrades via road reserve regularisation and changes including: In person valuations with qualified independent valuer regarding any road reserve changes In person meetings to discuss impacts Surveys and road change inspections Meeting with Ark Energy civil engineers to discuss construction matters, drainage and other matters.	08, 22, 23, 24 and 25 September 2025 08, 09, 10, 15, 16, 20, 21, and 27 October 2025 05, 06, 07, 08, 13 and 29 November 2025 08, 09, 10, and 11 December 2025 13, 14, 15, 16 and 27 January 2026

Stakeholder/Meeting/email	Topic	Date
	Each landholder has had a minimum of three direct interactions (in person meetings or meetings over the phone/teams) and a minimum of 3 additional touchpoints via email or text. Some landholders have had up to 5 in person engagements of approximately 1 hour minimum.	02, 03, 04, 05, 06, 09, 13, 18, 19, 20 and 26 February 2026 02, 03, 04, and 05 March 2026

5.2. Ongoing Consultation

The Proponent is committed to ongoing engagement with all Project stakeholders as the Project moves through the assessment, pre-construction, construction and operation phases. A Project newsletter and public information session is planned for during the project assessment phase.

6. Assessment of Impacts

In response to the submissions made from the community and government stakeholders, several additional technical studies and revised technical studies have been undertaken for the amended Project.

The outcomes of these technical studies have been used to respond to specific issues raised during the exhibition of the EIS and have assisted to inform the changes to the Project. The technical studies include:

- TWAF Addendum (Appendix A.2 – Barnson 2025)
- LVIA Addendum (Appendix D – Moir Studio 2026)
- NVIA Addendum – Wanda Vale (Appendix E.1 - MDA 2024)
- NVIA Addendum – Construction Noise (Appendix E.2 – MDA 2026)
- Revised BDAR (Appendix F.1 - ELA 2026b)
- Revised BDAR Map Book (F.2 – ELA 2026b)
- Revised Route Survey Assessment Report (Appendix G – Rex J Andrews 2024)
- Revised TTIA (Appendix H.1 – Stantec 2026)
- Intersection Strategic Designs (Appendix H.2 - EMM 2026)
- Aviation Lighting Plan (Appendix I - Aviation Projects 2024)
- Blade Throw Assessment (Appendix J – Middleton Group 2026)
- Revised Telecommunications Assessment (Appendix K – Middleton Group 2024)
- Revised ACHA Report (Appendix L.1 - ELA 2026c)
- OSOM Road Upgrades - Heritage Memorandum (Appendix L.2 – ELA 2026d)
- Revised Surface Water Assessment (Appendix M – ELA 2024a)
- Revised Groundwater Assessment (Appendix N – ELA 2024b)
- PSI (Appendix O – Ramboll 2025)
- SIA Addendum (Appendix P – Ethos Urban 2024a)
- New CWAS (Appendix Q – Ethos Urban 2024b).

6.1. Landscape and Visual

An LVIA Addendum Report (Appendix D) has been prepared by Moir Studio to support the LVIA and should be read in conjunction with the LVIA submitted as part of the EIS.

6.1.1. Changes to Receiver Status within LVIA

The amended project has assessed an additional 25 receivers (6 dwellings and 19 buildings) that where not assessed previously. A summary of the non-involved receivers (both dwellings and buildings) located within the Black Line (intersects at a distance of 3,350 m in the visual magnitude graph) and Blue Line (intersects at a distance of 4,950 m in the visual magnitude graph) and the assessed visual impact rating is outlined in Table 6-1 and Figure 6-1.

Table 6-1: Summary of the non-involved buildings and dwellings located within the Black Line and Blue Line

#	Dwelling ID:	Distance to nearest turbine:	Nearest Turbine	Visual Impact Rating:	Assessment Note:
Non-involved dwellings within Black Line of Visual Magnitude (3,350m)					
1	R8-1	2.61 km	49	Very Low	Refer to EIS LVIA - Appendix D (Moir Studio 2023)
2	T7-2	3.25 km	49	Low	Refer to EIS LVIA - Appendix D (Moir Studio 2023)
3	X18-2	3.07 km	61	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
Non-involved Dwellings within Blue Line of Visual Magnitude (Between 3,350 - 4,950 m)					
4	U8-1	3.40 km	53	Low	Refer to Appendix D.5 - EIS Appendix F (Moir Studio 2023)
5	S7-2	3.50 km	49	Nil	Refer to Appendix D.6 - EIS Appendix F (Moir Studio 2023)
6	P5-1	3.67 km	40	Nil	Refer to Appendix D.7 - EIS Appendix F (Moir Studio 2023)
7	R23-1	3.69 km	70	Low	Refer to Appendix D.8 - EIS Appendix F (Moir Studio 2023)
8	T23-1	3.73 km	70	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
9	U24-1	4.68 km	70	Negligible	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
10	P23-1	4.38 km	70	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
11	Q23-1	3.85 km	70	Nil	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
12	X18-1	3.76 km	61	Nil	Refer to Appendix D.9 - EIS Appendix F (Moir Studio 2023)
13	U7-1	3.39 km	49	Moderate	Refer to Appendix D.10 - EIS appendix F (Moir Studio 2023) Mitigation measures proposed, refer to Appendix G.3 - EIS Appendix F (Moir Studio 2023)
14	T6-1	4.13 km	49	Low	Refer to Appendix D.11 - EIS Appendix F (Moir Studio 2023)
15	T7-1	4.22 km	49	Low	Refer to Appendix D.12 - EIS Appendix F (Moir Studio 2023)
16	X19-1	4.48 km	61	Nil	Refer to Appendix D.13 - EIS Appendix F (Moir Studio 2023)
17	S6-3	4.50 km	49	Low	Refer to Appendix D.14 - EIS Appendix F (Moir Studio 2023)
18	S6-4	4.52 km	49	Low	Refer to Appendix D.15 - EIS Appendix F (Moir Studio 2023)
19	X20-2	4.53 km	68	Negligible	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
20	S6-1	4.09 km	49	Low	Refer to Appendix D.16 - EIS Appendix F (Moir Studio 2023)
21	Q5-1	4.55 km	40	Low	Refer to Appendix D.17 - EIS Appendix F (Moir Studio 2023)
22	V7-1	4.67 km	49	Nil	Refer to Appendix D.18 - EIS Appendix F (Moir Studio 2023)
23	X8-1	4.76 km	53	Moderate	Refer to Appendix D.19 - EIS Appendix F (Moir Studio 2023) Mitigation measures proposed, refer to Appendix G.4

#	Dwelling ID:	Distance to nearest turbine:	Nearest Turbine	Visual Impact Rating:	Assessment Note:
24	U6-2	4.89 km	49	Low	Refer to Appendix D.20 - EIS Appendix F (Moir Studio 2023)
Non-involved Approved Farmstay within Black Line of Visual Magnitude (3,350m)					
	Approved Farmstay	0.217 km	70	High	Refer to Appendix C - AR Appendix D (Moir Studio 2026)
Non-involved Buildings within Black Line of Visual Magnitude (3,350m)					
1	U9-3	2.49 km	53	Nil	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
2	T8-1	3.89 km	49	Nil	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
3	X18-3	3.35 km	61	Nil	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
4	O17-1	1.42 km	39	High	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
5	XW12-1	2.75 km	53	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
6	U10-1	1.40 km	53	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
7	U11-1	1.07 km	53	High	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
8	U9-1	1.96 km	53	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
9	U8-2	2.87 km	53	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
10	V13-1	1.62 km	57	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
11	W10-1	2.74 km	53	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
12	V11-3	1.885	53	Moderate	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
13	V11-2	2.135	53	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
14	W11-1	2.867	53	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
15	W10-2	2.95 km	53	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
Non-involved Buildings within Blue Line of Visual Magnitude (Between 3,350 - 4,950 m)					
16	W19-1	3.46 km	61	Nil	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
17	Y19-1	4.46 km	61	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
18	S7-1	3.66 km	49	Very Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)
19	X11-1	3.81 km	53	Low	Refer to Appendix A - AR Appendix D (Moir Studio 2026)

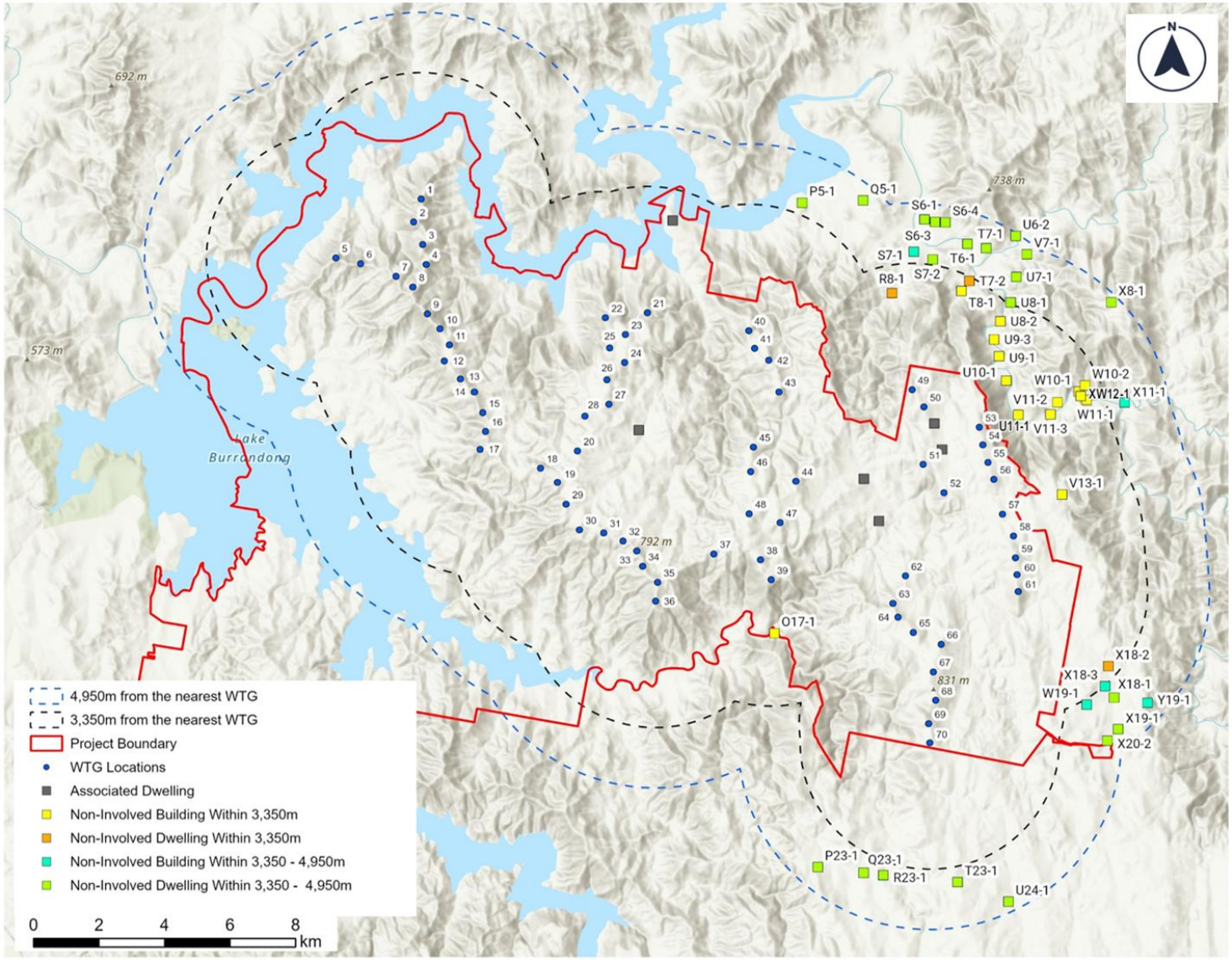

Figure 6-1: Associated and Non-Associated Dwellings within 4.95 km of the WTG locations

6.1.2. Cumulative Visual Impacts

At the time of the submission of the EIS the details of Piambong Wind Farm were not publicly available and were unable to be included within the cumulative visual impact assessment. However, as further details are now available, and in response to submissions received, a high-level assessment of Piambong Wind Farm project has been assessed. It is important to note that the cumulative visual impact assessment of Piambong Wind Farm will require a full assessment of the Piambong Wind Farm EIS.

The proposed Piambong Wind Farm is located to the north east of the Project, to the north of Yarrabin Road and east of Twelve Mile Road. The proposed Piambong Wind Farm will include the installation of up to 81 turbines at a maximum height of 230 m to blade tip with an estimated capacity of 551 MW as well as BESS up to 100 MW/200 MWh.

The Multiple Wind Turbine Tool (MWTT) was utilised for the cumulative assessment of Piambong Wind Farm. The MWTT is applied to all non-involved dwellings within 8,000 m of the nearest WTG associated with each proposed wind energy project. Twenty-five non-involved dwellings are located between the Project and Piambong Wind Farm. Of these 25 non-involved dwellings, nine (9) had one (1) 60° sector occupied, 16 had up to two (2) 60° sectors occupied.

When considering turbines associated with the Piambong Wind Farm, the MWTT results in an increased number of dwellings with WTGs occupying more than two (2) 60° sectors. When including Uungula Wind Farm, there are no non-involved dwellings within 8,000 m of all three wind farm projects (the Project, Uungula Wind Farm and Piambong Wind Farm). Further assessment of the 25 non-involved dwellings identified will be undertaken in the Piambong Wind Farm EIS submission.

Alongside the MWTT a Zone of Visual Influence (ZVI) analysis has also been completed which identifies areas where there is the potential to view the Project, Piambong Wind Farm and Uungula Wind Farm.

THE PROJECT AND PIAMBONG WIND FARM

The WTG locations and height (230 m) for the Piambong Wind Farm have been determined by the Scoping Report as available on the Major Projects Website (December 2023). Due to topography, the ZVI illustrates variations in the extent of visibility of each Project. Opportunities to view the Project and Piambong Wind Farm simultaneously are generally limited to land between the two (2) Projects, elevated positions to the far south of the Project and within the Project boundary. The ZVI has identified 25 non-involved dwellings located within 8,000 m of the Project and the proposed Piambong Wind Farm. Of the 25 non-involved dwellings, the ZVI indicates 17 have the potential to view both projects. The extent of visibility and resulting cumulative visual impact from these dwellings is anticipated to be low as visibility of the Project is limited by topography and intervening vegetation.

A detailed cumulative visual impact assessment will be prepared in the EIS for the Piambong Wind Farm.

THE PROJECT, PIAMBONG WIND FARM AND UUNGULA WIND FARM

A ZVI has also been undertaken for all three (3) projects, which has identified limited visibility of all three projects simultaneously. Opportunities to view all three projects at the same time are limited to land associated with the Project area and the project area associated with Piambong Wind Farm. Additionally, the ZVI identifies some areas of elevated land to the south of the Project have the potential to view all three projects at the same time, however these views would be distant. There are no non-involved dwellings identified within 8,000 m of all three (3) projects.

6.1.3. Aviation Hazard Lighting

An AHL Plan has been prepared by Aviation Projects (Appendix I) which proposes 39 of the 70 WTGs are required to be lit with AHL at hub height. As noted within Table 6-2, AHL would be visible at set distances depending on the intensity of the lights.

Table 6-2: Light Visible Distances

Time Period	Meteorological Visibility (m)	Distance (m)	Intensity (Cds)
Night	4,800	4,700	1,500 (+/- 25%)
		4,900	2,000 (+/- 25%)
		2,200	32

Considering the distance of 4,900 m as a worst-case scenario for AHL visibility (Civil Aviation Safety Authority (CASA) 2022), it is noted there are limited opportunities to view WTGs with AHL from publicly accessible land. Considering the reduction of lighting strength to 200 candela, existing topography and vegetation, it is determined that the visual impact resulting from AHL is negligible.

In regard to the potential visual impact on nearby dwellings, the Visual Assessment Bulletin (DPE 2016b) states proponent must "Shield all AHL within two kilometres from any dwellings. Avoid strobe lighting." There are no dwellings within 2km of any WTG. The nearest dwelling with visibility of a WTG hub is dwelling T7-2, located 3.25 km from the nearest WTG and therefore the AHL presents limited opportunities for visual impacts on surrounding dwellings. To note, no strobe lighting will be used.

6.1.4. Revised Mitigation Measures

The LVIA Addendum Report (Moir 2026) has identified three receivers (U7-1, X8-1 and V11-3) that have a moderate visual impact rating and two receivers (U11-1 and O17-1) that have a high visual impact rating and has proposed targeted landscape screening to mitigate the visual impacts at these five receiver locations.

The potential re-siting options for the farm stay were identified and assessed in the LVIA Addendum (Appendix B, Moir 20 Nov 2026). A large area of suitable land was identified in the south-east of land parcel. The LVIA Addendum confirmed that this alternative area meets the visual performance objectives as set out in the Visual Impact Assessment Bulletin (DPE, 2016). Following engagement with the landowner, including an offer being made by the Proponent to fund any costs incurred, the alternate siting was rejected by the landowner.

Section 1.3 of the Wind Energy Guideline Technical Supplement for Landscape Character and Visual Impact Assessment (Technical Supplement) (DPHI, Nov 2024) states that: A visual impact assessment is not required for any tourist and visitor accommodation, that is, at the time the Planning Secretary's environmental assessment requirements are issued: - approved but for which construction has not physically commenced.

The SEARs were issued for the Project on 20 September 2022. The farm stay accommodation was approved by MWRC on 22 January 2024 and construction had not physically commenced at that time. As of 25 August 2025, a construction certificate had not been issued by MWRC and construction of the farm stay had not physically commenced. On this basis, pursuant to section 1.3 of the Technical Supplement, while the Project may increase the risk for a potential visual impact to the approved farm stay, an assessment is not required.

6.2. Noise and Vibration

6.2.1. Operational Noise

As noted in section 3.5.1, there has been a change in status for dwellings, from "Non-involved" to "Involved" and from involved to Non- involved, as well as the inclusion of new receivers. As a result, MDA have revised the NVIA assessment to reflect the changes, as a result the highest predicted operational noise levels from the WTGs have been updated as outlined in Table 6-3 below.

Table 6-3: Highest predicted operational noise level at non-associated receivers

Receiver	Distance to nearest WTG (km)	Predicted noise level (dB LAeq)	Base criterion (dB LAeq)
U11-1	1.06	34.9	35.0

The Project can be designed and operated to comply with the operational noise requirements of the NSW Noise Assessment Bulletin at U11-1 and at all other nearby dwellings.

Mitigation Measures for the Approved Wanda Vale Farm Stay

As outlined in section 6.1.4 above and in Appendix E.1 Noise and Vibration Addendum Report (MDA, 2024) the alternative area identified for the farm stay accommodation location is more than 3.35 km from the nearest WTG. The maximum predicted noise level at the alternative area will be well below the required 35 dBA Leq.

6.2.2. Construction Noise and Vibration

Additional information is provided in Appendix E.2 regarding the expected construction noise and vibration impacts at non-associated receivers and a high-level assessment of construction noise impacts related to public road upgrade works (MDA 2026).

The closest non-associated receivers to any WTG or construction work area are U11-1, O17-1, A22-1, P5-1, S13-1. Of the five receivers, the construction noise levels for three are predicted to remain below the noise affected management level for all construction stages. The two receivers U11-1 and U10-1 are the closest non-associated receivers and construction noise is expected to be above the noise affected management level. construction noise can be comfortably managed by adopting standard work methods and noise management practices.

With regard to vibration and safe working distance, the minimum separation distance between the construction work areas and the closest non-associated receivers (U11-1, O17-1, A22-1, P5-1, S13-1) exceeds 800 m. This is greater than the recommended minimum working distances for human response limits for vibration intensive plant refer to Table 22 of the EIS Noise Assessment.

6.2.3. Construction Noise assessment – public road upgrades

There are 31 non-associated receivers located within 400 m of the local public roads (Twelve Mile, Yarrabin and Burrendong Dam Roads) that are likely to experience noise levels above the noise affected management levels during the proposed road upgrade works. Noise levels above the noise affected management levels are not unique to this Project and are characteristic of most construction noise assessments due to the typically high source noise associated with construction plant and equipment. The Interim Construction Noise Guideline (NSW DECC 2009) provides extensive details on guidance with

respect to applicable construction noise mitigation measures that would be considered as part of a Construction Noise and Vibration Management Plan.

6.2.4. Construction Traffic noise and impact on sleep disturbance

Some OSOM movements—such as turbine blade transport—may need to occur at night. Sleep-disturbance impacts have been identified as a potential issue, particularly for receivers located along local council roads on the OSOM route. As there are limited practical noise-control options for these activities, minimisation measures will be management-based and incorporated into the Traffic and Transport Management Plan (TTMP). These measures will include limiting the number of nights-time OSOM deliveries, restricting deliveries to defined night-time windows, and reducing the occurrence of consecutive nights of OSOM movements where practicable.

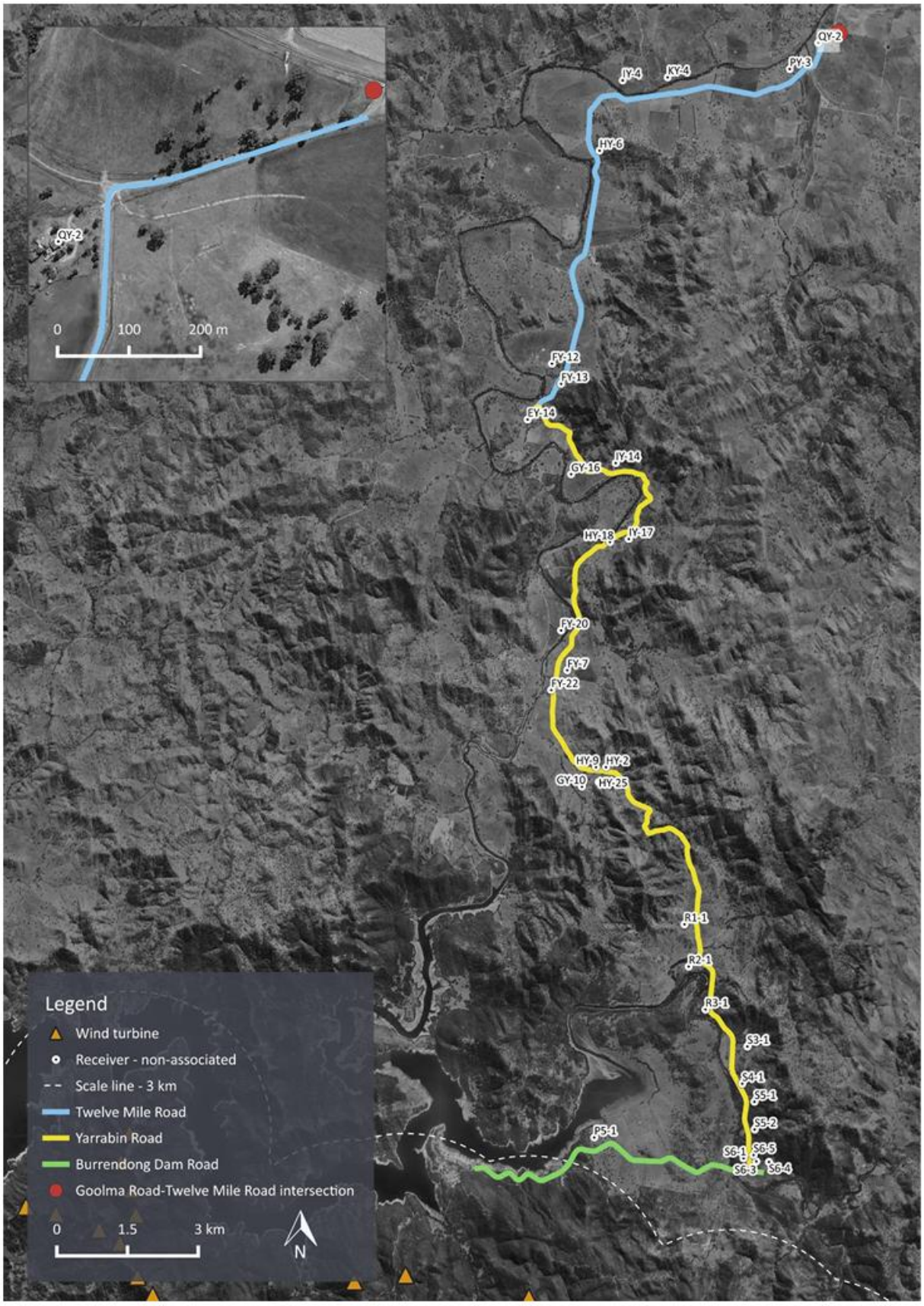

Figure 6-2: Non-Associated Receivers within 400m of the Project Road Upgrades

6.3. Biodiversity

Several submissions received from the community were related to the biodiversity impacts associated with the Project. The key issues raised by the public submissions included:

- Impacts to Koalas and Koala habitats
- Impacts to bats and birds
- Flora and Fauna Assessment.

MWRC have requested suitable management plans are prepared for bats and birds as well as key species to mitigate impacts caused by the Project.

BCS (now CPHR) consider that the BDAR has underestimated the potential biodiversity impacts and corresponding biodiversity offset calculations, and the BDAR required additional information in order to comply with the NSW BAM and the SEARs.

The BDAR has been updated to respond to the submissions received as well as provide additional information requested by BCS. The revised BDAR is provided in Appendix F.1 and F.2 (ELA 2026b).

6.3.1. Additional Work Completed

6.3.1.1. Additional Targeted Surveys

Additional targeted surveys across the windfarm area of the Project Site have been conducted since the submission of the EIS for candidate species (Table 6-4).

Table 6-4: Additional Targeted Surveys for Candidate Species

Date	Surveyors	Location	Target-species
27 and 28 Feb 2024	Cheryl O'Dwyer. Lachlan Metzler and Alex Copan	Transmission line TWAF	PCT mapping, Diurnal birds, threatened flora transects
24-28 February 2025	Cheryl O'Dwyer, Ellie Young, Lilly Outram, Mel Thurtell, Liam Scanlan, Sophie Montgomery, Alex Yates	Windfarm Transmission Line Access tracks	556 grid circles (40m diameter) searches for *Euphrasia arguta*, *Tylophora linearis*, *Pomaderris queenslandica, Grevillea divaricata, Persoonia marginata*, *Grevillea wilkinsonii*.
24-27 March 2025	Rob Spiers, Jarmin Thornberry (Capital Ecology). Cheryl O'Dwyer, Ellie Young, Kasey Tada	Windfarm Transmission Line Access tracks	Targeted searches for Pink-Tailed Legless Lizard habitat
24 October 2025	Cheryl O'Dwyer, Edward Moar	Windfarm Transmission Line	Targeted Keys Matchstick Grasshopper surveys
28 October 2025	Cheryl O'Dwyer, Edward Moar	Yarrabin Road	Targeted searches for *Diuris tricolor, Swainsona sericea, S.recta, Prasophyllum petilum*
10 November 2025	Cheryl O'Dwyer, Lily Outram	Yarrabin Road	Targeted searches for *Diuris tricolor, Swainsona sericea, S.recta, Prasophyllum petilum*

In February 2025, additional targeted threatened species surveys were undertaken across the broader Development Corridor for the Project within the Inland Slopes subregion. Surveys were completed for *Euphrasia arguta* and *Tylophora linearis*, with the opportunity to also search for threatened shrubs such as *Pomaderris queenslandica* and *Grevillea wilkinsonii* where suitable habitat overlapped. Although the survey period for *G. wilkinsonii* fell outside its optimal detection window, any individuals representing the genus were considered. Areas previously surveyed using transects (e.g. along the power easement) during the ideal survey period were excluded from the additional surveys.

A 100 m grid was applied across the Development Corridor within the Inland Slopes region. Circular plots (40 m diameter; 1,256 m²) were surveyed at grid intersects where they overlapped suitable habitat for *Euphrasia arguta* and *Tylophora linearis*. Although the survey design focused on these two species, potential habitat for threatened shrubs was also assessed. Target species were searched for within each plot and while walking between them. Additional 5 m-spaced transects were completed along access roads.

A total of 384 grid intersects overlapped the Development Corridor. Many additional intersects fell just outside the boundary, and nearby suitable habitat inside the boundary was substituted to maintain survey integrity. This resulted in 537 circular plots surveyed, covering approximately 67.5 ha.

Twenty-three plots (<3 ha) were inaccessible due to steep, unstable terrain and were assessed as unsuitable habitat. This equates to less than 1.4% of mapped habitat that was not surveyed. In addition, many plots were located along ridgelines overlapped steep terrain. As a result, the surface area of these plots was greater than the nominal 1,256 m² when projected on a 2D map. To ensure adequate coverage, where possible, survey effort was extended to include the full stretched footprint of these plots, further exceeding BAM survey requirements.

Given the comprehensive coverage of suitable habitat and absence of target species within surveyed areas, it is reasonable to conclude that the species are unlikely to occur within the small, unsurveyed portions of the Project Site.

6.3.1.2. Expert Reports

Expert reports have been prepared for *Keyacris scurra* (Key's Matchstick Grasshopper) and *Aprasia parapulchella* (Pink-tailed Legless Lizard).

KEY'S MATCHSTICK GRASSHOPPER

Dr Michael Kearney and PhD graduate Hiromi Yagui, recognised species experts for Key's Matchstick Grasshopper, conducted a desktop habitat assessment. This assessment incorporated floristic attributes and species distribution modelling, using bioclimatic and geological variables to identify areas of potential habitat.

PINK-TAILED LEGLESS LIZARD

Habitat assessments were undertaken across the Development Corridor by species expert Robert Speirs, with support from Jarmin Thornberry of Capital Ecology. Assessments considered factors such as rock size, shape, location, surrounding vegetation, and lithology to determine the potential suitability of habitat for the Pink-Tailed Legless Lizard.

6.3.1.3. Additional Bird and Bat Utilisation Surveys

Additional Bird and Bat Utilisation Surveys (BBUS) across the windfarm area of the Project Site have been conducted since the submission of the EIS (Table 6-5). The additional BBUS have also included collection of data height (100 m, 50 m and at 2 m) from two (2) Met Masts located within the Project Site.

Table 6-5: Additional BBUS

Survey Type	Year	Season	Date	Number of field days	Number of Sites	Number of surveys
BBUS	2024	Autumn	27 - 31 May	5	16	55
BBUS	2024	Winter	19 - 23 Aug	5	19	76
BBUS	2024	Spring	21 - 25 Oct	5	19	76
Met Mast (2 m, 50 m 100 m)	2024	Spring / Summer	6 Sep – 6 Dec	-	2 (BDG1 & BDG2)	265
BBUS	2025	Summer	2 - 6 Feb	5	19	69
BBUS	2025	Autumn	28 Apr - 2 May	5	19	74
Met Mast (2 m, 50 m 100 m)	2025	Summer / Autumn	10 Feb – 27 Mar	-	2 (BDG1 & BDG2)	20
Met Mast (2 m, 50 m 100 m)	2025	Autumn	28 Apr – 2 May	-	2 (BDG1 & BDG2)	24
BBUS	2025	Winter	18 – 22 Aug	5	19	74
BBUS	2025	Spring	12 – 16 Oct	5	19	74
BBUS	2026	Summer	2 – 6 Feb	5	18	70
Total 2024 - 2026				**40**		**877**

6.3.1.4. Individual WTG Risk Assessment

A WTG risk assessment has been developed for the Project in order to identify an individual relative risk rating for each proposed WTG. The risk assessment has been developed in consultation with the CPHR of the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) and has undergone an external review by a team of data scientists and ecological statisticians at Symbolix.

The WTG risk assessment framework utilises five measures/parameters related to the bird and bat species assemblages and activity recorded across the Project Site, along with the abundance of woodland and forest habitat surrounding the proposed WTG locations, as follows:

- Bird Utilisation Surveys (BUS) - total flight activity within Rotor Swept Area (RSA)
- BUS – Moderate/High risk rating species
- Bat Activity Surveys (BAS) - total call activity of at RSA height species
- BAS - Moderate/High risk rating species
- Woodland/forest habitat (200 m buffer surrounding WTG).

The score for each measure ranges from 0 – 2 and accumulate across the five measures to provide a total score of between 0 – 10 and a corresponding Risk Rating for each proposed WTG. The five WTG risk rating categories (Very Low, Low, Moderate, High and Very High) reflect a proportionate categorisation of risk ratings across the potential accumulated scores (further details are provided in Section 6 of Appendix F.1).

6.3.1.5. Other Additional Work Completed

In response the submissions received from BCS (now CPHR), other additional works completed include:

- Incorporating a Development Corridor (approximately 1,320 ha) where surveys have been completed to provide flexibility in micro-siting whilst ensuring all potential impacts to biodiversity have been considered and assessed where appropriate. In areas where surveys were incomplete, species have been assumed to be present thus ensuring that the maximum upper limit of offset credit liability has been considered
- Impacts to Serious and Irreversible Impact (SAII) entities and Matters of National Environmental Significance (MNES) have been re-evaluated and further assessments have been conducted. Impacts to SAII have been considered in Section 9 of the revised BDAR (Appendix F.1) and MNES have been updated in Section 11.1 of the revised BDAR (Appendix F.1). Additional mitigation measures for the SAIIs have been considered in consultation with CPHR and are provided Section 9.1.1 of the revised BDAR (Appendix F.1)
- Vegetation stratification, classification and mapping has been updated, and areas re-evaluated in the Biodiversity Assessment Method (BAM) Calculator (BAM-C) amalgamating impacts in one Parent Case and two (2) Child Cases
- Collision Risk Modelling (CRM) has been updated to include the additional data collected during BBUS since 2024. The additional BBUS data has also be used to update the potential Prescribed Impacts of the Project (Section 6 of the revised BDAR (Appendix F. 1)).

6.3.2. Existing Environment

The existing environment largely remains consistent with the descriptions and conditions outlined within the BDAR (ELA 2023b) provided as part of the EIS. However, as a result of the changes to the Project Development Footprint and Development Corridor, there are reductions to the potential biodiversity impacts within the Project Site.

6.3.3. Potential Impacts

The construction and operational phases of the Project have the potential to directly impact biodiversity values associated with clearing of native vegetation and threatened species habitat that cannot be avoided.

The direct impacts of the development on:

- Native vegetation and threatened ecological communities are outlined in Table 6-6
- Threatened species and threatened species habitat are outlined in Table 6-7
- Prescribed biodiversity impacts are outlined in Section 6.3.3.4.

Direct impacts have been calculated on the current Development Footprint being impacted. However, it is likely that upon final design impacts will be less than are shown.

6.3.3.1. Removal of Native Vegetation

Permanent vegetation removal is required for the construction of all infrastructure and some access tracks. Access tracks are required to accommodate the delivery of all infrastructure on large heavy vehicles, including the WTG blades which limits avoidance of all native vegetation and threatened habitat species. These will be maintained over the life of the Project to allow for the maintenance and operation of the Project. Vegetation removal is also required for the installation of the WTGs.

Vegetation removal associated with direct impacts (Table 6-6) will be contained to within the Development Corridor (including during both construction and operation). All works associated with the decommissioning of the Project will also be contained within this Development Corridor.

Table 6-6: Direct impacts to native vegetation

Vegetation Zone	PCT Name	Condition Class	TEC Association	Impact Area (ha)
South Western Slopes (SWS) Bioregion				
1	76- Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions	DNG	Inland Grey Box Woodland in the Riverina, NSW South Western Slopes	0.77
2	84 – River Oak – Rough barked Apple – red gum – box riparian tall woodland (wetland) of the Brigalow Belt South Bioregion and Nandewar Bioregion	Good		1.21
3	84 – River Oak – Rough barked Apple – red gum – box riparian tall woodland (wetland) of the Brigalow Belt South Bioregion and Nandewar Bioregion	DNG		1.90
4	266 – White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Good	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	3.57
5	266 – White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	DNG	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	23.79
6	272 – White box – black cypress pine – red gum +/- Mugga Ironbark shrubby woodland in the hills of the NSW central western slopes	Good		173.19
7	272 – White box – black cypress pine – red gum +/- Mugga Ironbark shrubby woodland in the hills of the NSW central western slopes	DNG		64.92
8	274 – White Box -Rough barked apple alluvial woodland of the NSW central western slopes including in the Mudgee region	Good	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	0.07
9	277 – Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	Good	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	1.92

Vegetation Zone	PCT Name	Condition Class	TEC Association	Impact Area (ha)
10	277 – Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	DNG	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	13.25
11	281 – Rough Barked Apple – red gum – yellow box woodland on alluvial clay to loam soils on the valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion	DNG	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	4.24
12	331 – Red Stringybark woodland on hillslopes northern NSW South Western Slopes Bioregion	DNG		0.48
13	331 – Red Stringybark woodland on hillslopes northern NSW South Western Slopes Bioregion	Good		1.07
14	461 – Tumbledown Gum woodland on hills in the northern NSW South Western Slopes Bioregion and southern Brigalow Belt South Bioregion	Good		0.57
15	76- Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions	Good	Inland Grey Box Woodland in the Riverina, NSW South Western Slopes	0.06
16	281 – Rough Barked Apple – red gum – yellow box woodland on alluvial clay to loam soils on the valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion	Good	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	0.34
17	274 – White Box -Rough barked apple alluvial woodland of the NSW central western slopes including in the Mudgee region	DNG	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	0.83
Total SWS Bioregion				**292.18**
South Eastern Highlands (SEH) Bioregion				
1	84 – River Oak – Rough barked Apple – red gum – box riparian tall woodland (wetland) of the Brigalow Belt South Bioregion and Nandewar Bioregion	Good		0.32
2	266 – White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	DNG	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	5.09
3	266 – White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Low	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	19.26
4	270 – White Box Tumbledown Red Gum – Long-leaved Box shrub/grass woodland on fine grained sediments of the upper Macquarie River	Good	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	0.15

Vegetation Zone	PCT Name	Condition Class	TEC Association	Impact Area (ha)
5	272 – White box – black cypress pine – red gum +/- Mugga Ironbark shrubby woodland in the hills of the NSW central western slopes	Good		56.62
6	272 – White box – black cypress pine – red gum +/- Mugga Ironbark shrubby woodland in the hills of the NSW central western slopes	DNG		41.39
7	277 – Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion	DNG	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	1.26
8	287 – Long-leaved Box – Red Box – Red stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	DNG		102.07
9	287 – Long-leaved Box – Red Box – Red stringybark mixed open forest on hills and hillslopes in the NSW South Western Slopes Bioregion	Good		111.55
10	331 – Red Stringybark woodland on hillslopes northern NSW South Western Slopes Bioregion	Good		37.21
11	331 – Red Stringybark woodland on hillslopes northern NSW South Western Slopes Bioregion	DNG		14.12
12	266 – White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Good	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland	0.74
Total SEH Bioregion				**389.78**
TOTAL				**681.96 ha**

6.3.3.2. Removal of Threatened Species Habitat

Direct impacts to threatened species and their habitats are outlined in Table 6-7 below.

Table 6-7: Direct impacts to threatened species habitat

Scientific Name	Common Name	BC Act listing	EPBC Act listing	Loss of area (ha)	Biodiversity Risk weighting
SWS Bioregion					
Aprasia parapulchella	Pink-tailed Legless Lizard	V	V	51.40	2
Cercartetus nanus	Eastern Pygmy Possum	V	NL	50.03	2
Diuris tricolor	Pine Donkey Orchid	V	NL	0.50	2
Keyacris scurra	Key's Matchstick grasshopper	E	E	5.67	2
Ninox connivens	Barking Owl	V	NL	45.22	2
Ninox strenua	Powerful Owl	V	NL	1.58	2
Petaurus norfolcensis	Squirrel Glider	V	NL	45.22	2

Scientific Name	Common Name	BC Act listing	EPBC Act listing	Loss of area (ha)	Biodiversity Risk weighting
Phascogale tapoatafa	Brush-tailed Phascogale	V	NL	80.76	2
Phascolarctos cinereus	Koala	E	E	255.80	2
Prasophyllum petilum	Tarengo Leek Orchid	E	E	8.08	2
Swainsona recta	Small Purple-pea	E	E	15.58	2
Swainsona sericea	Silky Swainson-pea	V	NL	19.14	2
Tylophora linearis		V	NL	0.57	1.5
Tyto novaehollandiae	Masked Owl	V	NL	45.22	2
SEH Bioregion					
Aprasia parapulchella	Pink-tailed Legless Lizard	V	V	13.42	2
Burhinus grallarius	Bush Stone-curlew	E	NL	18.78	2
Cercartetus nanus	Eastern Pygmy Possum	V	NL	8.00	2
Grevillea divaricata		E	NL	5.54	3
Keyacris scurra	Key's Matchstick Grasshopper	E	E	5.83	2
Ninox connivens	Barking Owl	V	NL	8.92	2
Ninox strenua	Powerful Owl	V	NL	1.60	2
Persoonia marginata	Clandulla Geebung	V	V	47.51	2
Petaurus norfolcensis	Squirrel Glider	V	NL	8.92	2
Phascogale tapoatafa	Brush-tailed Phascogale	V	NL	7.32	2
Phascolarctos cinereus	Koala	E	E	389.79	2
Swainsona recta	Small Purple-pea	E	E	26.50	2
Swainsona sericea	Silky Swainson-pea	E	E	77.69	2
Tyto novaehollandiae	Masked Owl	V	NL	8.92	2

Hollow bearing trees (HBTs) provide threatened species habitat within the Project Site. Research has shown that DBH which is an index of age (Lindenmayer et al. 1991), is also a strong predictor of occupancy by vertebrate fauna (Smith and Lindenmayer 1988). Over 1,500 trees were assessed and recorded (Figure 6-3). Nearly 50% of these trees were greater than benchmark DBH (>50cm) with 209 HBTs exceeding >80 cm DBH.

Whilst many of the hollows recorded were small (1,361 trees with hollows <10cm), there were 90 trees that contained hollows greater than 20 cm. Of these, 56 were deemed to be suitable for forest owls (hollows more than 4 m above the ground) and a further 48 HBTs were deemed suitable for Glossy Black Cockatoos (hollows >15cm diameter, located 8m above the ground on stems at 45 - 180 degree angle). No forest owls or Glossy Black Cockatoos were recorded breeding within the Development Corridor.

This diversity of hollow size and location provide shelter for a variety of birds, mammals and reptiles, many of which are threatened. Any decrease in the availability and diversity of tree hollows can lead to

a significant loss of species diversity and abundance. The NSW Scientific Committee determined that the loss of HBTs is a key threatening process.

Most of the WTGs associated with BWF have been located along cleared ridges. A few WTG locations (i.e. WTG 41, WTG 5, WTG 11, and WTG 13) have more than seven (7) HBT's within the 50 m buffer zone. Mitigation measures within these buffer zones may include:

- Maintaining flexibility in orientating the hardstand and alignment of access tracks
- Avoiding impacts to HBTs where possible – marking trees that can be retained
- Retaining trunks and stems with hollows to be installed on other trees within the Project Site
- Installing nest boxes or chainsaw-carved cavities to supplement hollows within the Project Site.

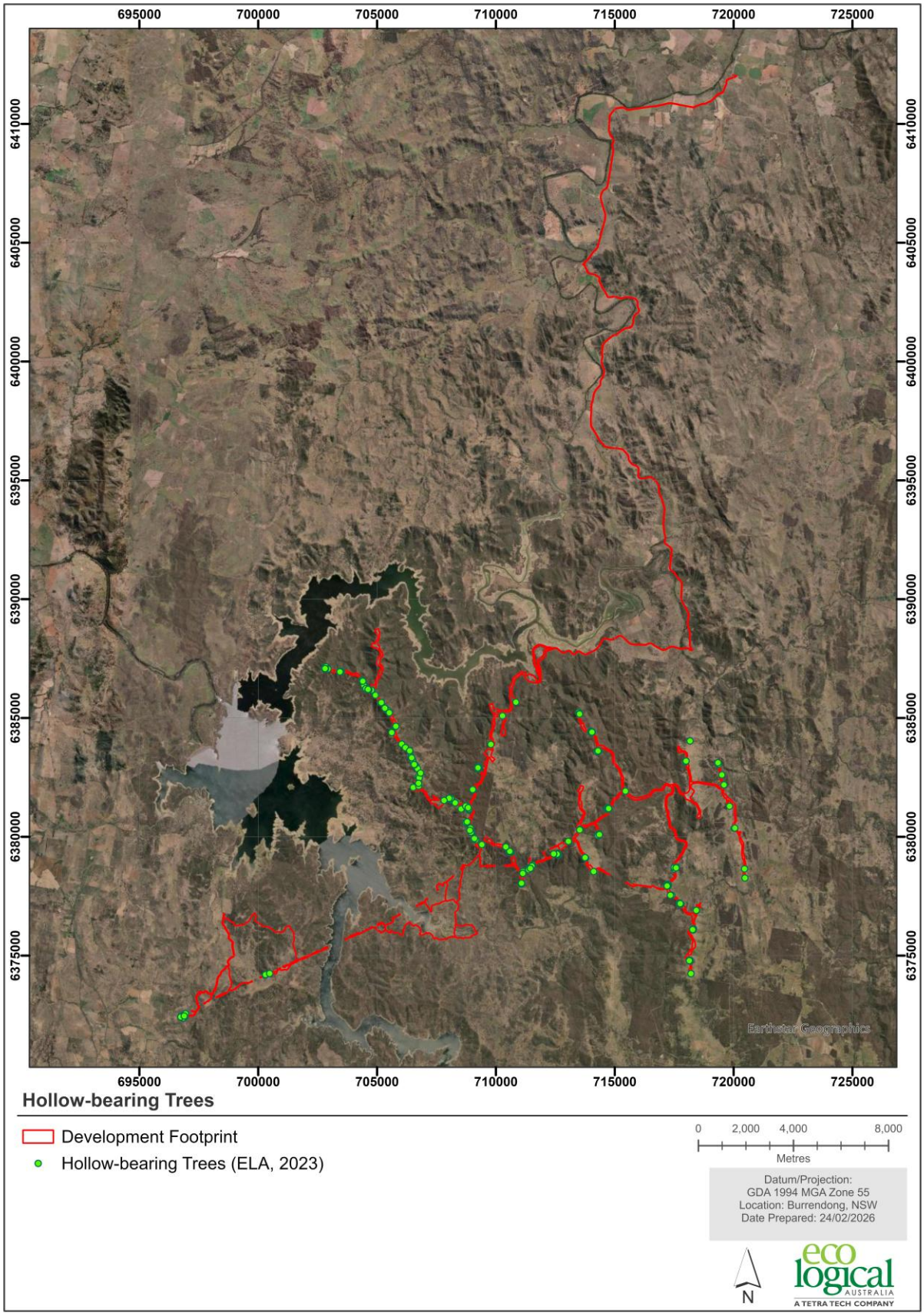

Figure 6-3: HBTs within the Development Corridor

6.3.3.3. Indirect Impacts

Indirect impacts of the Project include soil and water contamination, creation of barriers to fauna movement, and generation of excessive dust, light and noise. The indirect impacts of the development are outlined in Table 6-8 below.

Table 6-8: Potential indirect impacts to biodiversity

Indirect impact	Project phase	Nature	Extent	Frequency	Duration	Timing
Sedimentation and contaminated and/or nutrient rich run-off	Construction	Runoff during construction works	10 m from Project Site boundary	During heavy rainfall or storm events	During rainfall events	Short-term impacts
Noise, dust or light spill	Construction	Noise and dust created from machinery (no night works proposed therefore no light spill)	Noise and dust likely to carry further than 10 m from Development Footprint	Daily, during construction works Nightly during operation of development	Sporadic throughout construction period	Short-term impacts
Inadvertent impacts on adjacent habitat or vegetation	Construction	Damage to native vegetation with machinery (demarcation no-go zones)	Development Footprint	Potential at any time.	Potential at any point during construction	Potential at any point during construction
Transport of weeds and pathogens from the site to adjacent vegetation	Construction / operation	Spread of weed seed or pathogens	Potential for spread into adjacent habitat	Daily, during construction works	Sporadic throughout construction period	Short-term impacts
Vehicle strike	Construction / operation	Increased traffic movements have potential to increase impacts to fauna species	Internal and adjoining roads.	Potential at any time.	Potential at any point during construction and operation of the development	Potential at any point during construction and operation of the development
Trampling of threatened flora species	Construction / operation	Construction works and maintenance movements have potential to increase impacts to fauna species	Adjoining roads	Potential at any time.	Potential at any point during construction and operation of the development	Potential at any point during construction and operation of the development
Rubbish dumping	Construction / operation	Illegal dumping by construction crews.	Potential for rubbish to spread via wind into adjacent vegetation	Potential to occur at any time throughout construction or operational phases	During working hours for construction Potential at any point during	During working hours for construction Potential at any point during

Indirect impact	Project phase	Nature	Extent	Frequency	Duration	Timing
					operation of the development	operation of the development
Increase in predatory species populations	Construction / operation	Potential for an increase in predatory species in the locality through disturbance to vegetation.	Throughout adjacent vegetation	Likely to occur gradually after disturbance to habitat and vegetation takes place	For a period after clearing works take place	At any point once clearing and disturbance to habitat take place
Increase in pest animal populations	Construction / operation	Potential for an increase in pest animal populations in the locality through disturbance to vegetation.	Throughout adjacent vegetation	Likely to occur gradually after disturbance to habitat and vegetation takes place	For a period after clearing works take place	At any point once clearing and disturbance to habitat take place
Increased risk of fire	Construction / operation	Potential for fire to spark during construction works especially any electrical or machinery works.	Throughout adjacent vegetation	Potential to occur at any time throughout construction or operational phases	During working hours for construction Potential at any point during operation of the development	During working hours for construction Potential at any point during operation of the development

6.3.3.4. Prescribed Impacts

The prescribed impacts as a result of the Project have been considered as part of the BDAR and are summarised in Table 6-9.

Table 6-9: Direct impacts on prescribed biodiversity

Prescribed biodiversity impact	Description (Nature, extent, and frequency)	Consequences	Justification	Additional information
Karst, caves, crevices, cliffs, rocks and other geological features of significance	No areas of karst, caves, cliffs occur within the Project Site. Partially embedded rocks occur which could be damaged through vehicle movement.	Damage to fauna habitat	N/A	Wellington Caves and Borenore Caves are located 15 km and 50 km respectively from the closest WTG. Wellington Caves contains a known roosting and breeding site for the Large Bent-winged Bat. A Bird and Bat Adaptive Management Plan (BBAMP) will monitor impacts to these species.
Habitat connectivity	Project infrastructure has been sited on cleared areas Paddock trees create steppingstones to assist movement. Woodland areas on the lower slopes are more extensive maintaining connectivity.	Potential impacts to natural movements and reduction in gene pool.	The loss of paddock trees and smaller patches within the Project Site would result in a minor loss of connectivity for more transient species, however the lack of complex vegetative structure would unlikely impact threatened species.	WTG are to be located on cleared ridges with few scattered trees. These trees are already isolated and would only provide habitat for highly mobile species such as birds. Use and upgrade of existing site access tracks will not affect the connectivity
Water bodies, water quality and hydrological processes	Potential for erosion and sedimentation through run-off impacting water quality.	Potential to occur at any time throughout construction or operational phases	The Project Site crosses several ephemeral drainage lines, and creeks.	Sedimentation and erosion controls will be implemented
Wind turbine strikes on protected animals	Powerlines and Wind Turbines represent a source of hazards for bats and birds, especially through collision with rotor blades and / or barotrauma.	Injury or death of birds and bats caused by operating WTG and overhead powerlines	Monitoring pre and post construction as per the BBAMP.	Mitigation measures will be outlined in the BBAMP
Vehicle strikes	An increase in vehicle traffic during construction and required maintenance may slightly increase the	Injury or death of threatened fauna caused by vehicles.	Mitigation measures will be implemented to enforce a site speed.	With the recommended mitigation measures it is unlikely that vehicles will have a substantial impact on any species.

Prescribed biodiversity impact	Description (Nature, extent, and frequency)	Consequences	Justification	Additional information
	risk of vehicle strike on threatened species occurring within or near the Project Site.			

To assess the likely prescribed Wind Turbine Strike of the Project, a series of detailed site investigations were undertaken to identify protected resident and nomadic animals and the likely impact on those species. In order to assess the likely impact on aerial species, the following tasks were undertaken:

- Bird utilisation surveys
- Bat activity surveys
- Wind turbine strike assessment, incorporating:
    - Baseline bird and bat risk assessment
    - Collision risk modelling for at risk species
- Turbine risk assessment proposed turbines
- Measures to avoid, minimise and mitigate impacts from bird and bat turbine strike
- Bird and Bat Adaptive Management Plan (BBAMP).

The BUS have recorded a total of 125 bird species from 10,232 individual bird observations collected over the seven seasonal survey periods. Within the Development Corridor, a total of 16 species have been recorded flying at heights within the RSA (65 m – 250 m), including several raptors and threatened species (Table 6-10).

Table 6-10: Species observed flying at RSA height within the Development Corridor (65-250 m)

Species	Number of indiv. flights in RSA	Total number of indiv. flights	Proportion of flights in RSA (%)
Raptors			
Brown Falcon	3	7	42.9
Nankeen Kestrel	5	10	50.0
Peregrine Falcon	1	1	100.0
Wedge-tailed Eagle	136	230	59.1
Whistling Kite	1	2	50.0
Threatened Species			
White-throated Needletail^	148	273	54.2
Dusky Woodswallow*	24	106	22.6
Others			
Australian Raven	14	340	4.1
Australian Magpie	12	294	4.1

Species	Number of indiv. flights in RSA	Total number of indiv. flights	Proportion of flights in RSA (%)
Australian White Ibis	20	35	57.1
Pied Currawong	9	196	4.6
Sulphur-crested Cockatoo	1	171	0.6
Great Cormorant	2	2	100.0
Tree Martin	2	73	2.7

Based upon the data collected during the BUS, historical records and documented fatalities at operational wind farms in Australia, a baseline bird risk assessment was undertaken to determine those bird species (moderate or high-risk rating) that were assessed further in CRM. The baseline bird risk assessment (Section 6 of Appendix F.1 (ELA 2026b)) identified a total of seven bird species at 'Moderate' or 'High' collision risk. The seven species, including:

- Brown Falcon
- Dusky Woodswallow
- Little Eagle
- Nankeen Kestrel
- Peregrine Falcon
- Wedge-tailed Eagle
- White-throated Needletail.

For these species the CRM then included the following steps:

- Step 2 - Assess individual species collision risk
- Step 3 - Assess bird activity for at-risk species
- Step 4 - Incorporate steps 1 and 2 to estimate number of bird collisions.

Species that were not recorded flying within RSA (Little Eagle) could not be modelled beyond the calculation of their individual species collision risk (Step 2 of the Band CRM). Accordingly, calculation of collision risk estimates applying the full Band CRM, was completed for the following species:

- Brown Falcon
- Dusky Woodswallow
- Nankeen Kestrel
- Peregrine Falcon
- Wedge-tailed Eagle
- White-throated Needletail.

A summary of the CRM estimates is provided further in Table 6-12 and Section 6 of Appendix F.1 (ELA 2026b).

BAS have recorded a total 23 species of microbats and have identified as either present or potentially present from all microbat call recordings across the combined 2020 – 2025 survey period. Approximately

74% of definite, positively identified calls across the combined survey period were recorded from four common species:

- Gould's Wattled Bat (*Chalinolobus gouldii*) – 14,222 total calls, 30%
- South-eastern Freetail Bat (*Ozimops planiceps*) –10,872 total calls, 23%
- White-striped Freetail Bat (*Austronomus australis*) – 5,447 total calls, 11%
- Little Forest Bat (*Vespadelus vulturnus*) – 4,918 total calls, 10%.

Seasonal bat activity across the Project Site has followed expected seasonal trends, with the highest number of calls and call activity recorded during summer 2025, spring 2024 and summer 2020-21, with reduced activity recorded during autumn 2024 and winter 2024.

Based upon the data collected during the BAS, historical records within 10 km of the Project Site and documented fatalities at operational wind farms in Australia, a baseline bat risk assessment was undertaken to determine those bat species (moderate or high risk rating) that were assessed further in the CRM. Species were included in the risk assessment if they met one or more of the following criteria:

- Listed as threatened under the NSW BC Act and/or the Commonwealth EPBC Act, including Migratory species (Table 6-11).
- Known to be prone to turbine collision, based on documented fatalities at operational wind farms.
- Bat call activity recorded at heights of 50 m and 100 m, indicating the potential to fly within the RSA (65–250 m) of proposed WTGs.

Table 6-11: Threatened microbat species recorded during surveys for the Project

Common Name	Scientific Name	BC Act	EPBC Act
Corbon's Long-eared Bat	*Nyctophilus corbeni*	Vulnerable	Vulnerable
Eastern Cave Bat	*Vespadelus troughtoni*	Vulnerable	
Eastern False Pipstrelle	*Falsistrellus tasmaniensis*	Vulnerable	
Greater Broad-nosed Bat	*Scoteanax rueppellii*	Vulnerable	
Grey-headed flying fox	*Pteropus poliocephalus*	Vulnerable	Vulnerable
Large Bent-winged Bat	*Miniopterus orianae oceanensis*	Vulnerable	
Large-eared Pied Bat	*Chalinolobus dwyeri*	Vulnerable	Vulnerable
Little Bent-winged Bat	*Miniopterus australis*	Vulnerable	
Little Pied Bat	*Chalinolobus picatus*	Vulnerable	
Yellow-bellied Sheath-tailed Bat	*Saccolaimus flaviventris*	Vulnerable	

The baseline bat risk assessment (Section 6 of Appendix F.1 (ELA 2026b)) identified a total of eight bat species at 'Moderate' or 'High' collision risk. The eight species include:

- Eastern False-Pipistrelle
- Gould's Wattle Bat
- Greater Broad-nosed Bat

- Grey-headed Flying-fox
- Large Bent-winged Bat
- South-eastern Freetail Bat
- White-striped Freetail Bat
- Yellow-bellied Sheath-tailed Bat.

In the absence of species-specific flight data within RSA, collision risk modelling could not be progressed beyond Step 1 of the CRM, which calculates the baseline likelihood of individual species encountering turbine blades. Hence a qualitative collision risk assessment has been undertaken for relevant bat species.

Based on the BBUS results to date, a WTG risk assessment has been developed for the Project in order to identify a relative risk rating for each proposed WTG. The results of the WTG risk assessment are provided in Section 6.13 of Appendix F.1 (ELA 2026b), with four (4) WTGs rated as low, 46 WTGs rated as moderate, and 20 WTGs rated as high (Figure 6-4). The details of the prescribed impact assessment are summarised in Table 6-12 below.

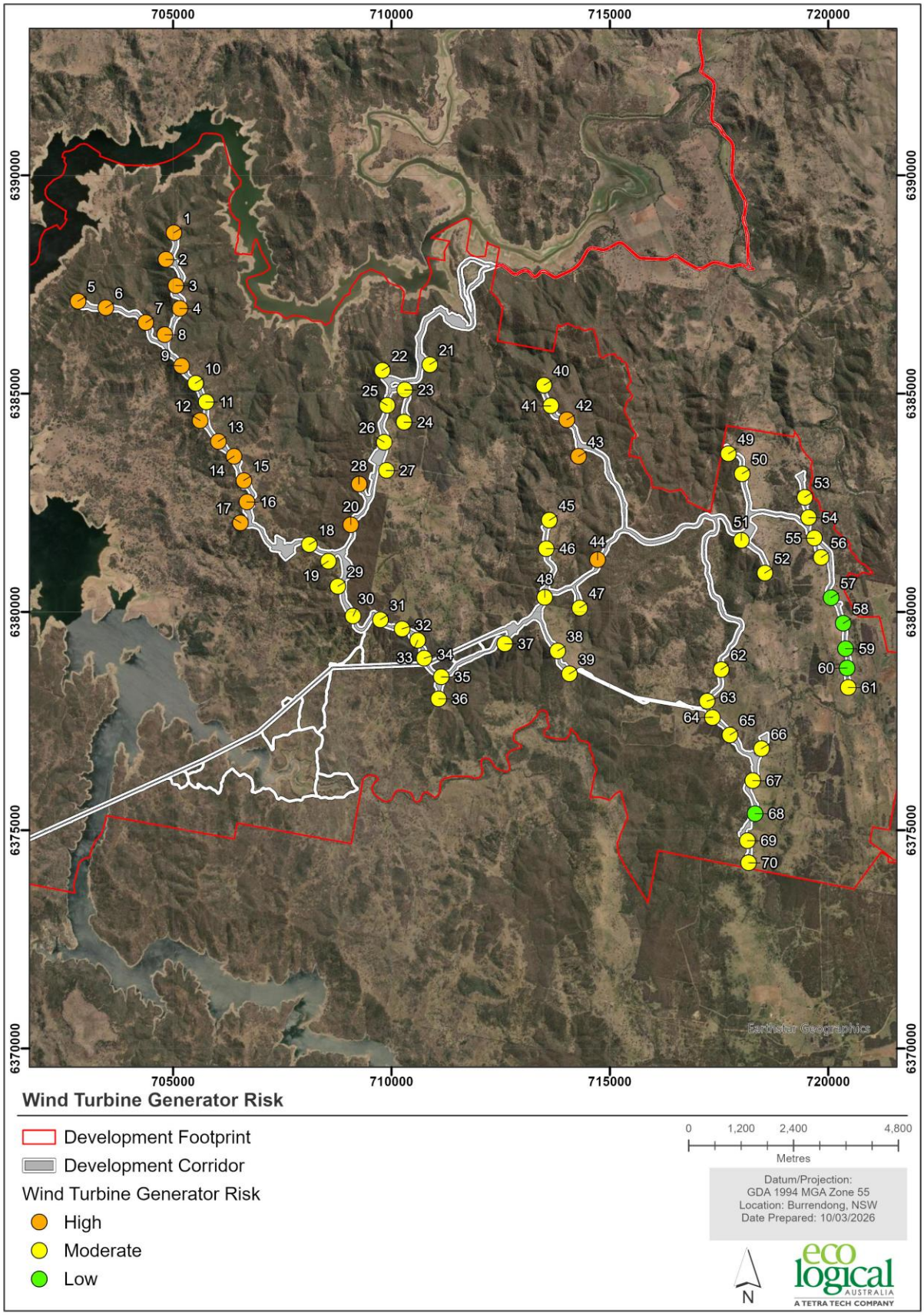

Figure 6-4 WTG relative risk rating

Table 6-12: Assessment of wind turbine strike impacts

Prescribed impact consideration	Assessment of Impacts - Justification
Predict the impact on species living in, or likely to fly over, the proposed Development Footprint, including bat or bird strike and barotrauma	A program of BUS and BAS has been undertaken within the Project Site and surrounds (including the proposed Development Footprint), with the results provided in Section 6.4 and Section 6.5 of Appendix F.1 (ELA 2026b). Baseline bird and bat risk assessment, inclusive of collision risk assessment, has been undertaken to predict impacts on bird and bat species and are detailed in Section 6.1 and Section 6.5 of Appendix F.1 (ELA 2026b). The risk of impacts to a total of 30 bird and 19 bat species has been assessed. A total of six bird and seven bat species have been predicted to be at moderate risk of impact and one bird and one bat species have been predicted to be at high risk of impact.
Predict the rate and timing of impact per turbine per year for species likely to be affected	The rate and timing of collisions with turbines has been modelled for moderate (excluding Little Eagle due to absence of flights within RSA and high-risk bird species within a project-specific CRM, the methodology of which is detailed in Section 6.2 and results are provided in Section 6.4 of Appendix F.1 (ELA 2026b). The timing of impact is accounted for in the CRM given that the number of flights at risk is calculated seasonally, which translates into a seasonal collision risk. Modelled collision estimates at 90% and 95% avoidance rates were generally low, ranged from 0.04 to 0.02 for Peregrine Falcon, to 12.4 to 6.2 for Wedge-tailed Eagle. As individual bat flights are not able to be quantified, CRM is not possible for this species group, however, a qualitative collision risk assessment has been completed and is detailed in Section 6.5 of Appendix F.1 (ELA 2026b). White-striped Freetail Bat has been assessed as the most at risk bat species for the Project given its recording at heights (50 m and 100 m) near to and within the lower turbine Rotor Swept Area (RSA; 65-250 m) and its known susceptibility to turbine strike (Section 6.6.1 of Appendix F.1 (ELA 2026b)). A WTG risk assessment has also been completed, which assesses relative risk of each of the 70 individual WTGs. The WTG risk assessment is detailed in Section 6.7 of Appendix F.1 (ELA 2026b). Five WTGs have been assessed as low risk, 45 WTGs as moderate risk and 20 WTGs as high risk.
Predict the consequences of impacts for the persistence of populations	The consequence of predicted impacts has been assessed for all relevant bird and bat species within the bird and bat risk assessments provided in Section 6.1 and Section 6.5 of Appendix F.1 (ELA 2026b). Population information for all moderate and high-risk bird and bat species is provided in the risk assessments, including the number of records of the species local population recorded in the Project Site and total population estimates (where available). The quantity of known mortalities of species from operational Wind Farms in Australia is also presented in the bird and bat risk assessments. Overall, the predicted consequence of impacts to bird and bat population viability is considered negligible to low, however, given the potential for impacts to local and regional populations of

Prescribed impact consideration	Assessment of Impacts - Justification
	moderate and high-risk species, a range of mitigation measures and a robust monitoring program is proposed to be implemented through the Project BBAMP.
Predict the cumulative impacts of the proposed development alongside existing wind farms, on species mortality, movement patterns and use of adjacent habitat	Potential cumulative impacts to at risk bird and bat species are described in the bird (Section 6.1 of Appendix F.1 (ELA 2026b)) and bat (Section 6.5 of Appendix F.1 (ELA 2026b)) risk assessments and in the review of operational and approved wind farms in the region (Section 6.15 of Appendix F.1 (ELA 2026b)). The Project is not co-located with any other existing wind farms locally, with the nearest existing wind farm, Bodangora Wind Farm, located approximately 24 km northwest of the Project and the nearest approved wind farm is Uungula, located 12 km northwest. Eight (8) operational or approved wind farms occur within the Central West Orana Renewable Energy Zone and adjacent IBRA subregions (within 200 km). Turbine collision predicted for the project has the potential to contribute to cumulative impacts at a regional scale, with the Project committed to the implementation of a robust monitoring program and adaptive management through the Project BBAMP, to contribute relevant data and increase understanding of cumulative impacts at a regional scale.
Predict the likelihood and nature of impacts on aerial species living in, or likely to fly over, the proposed Development Footprint, including barriers to migratory pathways, and breeding, feeding and resting resources	The likelihood of impact is assessed as a key component of the baseline bird and bat risk assessments and the impacts have been assessed for species assessed as being 'Potential', 'Likely' or 'Almost certainly' at risk of impact. A project-specific flight barrier impact assessment has been completed and is detailed in Section 6 of Appendix F.1 (ELA 2026b). Due to the predominant low flight height (20 m and below) and behaviour (flying below or just above the canopy) of recorded bird and bat flights, combined with the WTG design (RSA of 65-250 m) and layout (mean distance between WTGs >500 m), the impacts to aerial species have been assessed as low. The WTG layout does not intersect the major regional river valleys which likely form and contain the main movement, breeding, foraging and resting pathways for locally dispersive and wide-ranging (e.g. migratory) bird and bat species.
Predict the impact of avoidance behaviour for migratory species relative to migration distances, and the availability of suitable habitat for breeding, feeding and resting over the migration route	A project-specific avoidance impact assessment has been completed and is detailed in Section 6.14 of Appendix F.1 (ELA 2026b). Given the typical low flight height and behaviour of most of the bird and bat movements recoded from the Project Site, combined with the WTG design and layout, negligible avoidance impacts are expected. The Project Site does not contain and is not located adjacent to any specialist bird and bat breeding, feeding, or resting areas, including maternity roosts for cave-dwelling microbat species or mapped important habitat areas for migratory shorebirds or the migratory Swift Parrot (NSW DCCEEW 2025). Avoidance impacts to the one listed migratory species recorded within the Project Site, White-throated Needletail, are likely to be negligible. Given the species wide-range and high mobility, it has the capacity to demonstrate both meso- and macro-avoidance (see

Prescribed impact consideration	Assessment of Impacts - Justification
	Smales 2023) and fly both around and through the WTG layout where required.
Justify predictions with reference to data, collision risk modelling (if available), relevant literature or other published sources including any publications by the Department	A project-specific CRM has been completed for bird species (Section 6.2 of Appendix F.1 (ELA 2026b)) and a qualitative risk assessment completed for bat species (Section 6.5 of Appendix F.1 (ELA 2026b)) informed by baseline data, relevant literature (see Section 13 of Appendix F.1 (ELA 2026b)) and mortality data from operation wind farms, including the two proximally located wind farms to the Project Site (Bodangora Wind Farm – 24 km northwest, and Crudine Ridge Wind Farm – 37 km southeast).
Map the disturbance zone around wind turbines, and the significant landscape and habitat features within that zone, for species likely to be affected, e.g. hollow bearing trees and important habitat for migratory species.	The disturbance zone of WTGs is a key component of the CRM completed for moderate and high-risk bird species (Section 6.2 of Appendix F.1 (ELA 2026b)). Disturbance zones around wind turbines have been incorporated into the development footprint which allows for an area of additional impact (50 m) around each turbine. No hollow-bearing trees or other significant bird and bat habitat features outside of this zone are to be impacted. The development footprint does not contain and is not located adjacent to any specialist bird and bat breeding, feeding, or resting areas, including maternity roosts for cave-dwelling microbat species or mapped important habitat areas for migratory shorebirds or the migratory Swift Parrot (NSW DCCEEW 2025).

6.3.3.5. Serious and Irreversible Impacts

The following candidate SAII entities were assessed within the BDAR to assess the risk of each entity becoming extinct based on the four principles set out in clause 6.7 of the *Biodiversity Conservation Regulation 2017*:

- TEC
    - White Box- Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Box Gum Woodland)
- Cave Dwelling Bats
    - Eastern Cave Bat
    - Large Bent-winged Bat
    - Large-eared Pied Bat
- Flora Species
    - *Grevillea divaricata*.

An assessment of the candidate SAII entities against the assessment criteria has been completed and the following impacts are predicted (Table 6-13).

Table 6-13: SAII Summary

Species / Community	Principle	Direct impact individuals / area (ha)	Threshold
TEC			
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland • PCT 266 – 52.45 ha • PCT 270 – 0.15 ha • PCT 274 – 0.90 ha • PCT 277 – 16.43 ha • PCT 281 – 4.58 ha	Principle 1 and 2	There is 74.51 ha of this TEC within the Development Footprint. • Windfarm = 28.53 ha • Powerline = 23.63 ha • Access Road upgrade = 22.35 ha	No listed threshold
Cave Dwelling Bats			
Large-eared Pied Bat	None listed in TBDC	The Project has been located to avoid direct and indirect impacts on the species breeding habitat, which is the focus of the species listing as a SAII candidate entity under Principle 4. There is no breeding habitat present within the Development Corridor or within a 100 m or 2 km buffer. The species was not recorded flying at RSA, and it is unlikely that this species will be significantly impacted by blade strike or barotrauma. This species was not identified in any of the carcass monitoring reports reviewed in Section 6 of Appendix F.1 (ELA 2026b). To monitor any potential impacts to this species, a BBAMP framework has been prepared to ensure that any unforeseen impacts are recorded, managed, and mitigated through the adaptive plan described in Section 7.2 of Appendix F.1 (ELA 2026b).	No listed threshold
Large bent-winged Bat	None listed in the TBDC	The Project has been designed to avoid direct and indirect impacts on the species breeding habitat, which is the focus of the species listing as a SAII candidate entity under Principle 4. There is no breeding habitat present within the Development Corridor or within a 100 m buffer. The species was not recorded flying at or near RSA height and only three definite calls of the species has been recorded. It is unlikely that this species will be significantly impacted by blade strike or barotrauma. This species was not identified in any of the carcass monitoring reports reviewed in Section 6 of Appendix F.1 (ELA 2026b). To	No listed threshold

Species / Community	Principle	Direct impact individuals / area (ha)	Threshold
		monitor any potential impacts to this species, a BBAMP framework has been prepared to ensure that any unforeseen impacts are recorded, managed, and mitigated through the adaptive plan described in Section 7.2 of Appendix F.1 (ELA 2026b).	
Eastern Cave Bat	None listed in TBDC	The Project has been designed to avoid direct and indirect impacts on the species breeding habitat, which is the focus of the species listing as a SAII candidate entity under Principle 4. There is no breeding habitat present within the Development Corridor or within a 100 m or 2 km buffer. No individuals have been recorded flying at or near RSA height and very few definite calls were recorded overall. Accordingly, the species is unlikely to be impacted by blade strike or barotrauma, and the species was not identified in any of the carcass monitoring reports reviewed in Section 6 of Appendix F.1 (ELA 2026b). To monitor any potential impacts to this species, a BBAMP framework has been prepared to ensure that any unforeseen impacts are recorded, managed, and mitigated through the adaptive plan described in Section 7.2 of Appendix F.1 (ELA 2026b).	No listed threshold
Flora Species			
Grevillea divaricata	Principle 2 Principle 3	5.54 ha	No listed threshold

ADDITIONAL SAII MITIGATION MEASURES

At the request of CPHR the Proponent has investigated options to provide additional mitigation measures to further minimise impacts to Box Gum Woodland. Once final impacts have been established, the Proponent proposes to provide for a 1:1 protection (measured by area) and enhancement of Box-Gum Woodland within the locality, such that the impacts of the Project are minimised in a local context. A site-based option has been proposed to achieve additional mitigation measures to compensate for the loss of Box-Gum Woodland within the locality. This offset will be managed to increase the future Vegetation Integrity Score of Box Gum Woodland PCTs. The site will be secured post-approval under a Biodiversity Stewardship Agreement (BSA).

Two suitable offset properties (Option A and Option B) have been identified, both within the South Western Slopes Bioregion. Details are summarised in Table 6-14 below. Both Options are within the Project Site and within areas mapped as Box Gum Woodland.

Table 6-14: Summary details of offset properties Options A and Options B

Parameter	Option A	Option B
Location	Adjacent to riparian corridor	Within south Western Slopes Bioregion
Total Area	126.3 ha	140.4 ha
Validated Box-Gum Woodland	3.6 ha	5.5 ha
SVTM Mapped Box-Gum Woodland	5.2 ha	68.2 ha
Potential Rehabilitation Area	99.3 ha (cleared / not classified)	45.4 ha (cleared / not classified)
Connectivity Potential	High – adjacent to riparian areas	Moderate – dispersed patches
Preferred Option	Yes	Backup / contingency

Option A is currently the preferred site due to its larger potential area for rehabilitation (99.26 ha) and its location adjacent to a riparian corridor, providing potential connectivity to other areas of vegetation and connectivity to Box Gum Woodland. However, given the potentially long timeframe required to establish a BSA, and risks of unforeseen circumstances such as changes in land ownership or access constraints, Option B has also been considered as a contingency.

To address the potential SAII impacts to Box-Gum Woodland, the Proponent commits to a suite of additional mitigation measures, to be implemented post-approval of the Project. These measures are aimed at ensuring long-term ecological improvement and the successful establishment of Box-Gum Woodland within the offset site.

The Proponent commits to the following measures post-approval:

- Validate vegetation and condition class mapping by carrying out comprehensive on-ground surveys to confirm vegetation extent, PCTs and condition zones
- Undertake a soil assessment of the proposed land-based offset area to validate the soil types are suitable for Box-Gum Woodland restoration
- Establish management zones based on condition and restoration potential to guide targeted management interventions. This will include the preparation of a Restoration Management Plan to be developed by a qualified person (Restoration Ecologist)
- Securing the offset site in perpetuity under a Biodiversity Stewardship Agreement (BSA) in accordance with the NSW BC Act
- Rehabilitation of up to 74.51 ha (equivalent to the impact area subject to detailed design and/or micro-siting), with potential for additional restoration to improve connectivity and expand habitat corridors within the BSS
- Establishment of a Total Fund Deposit (TFD) to support all required activities throughout the life of the BSA
- Precluding the trading of ecosystem credits generated from the BSS associated with 76.2 (or actual impacts based on micro-siting) Box Gum Woodland PCTs to further ensure conservation outcomes

- If Option A or Option B fail to meet the measures outlined above or become unavailable post-approval due to factors outside of the control of the Proponent, the Proponent commits to finding a similar land-based offset property in consultation with CPHR.

The following restoration and land management activities represent examples of actions that may be implemented to support the establishment and long-term improvement of Box-Gum Woodland CEEC condition within the offset site, subject to site-specific requirements and the outcomes of vegetation validation:

- Site protection by maintaining the boundary fencing to exclude livestock, feral animals and manage access
- Implementation of strategic grazing (if appropriate) to encourage native understory regeneration.

Additionally, since the submission of the EIS, additional BBUS have commenced and are ongoing. The data collected from the BBUS will be analysed to determine the level of activity across the Project Site for the cave dwelling bats which are deemed as an SAII entity, including the Large-eared Pied Bat and Eastern Cave Bat. Section 9.2 of the revised BDAR (ELA 2026b) provides an updated assessment for the Large-eared Pied Bat and Eastern Cave Bat against the assessment criteria for SAII entities.

However, it is important to note that there are no breeding roosts within the Development Corridor nor within 2 km of the Development Corridor, therefore considering the Development Corridor as an SAII for potential breeding habitat is not required.

Habitat critical to the survival of these species are roosts for shelter and breeding such as caves, cliff lines, outcrops and abandoned fairy martin nests. These are not located within the Development Corridor, nor within the Development Footprint. Aerial imagery and scanning the broader landscape using binoculars did not reveal potential breeding sites. There will therefore be no impacts to critical habitat.

Individuals of both species have been recorded within the Project Site, likely undertaking foraging activities. Whilst diet has not been examined, observations suggest that both species are relatively slow flyers that forage predominately below the canopy, including in woodlands and grasslands, feeding on small flying insects. Foraging habitat for both species is found within several km of cliff lines.

The proposed Development Footprint has been modified and evaluated to avoid the removal of woodland and better-quality grasslands where possible. Much of the DNG has been extensively modified due to grazing. This reduces the likelihood of impacts to foraging habitat for these species.

The TBDC identifies that loss of breeding habitats only has an SAII for cave-dwelling bats. However, it is noted that the absence of other descriptions does not discount other impacts. The assessor has considered this and has provided the following information to inform the decision process:

- Neither species is listed under the SAII Principles under Principles 1 (rapid rate of decline), Principle 2 (small population size), or Principle 3 (limited geographic distribution)
- The Project has deliberately avoided all impacts to any potential breeding or roosting habitats for all species

- Only 4 individual Large Bent-winged Bats have been identified in carcass monitoring reports suggesting a low level of activity occurring at RSA. However, a risk assessment has been completed for this species and mitigation measures addressed
- Eastern Cave Bats were not recorded flying at 50 m or 100 m and are unlikely to be impacted by blade strike
- A BBAMP Framework is proposed in the revised BDAR (ELA 2026b) which requires notification of impacts to threatened species to CPHR.

The Proponent has also proposed an initiative to fund a targeted research project aimed at improving knowledge of bat species, with a particular focus on their behaviour, habitat use, and potential vulnerability to wind energy infrastructure. This initiative is voluntary and exceeds current requirements. The proposed research will help address knowledge gaps, especially for species where scientific data on turbine interactions are limited or absent.

6.3.3.6. Matters of National Environmental Significance

Whilst assessments concluded that no significant impacts are likely to occur, the Project was referred to the Commonwealth DAWE and was considered a Controlled Action on 2 June 2021 (2021/8916).

Two (2) TECs are present within the Project Site, being White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland and Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia. Seven (7) threatened species listed as MNES have been recorded, being White-throated Needletail, Koala, Brown Treecreeper, Large-eared Pied Bat, Corben's Long-eared Bat, Diamond Firetail, and Hooded Robin. A significant impact is unlikely to occur to the TECs present within the Project Site, nor to the threatened species listed as MNES. Table 6-15 outlines the species that have the potential to occur or were recorded within the Project Site.

Table 6-15: MNES with potential to occur or recorded within the Project Site

MNES	Occurrence	Significant assessment
Threatened ecological communities	Two TECs is present within the Project Site. • White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland • Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South eastern Australia	Yes
Threatened species	Threatened species listed as MNES recorded include: • White-throated Needletail • Koala • Brown Treecreeper • Large-eared Pied Bat • Corben's Long-eared Bat • Diamond Firetail • Hooded Robin.	Potential
	The following species were considered to have potential to occur: • Pint-tailed Legless Lizard • Key's Matchstick Grasshopper • Prasophyllum petilum / P. sp. Wybong • *Swainsona recta* • Painted Honeyeater	Potential

MNES	Occurrence	Significant assessment
	• Regent Honeyeater – not on mapped important areas • Superb Parrot • Grey-headed Flying-fox • Grey Falcon • Diamond Firetail • *Dichanthium setosum* • *Persoonia marginata*	
Migratory species	Two migratory species were recorded: • White-throated Needletail • Fork-tailed Swift. One migratory species was considered to have the potential to occur: • Satin flycatcher.	Potential
Wetlands of International Importance	No Wetlands of National Importance are present within or in proximity to the Project Site.	Significant impact unlikely

6.4. Route Study

The route survey assessment for the Project has been updated since the submission of the EIS (Appendix G). The Route Study Assessment identified three (3) route options from Newcastle Port to the Project Site (Figure 6-5):

- OSOM vehicles transporting the WTG blades will utilise route one (1)
- OSOM vehicles including the WTG towers and heavy vehicles will utilise route two (2)
- Heavy and Light vehicles including other WTG component and light trucks for smaller deliveries and cars, 4WD and utility vehicles for on-site Project personnel will utilise route three (3).

A summary of each route is provided in Table 6-16.

Table 6-16: Summary of Route Options

	Route 1	Route 2	Route 3
Components	Blades	Towers (max loaded height 6.1m)	Remaining components (max loaded height 5.6m)
Distance	497km	421km	389km
Route	Selwyn Street, George Street, Industrial Drive, Maitland Road, New England Highway, John Renshaw Drive, Hunter Expressway, New England Highway, Golden Highway, Saxa Rd, Mitchell Highway, Goolma Road, Twelve Mile Road, Yarrabin Road, Burrendong Dam Road, Endacott Road.	Selwyn Street, George Street, Industrial Drive, Maitland Road, New England Highway, John Renshaw Drive, Hunter Expressway, New England Highway, Golden Highway, Denman Road, Bengalla Road, Wybong Road, Golden Highway, Castlereagh Highway, Goolma Road, Twelve Mile Road, Yarrabin Road, Burrendong Dam Road, Endacott Road	Selwyn Street, George Street, Industrial Drive, Maitland Road, New England Highway, John Renshaw Drive, Hunter Expressway, New England Highway, Golden Highway, Castlereagh Highway, Goolma Road, Twelve Mile Road, Yarrabin Road, Burrendong Dam Road, Endacott Road.
No. of modifications required	26	13	3
No. of Pinch Points	15	17	8

Key points that need to be taken into consideration, if the Project proceeds, along each route are summarised in Table 6-17.

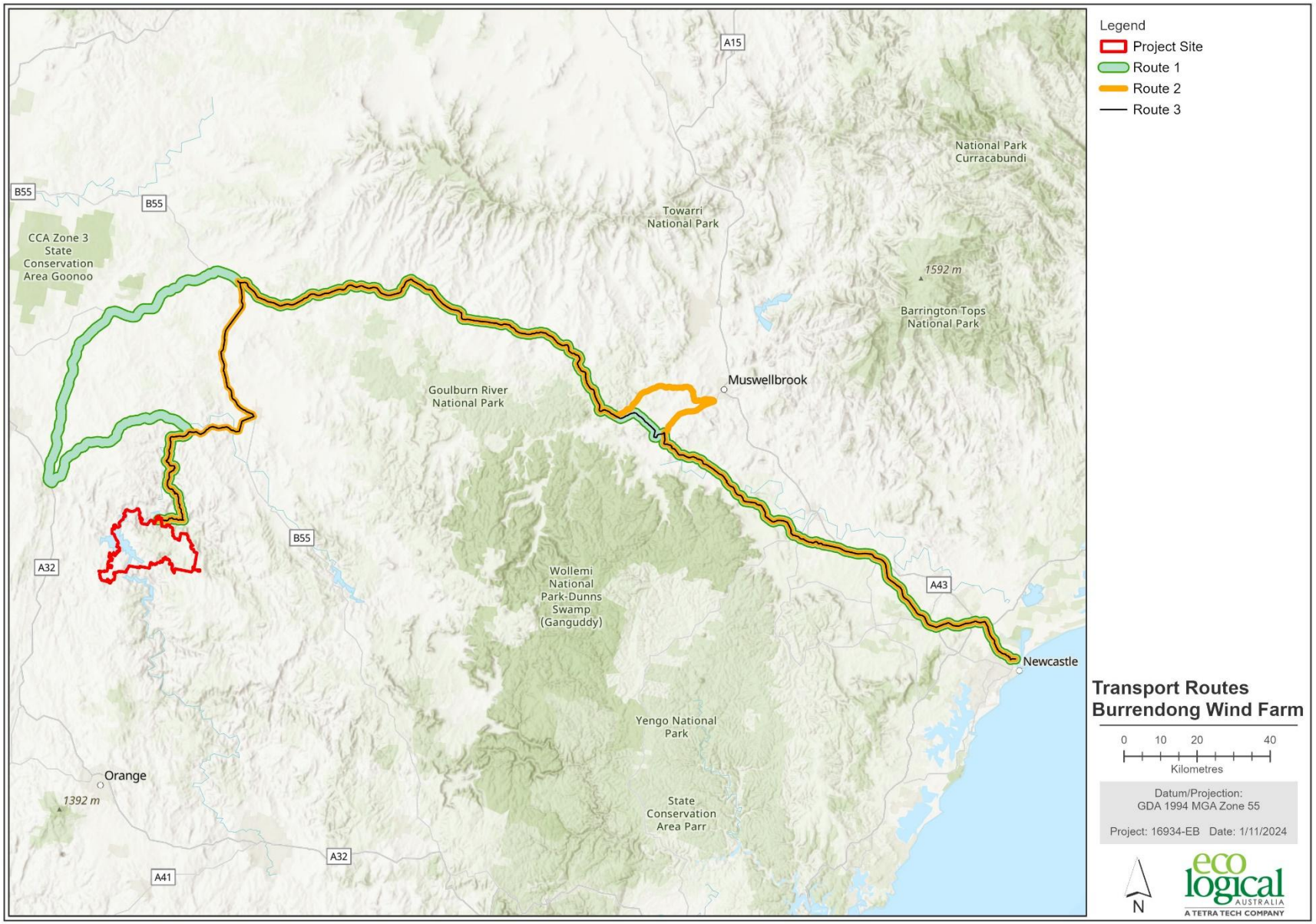

Figure 6-5: Route Options from Newcastle Port to the Project Site

Table 6-17: Summary of key points for each route option

Key Points	Route 1	Route 2	Route 3
Swept Path	• There are numerous sections along the route that will require a moderate amount of work to accommodate the proposed blade size • The corners that have been identified in the report as requiring work should be investigated early in the planning stages to avoid delays or rejections • Twelve Mile Road, Yarrabin Road, Burrendong Dam Road and Endacott Road all have many corners requiring work in order to accommodate the required swept path.	• There are numerous sections along the route that will require upgrading to accommodate the proposed tower size • The corners that have been identified in the report as requiring significant work should be investigated early in the planning stages to avoid delays or rejections.	No issues for the loads listed to use this route.
Overhead structures: (5.6 maximum loaded height)	The lowest structure on this route is overhanging traffic signals, the lowest of these is 5.4 m high, but these signals can be avoided by passing them to the side. The lowest fixed structure is a gantry at Hexham. Loads over 5.2 m are to pass to the side of the traffic signals. The lowest structure that cannot be detoured is the Denman bridge. Denman Bridge is 5.7 m in height. A loaded height of 5.6 m should not be exceeded. Loads that exceed 5.6 m will need to detour this structure.	The lowest Bridge structure on the route is the Tarro overpass on the New England Highway at Tarro which has a clearance of 6.2 m. The loads must not exceed 6.1 m in overall height and must be able to lower to 6.0 m and pass under this structure in the far-left breakdown lane.	The loads cannot exceed 5.6 m in overall height.
Overhead utilities:	This route will need to be checked by an authorised scoping company. It is likely that a route of 5.6 m loaded height is required for this route.	• A travel height of up to 6.3 m is recommended when trailers are at travelling height • This route will need to be checked by an authorised scoping company for a loaded height of 6.3 m • Given the length of the route and large tower size there will likely be a significant amount of overhead utility lifting/relocation required.	This route will need to be checked by an authorised scoping company. It is likely that a route of 5.6 m loaded height is required for this Project.
Bridges	TfNSW has confirmed there are previous approvals in place that cover TfNSW bridge assets in relation to the turbine components outlined in the Route Study (R J Andrews 2024). However, during the detailed design phase the transformer beam set combination would require further assessment once off the Golden Highway to the Project Site.	TfNSW has confirmed there are previous approvals in place that cover TfNSW bridge assets in relation to the turbine components outlined in the Route Study (R J Andrews 2024). However, during the detailed design phase the transformer beam set combination would require further assessment once off the Golden Highway to the Project Site.	TfNSW has confirmed there are previous approvals in place that cover TfNSW bridge assets in relation to the turbine components outlined in the Route Study (R J Andrews 2024). However, during the detailed design phase the transformer beam set combination would require further assessment once off the Golden Highway to the Project Site.
Rail Assets	There are a number of rail overbridges and crossings on route that will require approval from authorities before loads can access the routes.	There are a number of rail overbridges and crossings on route that will require approval from authorities before loads can access the routes.	There are a number of rail overbridges and crossings on route that may require approval from authorities before loads can access the routes.
Vegetation	The route requires a large amount of vegetation clearing at various locations as listed in the report, primarily from Twelve Mile Road onwards.	• The route requires a large amount of vegetation clearing at various locations as listed in the report, primarily from Twelve Mile Road onwards • The route will need to have a height survey undertaken for vegetation that is below the maximum loaded height of 6.3 m. During the scope there were a large number of locations that would require vegetation trimming but not removal for overhead vegetation.	• The route requires a large amount of vegetation clearing at various locations as listed in the report, primarily from Twelve Mile Road onwards • The route will need to have a height survey undertaken for vegetation that is below the maximum loaded height of 5.6 m. There were a large number of locations that would require vegetation trimming but not removal for overhead vegetation.
Pavement	• Pavement on the route is of highway standard up to Twelve Mile Road • Twelve Mile Road, Yarrabin Road, Burrendong Dam Road are currently gravel roads • Twelve Mile Road, Yarrabin Road, Burrendong Dam Road and Endacott Road are to be constructed to suitable standards and maintained for the duration of deliveries • All site access roads to be constructed to appropriate standards in order to accommodate the weight, height and swept path of all proposed loads. Roads to be maintained for the duration of deliveries if not sealed.	• Pavement on the route is of highway standard up to Twelve Mile Road • Twelve Mile Road, Yarrabin Road, Burrendong Dam Road are currently gravel roads • Twelve Mile Road, Yarrabin Road, Burrendong Dam Road are to be constructed to suitable standards and maintained for the duration of deliveries • All site access roads to be constructed to appropriate standards in order to accommodate the weight, height and swept path of all proposed loads. Roads to be maintained for the duration of deliveries if not sealed.	• Pavement on the route is of highway standard up to Twelve Mile Road • Twelve Mile Road, Yarrabin Road, Burrendong Dam Road are currently gravel roads.
Roadworks	• The Project will need to start discussions with government authorities at least 18 months prior to turbine transport to understand if the Project would conflict with any upcoming roadworks. Once a Transport Management Plan (TMP) has been approved for the transport of the turbines, then the exact movement dates need to be communicated with all relevant authorities to make all road stakeholders are aware of the scheduled movements for each day	• The Project will need to start discussions with government authorities at least 18 months prior to turbine transport to understand if the Project would conflict with any upcoming roadworks. Once a TMP has been approved for the transport of the turbines, then the exact movement dates need to be communicated with all relevant authorities to make all road stakeholders are aware of the scheduled movements for each day	N/A

Key Points	Route 1	Route 2	Route 3
	• The Project will need to regularly check on any new upgrades not listed in the report. If upgrades have taken place on a section of route after this report has been completed, then a swept path study would need to be undertaken on that section of road to confirm that it can still be used.	• The Project will need to regularly check on any new upgrades not listed in the report. If upgrades have taken place on a section of route after this report has been completed, then a swept path study would need to be undertaken on that section of road to confirm that it can still be used.	
Site access roads	• All site access roads to be constructed to appropriate standards in order to accommodate the height, weight, vertical curves and swept path of all proposed roads • Roads to be made all weather and maintained for the duration of deliveries.	• All site access roads to be constructed to appropriate standards in order to accommodate the height, weight, vertical curves and swept path of all proposed roads • Roads to be made all weather and maintained for the duration of deliveries.	N/A

6.5. Traffic and Transport Assessment

The TTIA has been updated to reflect the changes within the route assessment, Appendix H (Stantec 2026).

6.5.1. Existing Environment

The route will require major works including upgrades to Twelve Mile Road, Yarrabin Road and Burrendong Dam Road as well as modification of a number of floodway's and culverts, crest removals, and vegetation removal for vertical clearance along these roads.

6.5.2. Potential Impacts

6.5.2.1. Construction

The construction phase of the Project is likely to generate the highest levels of vehicle movements. The peak period of the Project will consist of approximately 70 one-way daily trips during months 9 and 10, of which 57 are heavy vehicles (23%). As a result of the TWAF now proposed on site, the number of light vehicles traveling to and from the site on workdays has been significantly reduced, this is described in more detail within section 6.13.1.5 of this report and assessed in Appendix A. 2 (Appendix D of Barnson 2025).

The key roads accessing the Project Site will be Twelve Mile Road, Yarrabin Road and Burrendong Dam Road from the north (i.e. servicing Wellington and Dubbo), and Hill End Road, Yarrabin Road and Burrendong Dam Road from the east (i.e. servicing Mudgee). Intersection assessments show that the junction of Castlereagh Highway/ Hill End Road is considered to be satisfactory for the traffic generated during construction. The intersections of Goolma Road/ Twelve Mile Road (near Two Mile Flat) and Mitchell Highway/ Goolma Road (Wellington) should be constructed with BAR and BAL treatments respectively when works are carried out to accommodate the OSOM vehicle route.

The proponent engaged with the Uungula Wind Farm project team regarding their planned upgrades to the Mitchell Highway–Goolma Road intersection to accommodate the delivery of turbine blades. The project team shared the final draft design with the Proponent for reference. The proposed extended pavement areas have been incorporated into the strategic design prepared by EMM (2026), demonstrating that the upgraded intersection will accommodate the Proponent's blade transport requirements.

A Basic Auxiliary Left (BAL) treatment already exists at the intersection, and there is sufficient space within both the existing pavement and the proposed pavement extension to accommodate a BAL. As a result, the Proponent does not need to undertake any additional impact assessment for this intersection. Refer to Appendix H.2 of this report (EMM 2026).

EMM has also completed a strategic design for the intersection of Goolma Road and Twelve Mile Road, which includes consideration of a Basic Auxiliary Right (BAH) treatment. The Proponent has assessedthe impacts associated with the extended pavement required to implement this intersection design. Refer to Appendix H.2 this report (EMM 2026). The impacts of the road upgrades have been assessed in the BDAR, Heritage Memo and NVIA (Appendix F.1, Appendix L.2 and Appendix E.2).

To access the western side of Project Site for the construction and operation of the switchyard, TransGrid connection, and powerline construction, there is a secondary access point. A small number of

light and heavy construction vehicles will travel via Fashions Mount Road and Tara Road utilising the secondary access. No OSOM vehicles will be used on the western route.

It is expected that up to 90% of the workforce will be non -local who will reside within the on-site TWAF of the 10% (25 people) of workforce expected to be from the local are the distribution is estimated to be as follows Mudgee, Gulgong and Rylstone (70% - approx. 18 people), and Dubbo and Wellington (30% approx. 7).

To note, the route adopted by OSOM vehicles, heavy vehicles and light vehicles is shown in Figure 6-6.

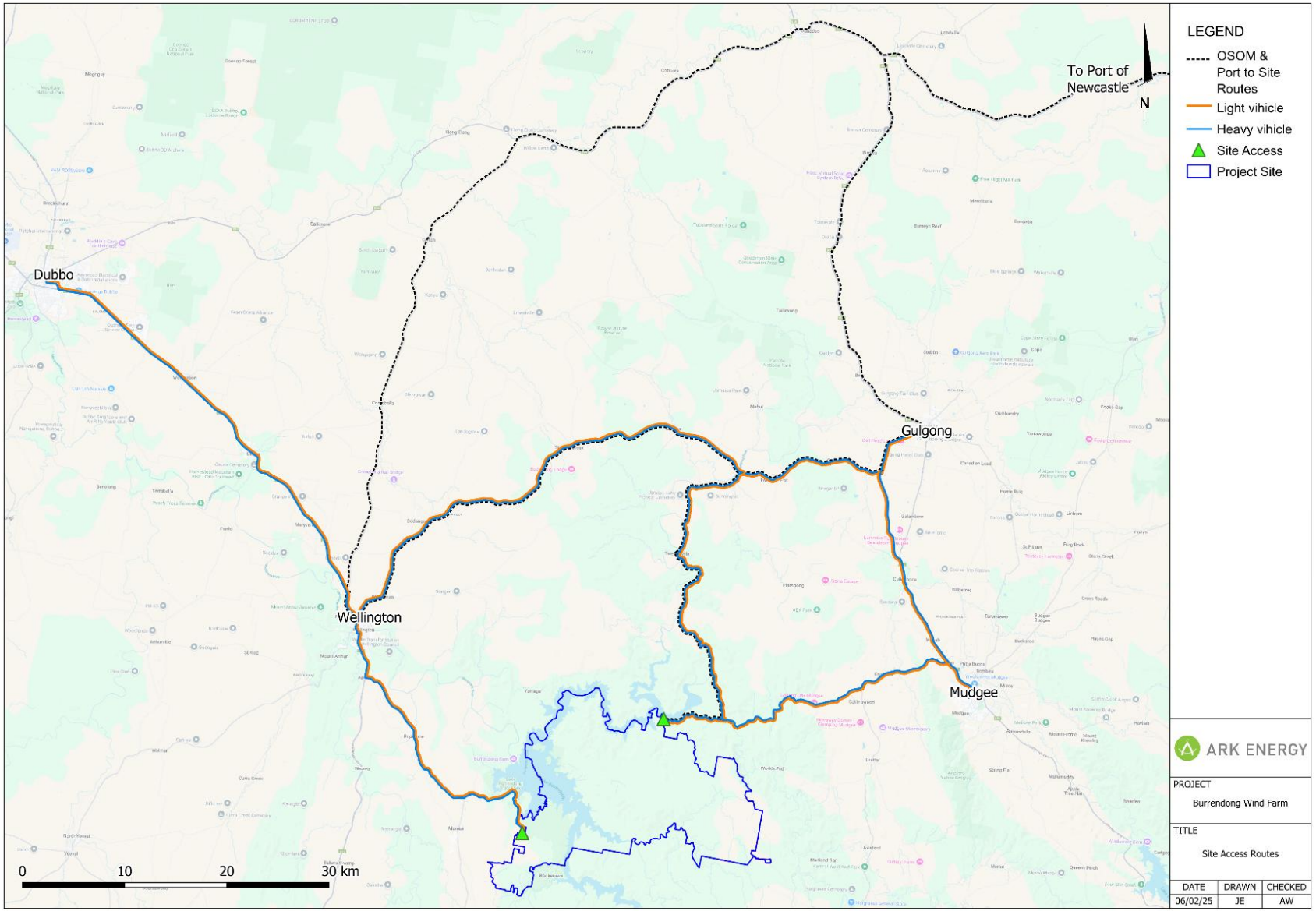

Figure 6-6: OSOM, Heavy and Light Transport Routes

6.5.2.2. Operation

During the operational phase, there is expected to 10-15 personnel on-site. The level of traffic generated during the operation of the Project is considerably lower than that assessed as part of the construction phase. It is unlikely to result in adverse road conditions during the operation.

6.5.2.3. Decommissioning

Decommissioning of the Project will see traffic generation levels lower than the construction phase due to a number of services not being required (e.g. concrete mixers, delivery of construction material etc).

6.5.2.4. Cumulative

Since the EIS was lodged in December 2023 both the Uungula Wind Farm and Maryvale Solar Farm commenced construction in 2025 and are expected to be complete prior to the commencement of Burrendong Wind Farm construction – refer to section 5.3.1 of the TTIA (Stantec 2026). As such the Project is not expected to have an overlap of with the construction period for the Uungula Wind Farm or Maryvale Solar Farm.

Notwithstanding, Stantec assessed the worst-case scenario and assumed an overlap in peak construction months between the Project, Uungula Wind Farm and Maryvale Solar Farm, if this was to occur the roads impacted and the percent increase is detailed in the Table 6-18. To note, the number have been extracted from the relevant TTIA submitted as part of the EIS.

Table 6-18: Cumulative Traffic Generation with the Project

Road	2026 Traffic Volume between 18:00 – 19:00	Traffic generated by Uungula Wind Farm	Traffic Generated by Maryvale Solar Farm	Traffic generated by the Project	Cumulative traffic volume	Percentage Increase
			Peak Hour Traffic (vehicles per hour)			
Goolma Road	67	136	None	4	207	2%
Mitchell Highway	129	75	40	3	247	1.2%

6.6. Hazard and Risk

6.6.1. Aviation

6.6.1.1. Aviation Hazard Lighting

Civil Aviation Safety Authority (CASA) consider that the Project will be a hazard to aviation safety and recommend the WTGs should be obstacle lit with steady medium-low intensity red obstacle lighting.

If DPHI requires obstacle lighting on WTGs, Aviation Projects has prepared a Lighting Design Plan for the Project layout in accordance with NASF Guideline D and Part 139 MOS 2019, Appendix I (Aviation Projects 2024).

The potential visual impact of aviation hazard lighting has been assessed within the LVIA addendum report (Appendix D; Moir Studio 2026).

6.6.1.2. Consultation regarding changes to the RNP RWY 04 approach

The AIA prepared as part of the EIS found that there would be a requirement to raise the minimum segment altitude of the RNP RWY 04 approach to Mudgee Airport from 3,900 ft AMSL to 4,500 ft AMSL.

Following the submission from CASA which states that "there should be no changes to instrument procedures without the permission of the airport operator and recommends that the proponent should engage with Mid-Western Regional Council to confirm it does not object to the change, and Airservices Australia to update the RNP RWY 04 instrument approach procedure for Mudgee Aerodrome by raising the minimum segment altitude from 3,900 ft AMSL to 4,500 ft AMSL" the requirement to amend the procedure was discussed with MWRC, who indicated no objection to the changes noting there is no impact to the minimum descent altitude for the procedure. FlyPelican (an IFR aircraft operator which frequents Mudgee airport) reviewed the proposed changes and stated there will be no impact to its operations. As a result of this consultation no further assessment has been undertaken.

Aviation Projects supports this recommendation, noting that the final WTG layout and overall blade tip height may result in a reduced impact to the minimum segment altitude according to the final overall blade tip height of the critical WTG. Airservices Australia should only be required to raise the minimum segment altitude as much as required to accommodate the critical WTG.

6.6.2. Blade Throw

A Project specific blade throw assessment has been prepared to address the submissions received from government agencies and the public (Appendix J; Middleton Group 2026).

The blade throw assessment provides an estimate of the risk to human life associated with a blade failure event, based on likelihood of a human occupying space within the potential impact zone at the time of blade failure. The assessment has been prepared in accordance with the Hazardous Industry Planning Advisory Paper No 4, Risk Criteria for Land Use Safety Planning (HIPAP 4) (Department of Planning (DoP) 2011). The blade throw assessment considers the Project layout, size and scale of the WTG against Australian data and blade throw events with a focus on blade drop and blade fragmentation.

The DoP considers a fatality risk level of one in a million per year (1×10^{-6}) as the limit for risk acceptability for residential exposure. In order to calculate the maximum blade drop and fragment drop for the Project the following criteria is considered:

- Calculated release angle and range: based on the hub height, rotor radius and tip velocity
- Wind direction data: provided by the Proponent from the Project Site
- Fragment throw direction considers historical wind direction

Further, the calculated maximum impacted blade drop and fragment drop for the Project is presented in Table 6-19 and shown in Figure 6-7.

Table 6-19: Maximum fragment impact radius for candidate WTG

Description	Impact Radius
Maximum Impacted Blade Drop	350 m
Maximum Impacted Fragment Drop	941 m

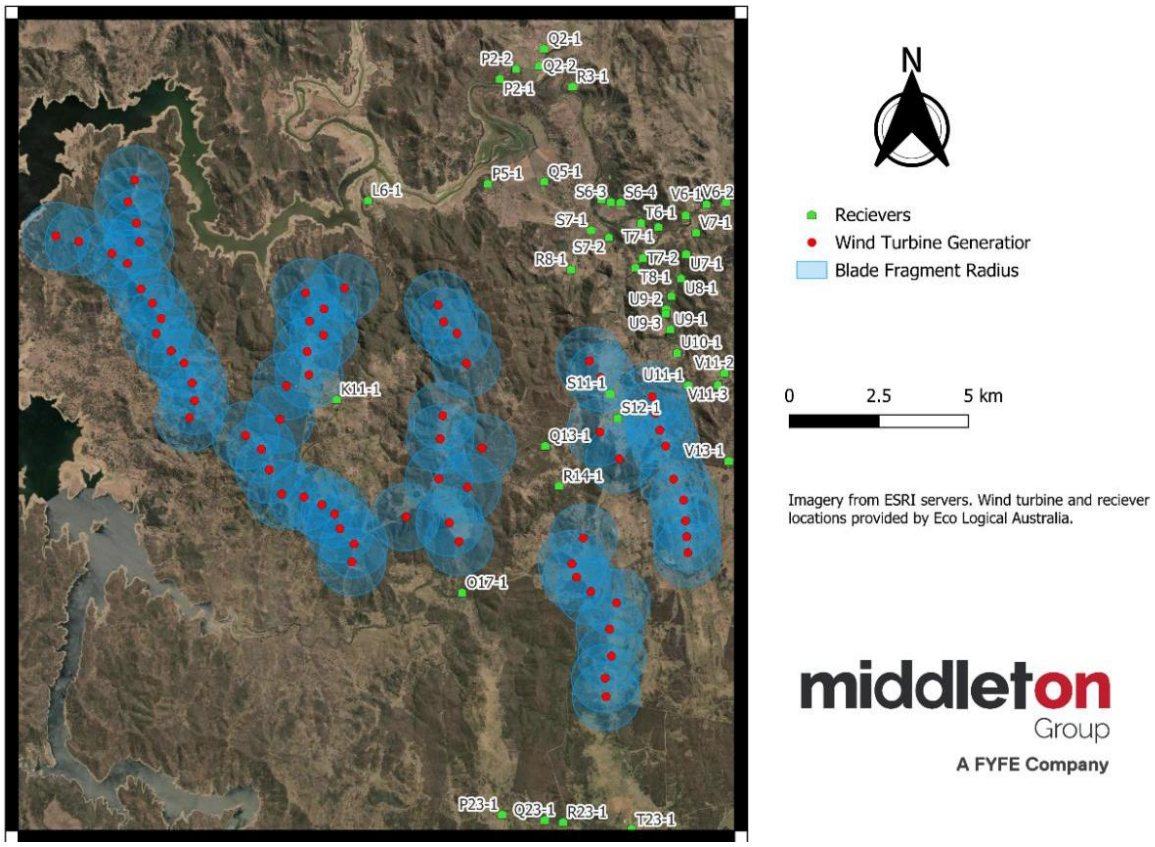

Figure 6-7: Dwellings relative to fragment range of candidate WTG

Two (2) dwellings fall within the calculated maximum impact radius for fragment drop, whereas no dwellings fall within the maximum blade drop radius. The calculations and results of the probable impact of Burrendong Wind Farm on the two identified dwellings is presented in Table 6-20.

Table 6-20: Calculation of Probability of Impact of Burrendong Wind Farm

WTG	Bearing WTG to dwelling (°)	WTG to dwelling (m)	P Release angle 1 fragment	P Release angle 2 fragment	P Wind Sector 1	P Wind sector 2	P fragment throw	P impact
Dwelling S11-1								0.59 x 10-6
50	147	515	0.0306	0.0333	0.1179	0.1136	80.3 x 10-6	0.594 x 10-6
Dwelling S12-1								0.34 x 10-6
51	49	632	0.033	0.0306	0.0480	0.0841	80.3 x 10-6	0.335 x 10-6
Total probability for Burrendong Wind Farm								0.93 x 10-6

Based on the available data and calculations, it is estimated that there is likelihood of 0.93 in a million per year, of a blade failure causing a fatality at Burrendong Wind Farm. Thus, the likelihood of such an event occurring is very low and the level of risk within the bounds of being considered broadly acceptable.in accordance with HIPAP4 (DoP 2011).

6.6.3. Telecommunications

An update to the telecommunications assessment has been undertaken to reflect the heights of the antenna related to the telecommunications link which traverses the site as shown in Figure 6-8 (Appendix K; Middleton Group 2024).

Figure 6-8: Location of Telecommunication Link Traversing the Project Site

The antenna heights at Burrendong Dam and Mount Bocoble were previously assumed at 0 m in height. However, following submissions received from Water NSW, it has been established that the transmitter heights are 25 m at Burrendong Dam and 35 m at Mount Bocoble. Additional analysis has been completed to determine if the WTGs would impinge on the telecommunications link. As shown in Figure 6-8, two proposed wind turbines are near this link. One WTG appears to impinge on the link from a bird eye's view, however after a line of sight and topography analysis, the WTG is found to be positioned well above the 1st Fresnel zone of the link as shown in Figure 6-9 and Figure 6-10.

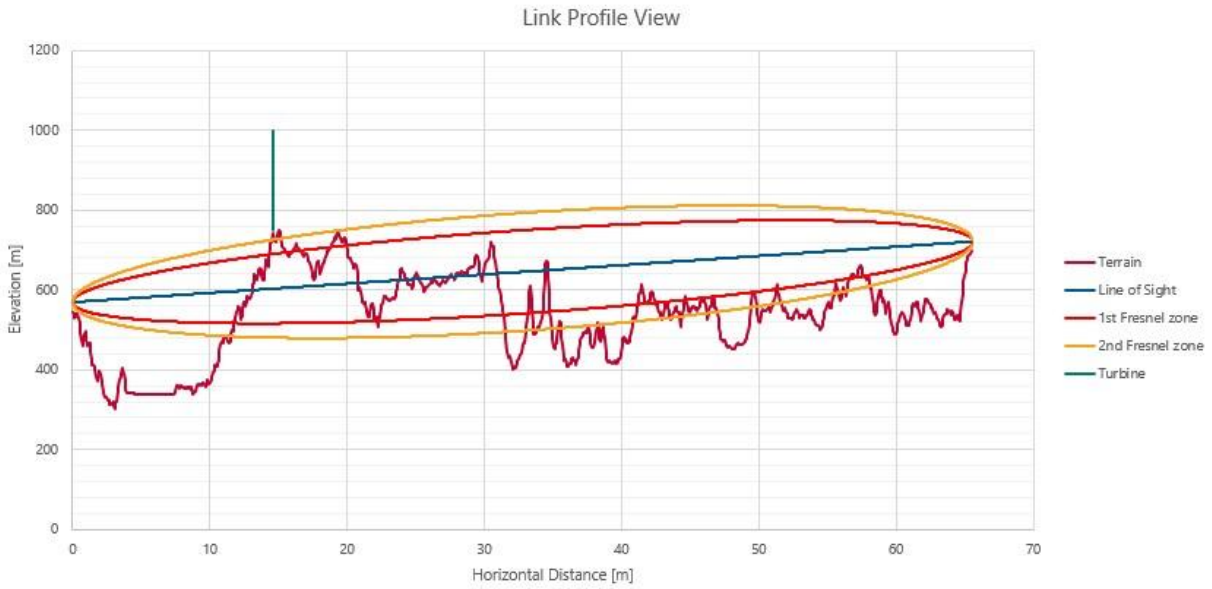

Figure 6-9:Telecommunication Link Profile

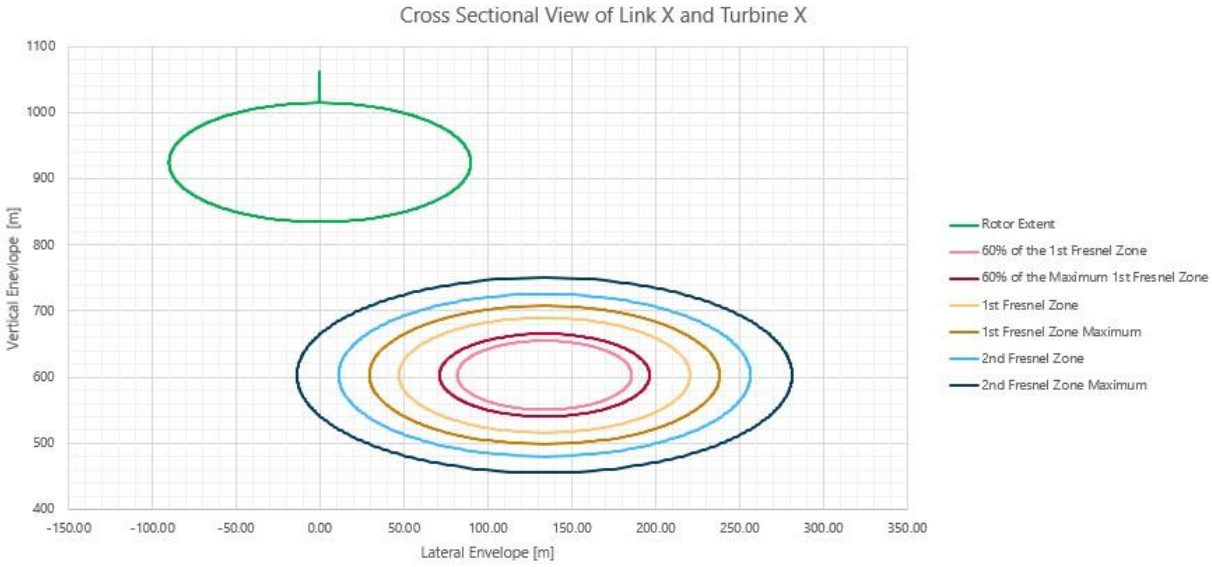

Figure 6-10: Cross-sectional View of Telecommunications Link and Project Turbine

The updated assessment has concluded there are no additional impacts beyond those identified within the EIS. The conclusions of the updated assessment remain consistent with the telecommunication impact assessment submitted as part of the EIS. Water NSW have been notified of this additional analysis.

6.7. Aboriginal Cultural Heritage

Additional field surveys have been undertaken in order to provide additional information and assessment requested by Heritage NSW. The ACHA Report has been updated to incorporate the additional surveys and assessment (Appendix L.2 and Appendix L.2; ELA 2026c).

6.7.1. Updates to Assessment

6.7.1.1. AHIMS Search

As part of the revised ACHA Report an updated AHIMS search was undertaken in August 2024, November 2024 (Search ID 949227, 949228 and 949229) and March 2026 (Search ID 1097548, 1097526 and 1096689) to identify if any new identified Aboriginal sites have been identified. The search parameters of the AHIMS Search are noted within Table 6-21.

Table 6-21: Search Parameters for the AHIMS database search

Search Parameters		Search results	
GDA Zone	55	Aboriginal sites	118
Eastings	693900 - 723900	Aboriginal Places	0
Northings	6368100 - 6381100		
Search Parameters		**Search results**	
GDA Zone	55	Aboriginal sites	67
Eastings	693900 - 723900	Aboriginal Places	0
Northings	6381100 - 6394100		
Search Parameters		**Search results**	
GDA Zone	55	Aboriginal sites	113
Eastings	707490 - 721490	Aboriginal Places	0
Northings	6386666 - 6414666		
		Search Total	298
		Grand Total*	284

*Removal of Restricted and duplicate sites

The search resulted in **284 Aboriginal sites** and **no (0) Aboriginal places** being previously identified within 30km surrounding the Project Site. Eight (8) AHIMS sites are Restricted, AHIMS was contacted to seek information regarding the location of the Restricted Sites, and whether they were located within the Project site. It was confirmed that AHIMS ID 36-5-0191, AHIMS ID 36-5-0192, AHIMS ID 36-5-0199, AHIMS ID 36-5-0081, AHIMS ID 36-5-0085, AHIMS ID 36-5-0086, AHIMS ID 36-5-0087 and AHIMS ID 36-5-0481 are not located within the Project Site. These sites have been removed from the total. There was some overlap with two of the AHIMS searches, removal of duplicates resulted in 284 valid Aboriginal sites within the search parameters.

The site types identified within the search area are listed in Table 6-22.

Table 6-22: AHIMS Site Types Recorded within 30km of the Study Area

Site Type	Number of sites	Percentage of all sites
Artefact	254	89.40

Site Type	Number of sites	Percentage of all sites
Artefact, Stone Quarry	5	1.80
Artefact, Hearth	2	0.70
Artefact, Hearth, Burial	1	0.35
Artefact, Potential Archaeological Deposit (PAD)	1	0.35
Aboriginal resource and Gathering, Artefact	1	0.35
Water Hole	1	0.35
Modified Tree	8	2.80
Modified Tree, Burial	1	0.35
Stone quarry	6	2.10
Ochre Quarry	1	0.35
PAD	3	1.10
Total number of sites	284	100

6.7.2. Archaeological Surveys and Results

Following submission of the EIS additional field surveys have been completed which increased the number of Survey Units (SU) from 36 to 41, predominately across the wind farm area of the Project Site. A further five (5) SU were collected in December 2025 along the road access section of the Project Site. The field survey methodology was consistent with the one used during the preparation of the ACHA Report submitted as part of the EIS. This section only considers the new survey units identified but it is important to note the full ACHA Report has been revised and heritage memo has been prepared to consider the impacts of the road upgrades, as per Appendix L.1 and L.2 (ELA 2026c).

Surveys were carried out by ELA archaeologists and member of the registered Aboriginal groups who hold cultural knowledge of the Project site. The previous surveys took place on 3-7 May 2021, 10-14 May 2021, 21-25 June 2021, 18-22 October 2021. The additional field surveys were undertaken on 13-17 February 2023, 8-12 July 2024 and 18-19 December 2025.

The additional SUs identified are outline in Table 6-23.

Table 6-23: Survey Unit Description Summary

Survey Unit	Landform	Geology	Soil	Vegetation	Geomorphology	Disturbance
SU37	Ridgeline – steep side slopes and saddles Open depression gently sloping to steep side slopes	Uplifted Sedimentary – shales with volcanic outcropping/ seams Volcanic - outcropping granites, basalt, and	Skeletal to shallow brown loams high gravel content	Open woodland, understorey scrub. Partially cleared for grazing, well grassed	Eroded – sheet erosion, human and animal	High disturbance - track grading, grazing, clearance, dams, minor fencing, and natural erosion

Survey Unit	Landform	Geology	Soil	Vegetation	Geomorphology	Disturbance
		quartz common				
SU38	Open depression – flat to gentle undulating, dissected by low lying spurs and ephemeral drainage lines	Volcanic - outcropping basalt, and quartz common	Shallow brown sandy loams on the lower slopes and yellow soloths on mid slopes and crests	Sparse trees, well grassed	Eroded – sheet erosion, human and animal	Moderate disturbance - grazing, clearance, dams, track grading, minor fencing, and natural erosion
SU39	Ridgeline – narrow crest with steep side slopes, peaks, and saddles	Uplifted Sedimentary – shales with volcanic outcropping/ seams	Skeletal to shallow brown sandy loams on saddles and brown loams on upper slopes and crests	Open woodland partially cleared for grazing, sparsely grassed	Eroded – sheet, human and animal	High disturbance - grazing, clearance, track grading, dams, and natural erosion
SU40	Crest – broad undulating with moderate to steep side slopes, long flat saddles between hills	Uplifted Sedimentary – shales with volcanic outcropping/ seams	Shallow brown sandy loams on saddles and brown loams on upper slopes and crests	Sparse trees, well grassed	Eroded – sheet, human and animal	High disturbance - grazing, clearance, track grading, minor fencing, and natural erosion
SU41	Crest – broad undulating with moderate to steep side slopes, long flat saddles between hills Open depression gently sloping to steep side slopes	Uplifted Sedimentary – shales with volcanic outcropping/ seams	Shallow brown sandy loams on saddles and brown loams on upper slopes and crests	Sparse trees, well grassed	Eroded – sheet, human and animal	High disturbance - grazing, clearance, track grading, minor fencing, and natural erosion
SU42	Sloping landform, coming to a gentle rise in the centre of SU42.	Uplifted Sedimentary – volcanic outcropping, large exposures of	Skeletal, shallow and stony soils within the lower slope. Yellowish	Cleared of vegetation for grazing land or use as a road	Eroded – sheet, human and animal	Within the existing road corridors, there is no archaeological potential due to the erosional

Survey Unit	Landform	Geology	Soil	Vegetation	Geomorphology	Disturbance
		bedrock in high points.	brown to reddish brown fine sandy loams and sandy clay loams along the mid and lower slopes			nature of the soil landscape and vehicular activity.
SU43	Gently sloping, undulating landform.	Uplifted Sedimentary – volcanic outcropping, large exposures of bedrock in high points.	Hard setting thin sandy loams, gravelly sands, loams, and clays with weak structure. Copious quartz floats and gravelly subsoils of broken shales and ironstone.	cleared of vegetation for grazing land and vehicular tracks. Prior to vegetation clearance, area would have been characterized by dry sclerophyll woodland with grass/shrub understory across the steep slopes to the south.	Eroded – sheet, human and animal	No archaeological potential identified due to shallow, skeletal soils and disturbance associated with vegetation clearance, fence installation and vehicular damage. Aboriginal object (BWF IF12) unlikely to be in situ.
SU44	Gently sloping landform, slightly elevated above the Cudgegong River	Minor outcrops of volcanic bedrock.	Yellowish brown to reddish brown fine sandy loams and sandy clay loams along the mid and lower slopes. Hard setting thin sandy loams, gravelly sands, loams, and clays with weak structure.	cleared of vegetation for grazing land and vehicular tracks. Prior to vegetation clearance, area would have been characterised by dry sclerophyll woodland with grass/shrub understory across the steep slopes to the south	Eroded – sheet, human and animal	No archaeological potential identified due to shallow, skeletal soils and disturbance associated with vegetation clearance, fence installation and vehicular damage
SU45	Steeply sloping landform, rising to a hilltop.	Skeletal, shallow and stony soils. Large outcrops of volcanic bedrock within drainage line.	Yellowish brown to reddish brown fine sandy loams and sandy clay loams along the mid and lower slopes.	Dry sclerophyll woodland with grass/shrub understory across the steep slopes to the south	Eroded – sheet, human and animal	No archaeological potential identified

Survey Unit	Landform	Geology	Soil	Vegetation	Geomorphology	Disturbance
			Outcrops of quartz seams and crushed quartz			
SU46	Moderately sloping landform.	Volcanic bedrock outcrops. Skeletal, shallow and stony soils.	Yellowish brown to reddish brown fine sandy loams and sandy clay loams along the mid and lower slopes.	predominately cleared of vegetation with remnant dry sclerophyll woodland with grass/shrub understory remaining.	Eroded – sheet, human and animal	No archaeological potential identified

As highlighted in Table 6-24, the additional field surveys have found Aboriginal sites which have been recorded. Table 6-25 presents the Aboriginal site locations and description of artefacts found.

Table 6-24: Survey Coverage and Associated Aboriginal Sites Identified

SU	Length (m)	SU Area (m^2)	Area Inspected	Visibility (V)	Exposure (E)%	Effective coverage area	Effective coverage (%)	Predicted artefact density	Aboriginal site recordings
37	658	42,591	13,160	20	30	789.6	6	Low	BWFAS90 BWF AS91
38	1,013	67,236	20,260	30	10	607.8	3	Low	BWF AS92 BWF AS93
39	1,487	114,722	29,740	20	20	1,189.6	4	Low	
40	3,588	241,371	35,880	20	30	2,152.8	6	Low	BWF AS94 BWF CMT2
41	4,529	521,085	90,580	20	25	4,529	5	Moderate	BWF AS95 BWF AS96 BWF AS97 BWF IF11
42	-	21,224	-	30	5	318	1.5	Low	BWF AS98
43	-	34,309	-	10	5	171	0.5	Low	BWF IF12
44	-	12,358	-	60	10	752	6.10	Moderate	BWF AS99
45	-	5,062	-	5	5	12	0.25	Low	-
46	-	47,765	-	20	5	477	1.0	Low	BWF AS100 BWF AS101

Table 6-25: Aboriginal Sites Identified during the Field Surveys

Aboriginal Site	SU	Artefacts density/ site type and location	GDA2020 z55 Easting	GDA2020 z55 Northing
BWF AS90	37	Low density on highly eroded vehicle track on creek bank	708242	6375895
BWF AS91	37	Low density on highly eroded vehicle track in gully	704830	6376350
BWF AS92	38	Moderate density spread across a highly eroded gentle slope, vehicle access to sheep facilities.	711494	6386663
BWF AS93	38	Low density on highly eroded edge of dam, near Cudgegong River	711434	6386801
BWF AS94	40	Moderate density spread across graded track and raised lower crest adjacent to drainage lines.	707942	6378021
BWF AS95	41	Very low density on eroding drainage line, moderate slope	700123	6374131
BWF AS96	41	Moderate density spread across eroded vehicle track on low hill above flood plain	700839	6374379
BWF AS97	41	Stone axe, grinding stone on edge of graded vehicle track lower slope above drainage line	701577	6374764
BWF IF11	41	Very low density located in a pine plantation, highly disturbed crest	700365	6374242
BWF CMT2	*	Scarred tree on raised lower crest adjacent to drainage lines.	707961	6377829
BWF AS98	SU42	Low density spread across a highly eroded vehicle track.	719558	6411309
BWF IF12	SU43	Single artefact located next to fenceline in disturbed context.	714098	6404588
BWF AS99	SU44	Moderate density artefact scatter, with high potential for further artefacts outside of surveyed area.	714063	6398075
BWF AS100	SU46	Low density artefact scatter spread across erosion scour by fenceline.	718143	6388054
BWF AS101	SU46	Low density artefact scatter spread across erosion scour.	718227	6387895

6.7.2.1. Potential Impacts of the Project

The impact assessment of tangible values is based on the Development Footprint which has been provided by the Proponent, and assumptions area made on the potential impacts as the final designs and layout of the Project have not been provided. Aboriginal objects are considered to be of high cultural significance. However, Table 6-26 bases the overall significance of the tangible values based on the average significance across the cultural, social, spiritual, historical, aesthetic and scientific values identified. Table 6-26 highlights the potential impacts and consequences as a result of the Project.

Table 6-26 Impact assessment for Aboriginal Sites

Aboriginal Site	Overall significance	Potential impacts	Type of harm	Degree of harm	Consequence of harm
BWF AS90	Low	Not within Development Footprint, no potential impacts	None	None	No loss of value
BWF AS91	Low	Not within Development Footprint, no potential impacts	None	None	No loss of value
BWF AS92	Moderate	Land clearance associated turbine facilities	Direct	Total	Total loss of value
BWF AS93	Low	Within Development Footprint, no impacts proposed	None	None	No loss of value

Aboriginal Site	Overall significance	Potential impacts	Type of harm	Degree of harm	Consequence of harm
BWF AS94	Moderate	Not within Development Footprint, no potential impacts	None	None	No loss of value
BWF AS95	Low	Within Development Footprint, no impacts proposed	None	None	No loss of value
BWF CMT2	High	Not within Development Footprint, no potential impacts	None	None	No loss of value
BWF IF 11	Low	Turbine Pad Access tracks/ land clearance, associated turbine infrastructure	Direct	Total	Total loss of value
BWF AS96	Moderate	Access tracks/ land clearance, associated turbine infrastructure	Direct	Partial	Partial loss of value
BWF AS97	Low	Within Development Footprint, no impacts proposed	None	None	No loss of value
BWF AS98*	Low	Outside of Development Corridor.	None	None	No loss of value
BWF IF12*	Low	Site may be potentially impacted through battering works, machinery or laydown areas.	Indirect	Total	Total loss of value
BWF AS99*	Moderate	Outside of Development Corridor.	None	None	No loss of value
BWF AS100*	Low	Outside of Development Corridor.	None	None	No loss of value
BWF AS101*	Low	Outside of Development Corridor.	None	None	No loss of value

* AHIMS ID Pending

6.7.2.2. Mitigation and Management Measures

The mitigation and management measures have been considered for the Project to minimise the impacts upon Aboriginal objects. The mitigation and management measures proposed include:

CONSERVATION/AVOIDANCE

Conservation and avoidance are the preferred mitigation measure by leaving the item in-situ. This option has been proposed for the following items:

- **BWF CMT2** are high significant culturally scarred trees located within the Project Site. Both culturally modified trees are not within the Development Corridor and no impacts area proposed. Culture awareness needs to be provided to any contractors working on the Project Site to ensure cultural sites are protected.
- **BWF AS94** are moderate significant sites. They will not be impacted by the current Development Footprint. If there are changes to the Development Footprint, then 'Movement of Aboriginal objects' by the RAPs and a qualified archaeologist would be required to mitigate impacts.
- **BWF IF12** is an isolated artefact identified in a disturbed context and assessed as possessing low scientific significance. The site is situated outside of the Development Corridor; however, it is very close so there is the potential for the site to be indirectly impacted by the road upgrade works. Avoidance must be practiced. If avoidance is not possible, movement of the object must be undertaken.

FURTHER INVESTIGATION

Further investigation would entail subsurface investigations undertaken as test excavation program for the purposes of identifying the presence of artefact bearing soil deposits and understanding their nature, extent, integrity, and significance. This has been proposed for:

- **BWF AS93** located within the Project Site have been identified as having potential archaeological deposits. There are no proposed impacts to these Aboriginal sites, if changes to the Development Footprint will likely impact these Aboriginal sites further archaeological investigations would be required to understand the nature and extent of the Aboriginal sites
- **BWF AS93** is a low density artefact scatter identified in a gully erosion caused by a dam construction. The soil profile is likely shallow and has been heavily disturbed by grazing animals. The presence of this scatter indicates a larger campsite may be present in the vicinity. The landform is gently sloping to relatively flat in close proximity to the Cudgegong River. Any archaeological resource within the Development Corridor has likely been heavily disturbed but there is potential intact deposit beyond the Development Corridor. This area is within the high water mark of Burrendong Dam and has been inundated. This Aboriginal site was identified within the Development Corridor, there are no proposed impacts, the potential archaeological deposit is located outside the Development Corridor. If changes to the Development Footprint will likely impact this Aboriginal site further archaeological investigations would be required to understand the nature and extent of the archaeological resource.

MITIGATE IMPACTS

Mitigated impact usually takes the form of partial impacts only (i.e., conservation of part of an artefact locale or Survey Unit) and/or salvage in the form of further research and archaeological analysis prior to impacts. Such a management strategy is generally appropriate when Aboriginal objects are assessed to be of moderate or high significance to the scientific and/or Aboriginal community and when avoidance of impacts and hence full conservation is not feasible. Salvage can include the surface collection or subsurface excavation of Aboriginal objects and subsequent research and analysis.

Aboriginal object locales in exposed areas should be subject to 'Movement of Aboriginal object only' where by the Aboriginal community is given the opportunity to collect the visible surface expression of the Aboriginal site and relocate it to a safe place beyond the impact footprint but keeping the cultural values on country. It would also be culturally appropriate to salvage artefacts from certain sites of high significance and whereby certain Aboriginal objects can used for cultural teaching and training future generations.

Prior to movement of the Aboriginal objects detailed analysis should be undertaken by a qualified person to well document the Aboriginal site prior to impacts. The information can be used for improving understanding the cultural landscape.

The archaeological investigations sampled the Project Site with the main focus to identify the cultural values within the Development Corridor. There were limitations to the accessibility of several turbine and power pole locations. Areas of the Development Corridor that have not been subject to archaeological survey should be inspected prior to development impacts to record Aboriginal objects and register the information with AHIMS. If sites of moderate to high significance are identified, then further mitigations may be required.

A chance find procedure should be implemented to assess the significance of an Aboriginal site identified following approvals and in consultation with the registered Aboriginal groups the appropriate management or mitigation measure should be undertaken.

A detailed list of recommended mitigation and management measures for all Aboriginal sites identified within the Project Development Footprint is outlined in Table 6-27. All Aboriginal sites identified by this assessment will be registered with AHMS.

Table 6-27: Aboriginal Sites Mitigation Measures

Aboriginal site AHIMS ID	Type	Overall Significance	Potential impacts	Mitigation measures
BWF AS13 36-5-0374	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS14 36-5-0252	Artefact	High	Access tracks/ land clearance, associated turbine infrastructure	Avoidance. If cannot be avoided, then movement of Aboriginal objects and detailed recording on AHIMS.
BWF SQ2 36-5-0340	Stone Quarry	Low	Turbine Pad Access tracks/ land clearance, associated turbine infrastructure	Unmitigated impacts. Site cannot be moved; Aboriginal representatives may be given the option to salvage some of the lithic resource for personal use or teaching.
BWF AS21 36-5-0253	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS22 36-5-0254	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS23 36-5-0336	Artefact	Low	Access tracks	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS25 36-5-0251	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS26 36-5-0245	Artefact	Low	Within Development Footprint, no impacts proposed	Signage to avoid site. If change in design plans, then movement of Aboriginal objects and detailed recording on AHIMS.
BWF AS27 36-5-0255	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF IF6 36-5-0249	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF IF8 36-5-0257	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.

Aboriginal site AHIMS ID	Type	Overall Significance	Potential impacts	Mitigation measures
BWF IF9 36-5-0260	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF IF10 36-5-0259	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS30 36-5-0256	Artefact	Low	Land clearance associated turbine facilities	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS32 36-5-0258	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	** this site has been destroyed by recent road grading; no mitigations required.
BWF AS33 36-5-0224	Artefact	Low	Within Development Footprint, no impacts proposed	Signage to avoid site. If change in design plans, then movement of Aboriginal objects and detailed recording on AHIMS.
BWF AS34 36-5-0225	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS35 36-5-0226	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS45 36-5-0231	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS46 36-5-0232	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS47 36-5-0233	Artefact	Low	Within Development Footprint, no impacts proposed	Signage to avoid site. If change in design plans, then movement of Aboriginal objects and detailed recording on AHIMS.
BWF AS52 36-5-0236	Artefact	Low	Within Development Footprint, no impacts proposed	Signage to avoid site.
BWF AS53 36-5-0238	Artefact	Low	Within Development Footprint, no impacts proposed	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS54 36-5-0240	Artefact	Low	Within Development Footprint, no impacts proposed	Signage to avoid site.
BWF AS55 36-5-0239	Artefact	Low	Within Development Footprint, no impacts proposed	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.

Aboriginal site AHIMS ID	Type	Overall Significance	Potential impacts	Mitigation measures
BWF AS60 36-5-0364	Artefact	Low	Within Development Footprint, no impacts proposed	None.
BWF AS70 36-5-0345	Artefact	Low	Within Development Footprint, no impacts proposed	Signage to avoid site. If change in design plans, then movement of Aboriginal objects and detailed recording on AHIMS.
BWF AS80 36-5-0343	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS81 36-5-0344	Artefact	Low	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS82 36-5-0359	Artefact	Low	Access tracks/ land clearance for switchyard	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS83 36-2-0811	Artefact	Low	Yarrabin Road works	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS85 36-5-0353	Artefact	Low	Yarrabin Road works	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS86 36-2-0813	Artefact	Low	Access tracks/ land clearance for switchyard	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS87 36-5-0362	Artefact	Low	Access tracks/ land clearance for switchyard	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS88 36-5-0361	Artefact	Low	Access tracks/ land clearance for switchyard	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS89 36-5-0360	Artefact	Low	Access tracks/ land clearance for switchyard	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS92 36-5-0350	Artefact	Moderate	Land clearance associated turbine facilities	Avoidance, If cannot be avoided, then movement of Aboriginal objects and detailed recording on AHIMS.
BWF AS93 36-5-0351	Artefact	Low	Within Development Footprint, no impacts proposed	None.
BWF AS94 36-5-0357	Artefact	Moderate	Within Development Footprint, will be partially impacted by use of vehicle track	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS95 36-5-0354	Artefact	Low	Within Development Footprint, no impacts proposed	None.

Aboriginal site AHIMS ID	Type	Overall Significance	Potential impacts	Mitigation measures
BWF IF11 36-2-0812	Isolated Find	Low	Turbine Pad Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS96 36-5-0356	Artefact	Moderate	Access tracks/ land clearance, associated turbine infrastructure	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS97 36-5-0355	Artefact	Low	Within Development Footprint, may be impacted by use and maintenance of vehicle access track	Movement of Aboriginal objects across the vehicle track and detailed recording on AHIMS.
BWF AS98	Artefact	Low	Not within Development Footprint, no potential impacts	Signage and temporary fencing to avoid site during works.
BWF IF12	Isolated Find	Low	Site may be impacted through battering works, machinery or laydown areas.	Avoidance, if cannot be avoided, then movement of Aboriginal object further away from Development Corridor and detailed recording on AHIMS.
BWF AS99	Artefact	Moderate	Not within Development Footprint, no potential impacts	Signage and temporary fencing to avoid site during works.
BWF AS100	Artefact	Low	Not within Development Footprint, no potential impacts	Signage and temporary fencing to avoid site during works.
BWF AS101	Artefact	Low	Not within Development Footprint, no potential impacts	Signage and temporary fencing to avoid site during works.

6.8. Historic Heritage

The minor amendments to the Development Footprint along Twelve Mile Road, Yarrabin Road and Burrendong Dam have been assessed further with regards to potential impacts upon historical heritage items. As previously assessed with the EIS (ELA 2023a) no heritage items within the Project Site are listed on the Australian Heritage Database. However, the amendments to the Development Footprint (proposed road upgrades) will potentially impact two locally listed heritage items.

The proposed road upgrades along Twelve Mile Road passes through the curtilage of 'Ben Buckley Homestead and Woolshed' which is listed on the MWRC LEP 2012 (item no. I998). The proposed road upgrades at the junction of Twelve Mile Road and Goolma Road is within the curtilage of 'Morrowolga homestead' which is listed on the MWRC LEP 2012 (item no. I369). These heritage items are not listed on any other statutory or non-statutory registers.

The proposed works associated with the two locally listed heritage items include:

- Ben Buckley Homestead and Woolshed - The location of the proposed works are on the outer edge of the curtilage, with the straightening of the road reserve. The curtilage of the heritage item is inclusive of the entire lot 1 DP869050, which is not reflective of the former homestead grant. There is no significant fabric or heritage values within the proposed works area.
- Morrowolga Homestead - The location of the proposed works are within the curtilage of the heritage item; however, the proposed works area is within the exiting road reserve of Goolma Road. The Goolma Road was straightened and realigned through Lot 1 DP1083951 (2006). There is no significant fabric or heritage values within the proposed works area.

The potential impacts upon the two locally listed heritage items have been assessed in a Statement of Heritage Impacts (SoHI), which concluded that the Project will not impact upon the heritage significance of 'Ben Buckley Homestead and Woolshed' (LEP no. I998) and 'Morrowolga homestead' (LEP no. I369). At the time of writing this Amendment Report, the SoHI is currently in draft form, awaiting further site-specific data from MWRC. The SoHI will be provided as an Appendix once this data has been received from MWRC.

6.9. Surface Water and Groundwater Assessment

The surface water and groundwater assessments have been updated to respond to the submissions from the public and agency advice (Appendix M and Appendix N; ELA 2024a, ELA 2024b). However, it is important to note that these updates do not change the conclusions outlined within the surface water and groundwater assessment submitted as part of the EIS.

6.9.1. Updates to the groundwater assessment

The estimated Long-term Average Annual Extraction Limit (LTAAEL), that is, the potentially available groundwater for non-environmental use, has been estimated at 821,251 ML/year (DPIE 2012). Current extractive licensing plus assigned basic landholders' rights plus available Town Water Supplies amount to 153,001 ML/year. Thus, a potential 668,240 ML/year is unassigned and potentially available for licenced use. This is predicated on release of this water by WaterNSW for consumptive supply in the region, though there are no biophysical constraints to limit this volume.

It is anticipated that the Project will require between 850 (wet year) and 1,400 (dry year) ML/year for dust suppression needs.

Construction is expected to take between 18 months and 2 years. Over this period, therefore, it is estimated that between 2.6 GL and 3.8 GL water will be required (Appendix A.1), not including requirements for TWAF.

6.9.2. Updates to the surface water assessment

6.9.2.1. Flood Risk considerations

The Project specific SEARs received on 6 October 2020 provided a response from the Biodiversity, Conservation and Science Directorate (BCD) which outlines the assessment requirements for biodiversity and offsetting; water and soils and flooding. Following receipt of the SEARs, the Proponent engaged with BCD on 3 February 2021 regarding the assessments required for flooding given the nature of the Project Site. BCD confirmed Attachment A within their response is standard and as such indicated modelling would not be required and a descriptive/qualitative approach could be adopted.

The Project Site has been selected due to the steep terrain, and the layout has been designed to avoid flood prone land. All Project infrastructure is situated on higher elevations and above the Burrendong Dam Full Supply Level (FSL) (Table 6-28). To note, there is no publicly available flood mapping that provides coverage of the Project Site.

Table 6-28 Burrendong Dam Full Supply Level and Project Infrastructure Elevation

Permanent Project Infrastructure	Infrastructure Elevation	Elevation above Burrendong Dam Full Supply Level of 344m
Substation	760 m	416 m
Switchyard	525 m	181 m
O&M Facility	640 m	296 m
WTGs	599 m to 830 m	255 m

Additionally, the Project layout has ensured all WTGs and ancillary infrastructure has been sited away from category 3 Strahler Stream Orders and above, maintain the riparian corridor widths outlined in Table 1 of the Guidelines for Riparian Corridors on Waterfront Land (DPE 2022) (Figure 6-11).

The only infrastructure situated within the riparian corridors or crossing category 3 Strahler Stream Orders and greater is internal site access tracks and electrical powerlines. As part of the detailed design stage, the site access tracks and watercourse crossing will be designed based on Table 2 of the Guidelines for Riparian Corridors on Waterfront Land (DPE 2022), Controlled activities – Guidelines for watercourse crossings on waterfront land (DPE 2022) and Policy and Guidelines for Fish Friendly Waterway Crossings (DPI n.d). The crossing of any electrical powerlines/reticulation will be designed in accordance with Controlled activities – Guidelines for laying pipes and cables in watercourses on waterfront land (DPE 2022).

6.9.2.2. Water supply options

Water demand will be greatest for the construction period, and the provision of temporary storages may be an option, specific plans for water acquisition and storage will be developed during the detailed

design phase. However, there are examples in the surrounding area that illustrate that significant volumes of water can be sustainably obtained and managed.

The water required for dust suppression will need to be sourced from an appropriate location with the relevant licences. Sources of water nearby are the Macquarie River, Cudgegong River, Burrendong Dam and catchment farm dams (used for stock). Whilst some water may be sourced from farm dams, the volume of water required will exceed the water availability from this source. Therefore, water will need to be sourced from the other nearby options or alternative water sources (with relevant licences).

An alternate supply may come from registered groundwater bores. Whilst yields from the Lachlan Fold Belt Fractured Rock Groundwater Source are likely to be low (1-2 L/s), these can be used to fill temporary water tanks or augment existing farm dams to provide storages for the water tankers. Currently, this water source has significant capacity below its sustainable yield.

As outlined in the groundwater assessment (ELA 2024b), there is significant unassigned groundwater in the Lachlan Fold Belt Fractured Rock Groundwater Source (up to 668 GL/year), a portion of which could be utilised during construction with storage facilitated by local farm dams and temporary storages that can be transported as required to follow the construction footprint and removed following commissioning of the WTGs and ancillary infrastructure.

Post construction, during the operation of the WTGs, the water requirements are likely to be minimal. Should water be required, potential sources would be satisfied by the catchment farm dams or water carts.

6.9.2.3. Water quantity and quality impacts

Mean annual total suspended solids (TSS) loads from each of the sub-catchments are shown in Table 3 2 of Appendix M (ELA 2024a). The results show that there is a significant increase in the sediment runoff from the Project (prior to any mitigations). These impacts are expected due to the changing of lands uses from forest or grazing land to gravel roads and construction pads pre-Project (existing conditions) to post-Project (Developed Conditions). Therefore, mitigation measures (Section 3.3 of Appendix M; ELA 2024a) would be required to minimise their impact.

6.9.2.4. Cumulative Assessment

Recently, ACEN Pheonix Pty Ltd (ACEN) has lodged an application for SEARs to develop the Phoenix PHES project with a generating capacity of 810 MW for a nominal duration of 12 hours. SEARs were provided on 4th August 2023 and the Yarrabin PHES is still in the early EIS phase. The location of the proposed PHES is a greenfield site in the catchment of Lake Burrendong largely within the footprint of the Project (Appendix M; ELA 2024a). It would have purpose built upper and lower storage reservoirs, with an average elevation difference of about 330 m between the two reservoirs. The reservoirs are proposed to be connected by a tunnelled waterway to a surface silo powerhouse containing three pump-turbine units. The PHES would store water in the upper reservoir during periods of surplus electricity generation in the electricity network and then flow the water through the turbines to the lower reservoir to generate electricity during periods of high demand. Environmental approvals would be sought in 2024, with a proposed construction period from 2025 to 2029, subject to approvals.

Water is proposed to be purchased from the PHES project partners at WaterNSW (Lake Burrendong) and pumped for first filling of the reservoirs (about 16.2 gigalitres (GL)), and for ongoing minor

replenishments to replace evaporative losses. Water for first filling of 16.2 GL constitutes about 2.6% of the 632 GL annual general security entitlement for the Macquarie River. Water is proposed to be pumped from Lake Burrendong via temporary pumps and suction lines to the reservoirs (GHD, 2023).

There is the potential for the two projects to be constructed concurrently, including access road and transmission requirements. In addition to the Yarrabin PHES, it is noted that a number of other renewable energy projects are currently in various stages of development within the DRC and MWRC LGAs and may be constructed concurrently with the Project.

Whilst Yarrabin PHES is the closest in proximity to the Project, the Scoping study did not expand on construction water requirements but highlighted that it would only require a one-off water supply for storage filling and that water demand would be only a small fraction of local water storage capacity (i.e. only a few percent of the volume of Lake Burrendong, which has an effective volume of over 750 GL).

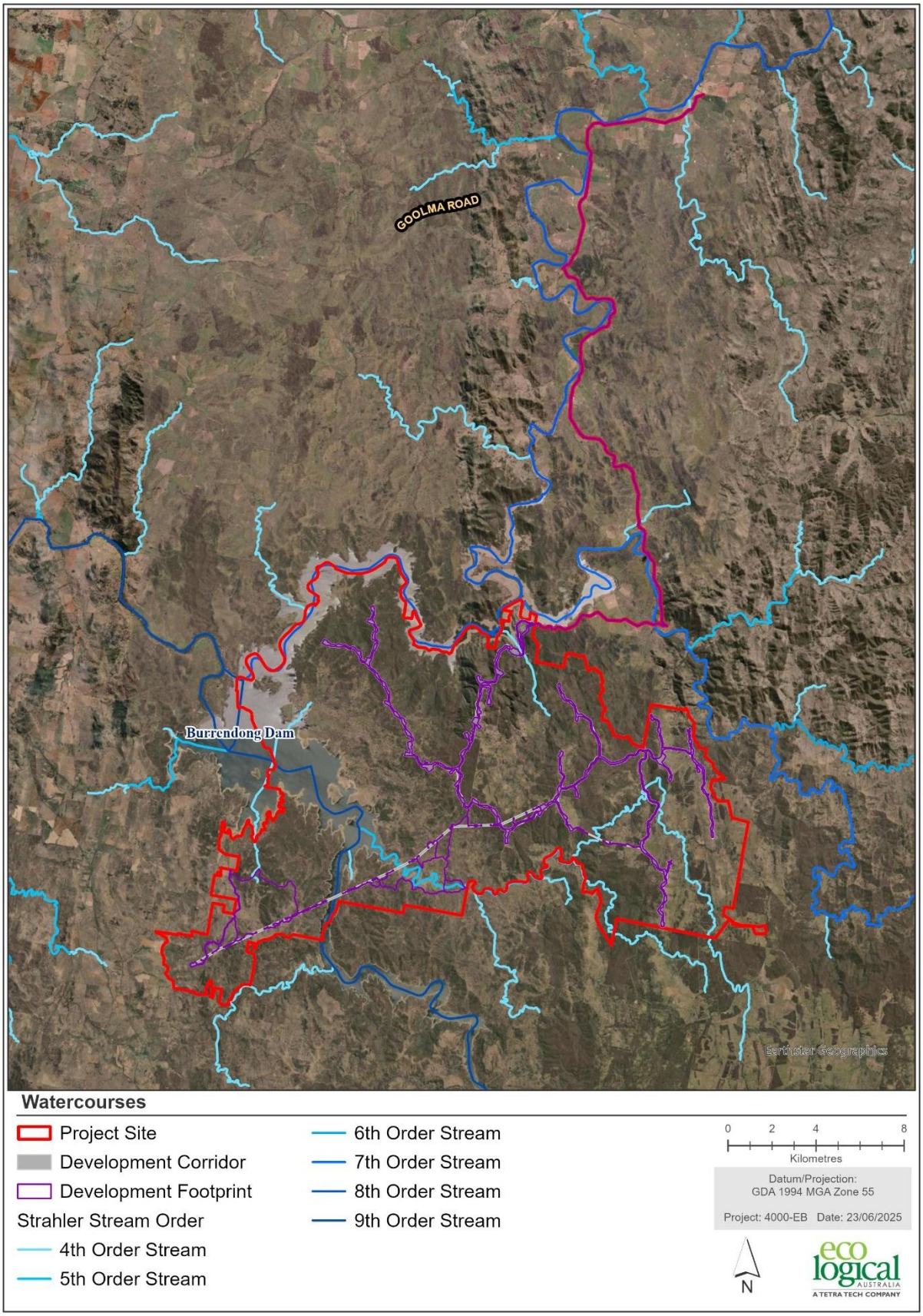

Figure 6-11 Project Site and Strahler Stream Orders

6.10. Site Contamination

A PSI has been prepared for the Project Site by Ramboll (2025) and is provided in Appendix O. The objectives of the PSI are listed below:

- Identify past and present potentially contaminating activities and contamination types
- Assess potential contamination sources, pathways, and receptors within the Development Footprint of the Project
- Identify potential areas of environmental concern and potential contaminants of concern.

Additionally, the PSI evaluated the risks posed by potential contamination for the Project to identify areas that may require further investigation or management (Ramboll 2025).

The PSI identified that the Project Site and surrounding area have historically been cleared for agricultural purposes and is mostly used for grazing cattle. Based on the Project Site history review, review of previous reports, the following potential Areas of environmental concern were identified within the Project Site:

- Agricultural and farming practices
- Infrastructure facilities (public roads)
- Importation of fill material (Ramboll 2025).

Potential Contaminants of Concern associated with the current and historical land uses within the Project Site include (but are not limited to) heavy metals, pesticides and herbicides, asbestos, Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene, Xylenes, and Naphthalene (BTEXN) and Polycyclic Aromatic Hydrocarbons (PAHs). Based on the identified potential contamination sources.

The PSI concluded that there is low risk of contamination of soil, surface water or groundwater at a level that would impact on development of the Project, and that the Development Corridor is suitable for the Project subject to the following:

- Should excavated soil be required to be disposed of offsite, it is required to be appropriately characterised in accordance with NSW EPA (2014) Waste Classification Guidelines
- Development of an unexpected finds protocol to be implemented during the construction phase of the project, and during any excavation work required during the operational phase. Unexpected finds pertaining to contamination include, but are not limited to, stained, discoloured, fibrous or odorous soil; stained, discoloured or foaming surface water; and stained, discoloured groundwater or the presence of Light Non-Aqueous Phase Liquid on top of groundwater.
- Prepare and implement an Acid Sulfate Soils (ASS) Management Plan if excavation works are required in areas mapped as medium or high risk of ASS during construction (Ramboll 2025).

6.11. Social

Following the submission during the exhibition, a SIA Addendum Report has been prepared by Ethos Urban, Appendix P (Ethos Urban 2024a).

6.11.1. Additional Social Baseline Information

The Project is situated within the CWO REZ, an area which is changing in character due to the development of renewable energy projects. As a result, an increasing pressure is being places on local infrastructure and housing supply.

A study has been conducted to assess the cumulative effect of renewable energy development across the LGA in 2023 which predicted peak construction activity would be in 2026, and the key impacts are as follows (Ethos Urban 2024):

- Approximately 5,000 temporary workers are generating demand for up to 1,515 additional dwellings
- Up to 7,482 tonnes of additional waste form temporary worker households
- Increased demand on the local road network may increase road maintenance costs by approximately 55%, from 8,539 to 13,270 per km, creating a maintenance funding gap
- Up to eight additional GPs will be required to maintain the current service ratio to meet demand generated by temporary workers
- Additional population pressures will trigger a need for Council to develop additional water supply systems sooner than anticipated
- Increased demand generated by workers and their families may require up to 59 additional childcare places
- Increased population will affect the hospital system across Council, requiring up to 8 additional Emergency Department (ED) bays and 7 additional nurses.

6.11.2. Assessment of Impacts

Table 6-29 identifies the social impacts which are based on a review of the other technical assessments prepared for the Project, community engagement, the social baseline, and key findings from the scoping phase of the SIA.

Table 6-29: Summary of all material "high" and "medium" or "low" social impacts

	Social impacts where technical findings suggest the environmental impact is likely	Social impacts where technical findings suggest the environmental impacts are less likely (only "potential" for impact)	Social impacts where no technical findings specifically relate to this matter[2]
Project specific impacts	***"High" impacts:*** Impacted visual amenity and decreased enjoyment of surroundings due to changes visual	***"Medium" or "low" impacts:*** Perception or fear of damage to local biodiversity and ecosystem	***"High" impacts:*** Potential impacts to psychological health (from stress, anxiety, fear)

[2] These social impacts primarily relate to social and psychological experiences that are not within scope for any other technical assessments for the Project. The lack of evidence sourced from other technical assessments does not invalidate individuals or groups of people's potential to experience the impact. However, it is noted that only source of data for these social impacts is community engagement participants stating that is impact is likely to occur.

	Social impacts where technical findings suggest the environmental impact is likely	Social impacts where technical findings suggest the environmental impacts are less likely (only "potential" for impact)	Social impacts where no technical findings specifically relate to this matter[2]
	character of the area, which may also result in flow on affects to livelihoods Construction related noise, dust, vibration, traffic, and disruption Increased employment opportunities and flow on affects to local businesses Livelihood benefits to participating landholders and surrounding communities ***"Medium" or "low" impacts:*** Impacts to tourism and recreation on Lake Burrendong Environmental benefits through providing clean energy to the grid, addressing climate change Overshadowing and shadow flickering, leading to changed experience of surroundings Generation of some noise that may cause annoyance to way of life Impacts to accessibility due to increased travel times during construction	Perception or fear of decreasing farmland supply	Social conflict over differing degrees of support for the project, undermining community cohesion and resilience ***"Medium" or "low" impacts*** Fear of potential impacts to physical health Dissatisfaction with development process and inability to influence changes in their community – PSL specific Threat or expectation to change of way of life, or fear and anxiety about the development Community pride, generated through landholders hosting a renewable energy project and being able to support the green energy transition Diminished ability to connect to Country, due to changed landscapes Perception or fear that there will be decreasing property values
Cumulative impacts	***"High" impacts – cumulative:*** Strain on regional infrastructure, services and housing due to construction workforce in the REZ Changing local character and sense of community due to visual, community and land use change caused by the CWO REZ development		***"High" impacts – cumulative:*** Perceived inability for people to influence what is happening in their community due to the scale of change in the CWO REZ

The addendum report considers the high rated social impacts shown in Table 6-29 in more detail and identifies the associated mitigation measures which are outline in Section 6.11.3 and Appendix P (Ethos Urban 2024a).

6.11.3. Mitigation and Management Measures

Table 6-30 shows mitigation and management measures that should be implemented to reduce the social impacts as a result of the Project. These mitigation measures are also included within Appendix P (Ethos Urban 2024a).

Table 6-30: High Rated Social Impact Mitigation Measures

Social Impact	Social Impact Mitigation Measures
Impacted visual amenity and decreased enjoyment of surroundings due to changes visual character of the area	Consult the two non-participating residences within the heavily impacted area (located within 3,350m of turbines) to discuss mitigations. Work with residents (as has occurred over the development of the project) with dwellings within the PSL to ensure ideal siting of turbines.
Construction related noise, dust, vibration, traffic, and disruption	Notification of traffic impacts to residents across the PSL through ongoing proactive communications and engagement. This will allow residents time to plan their journeys in anticipation for traffic delays. This may include an information portal via the Project website to provide up-to-date information on construction traffic impacts throughout the construction phase. Avoid heavy vehicle traffic along bus route S105 during school commuting hours (approximately 7:30am-9am and 3:30pm-5pm on school days). Operate a community contact channel (e.g., complaints FAQ / complaints hotline). This can be used as an ongoing point of contact for community throughout the construction phase. The proponent has consulted with landowners in relation to cattle grids, fencing that will be required to minimise impacts of the project on stock and stock movements, and have committed to developing SMP and TMP see Appendix C public road traffic management
Increased employment opportunities and flow on affects to local businesses	Implementation of social procurement strategy to ensure local community and disadvantaged groups can benefit from the employment and business opportunities associated with construction. Invest in local worker upskilling programs for wind farm maintenance jobs to ensure long-term well-paid employment in the in the SSL
Livelihood benefits to participating landholders and surrounding communities	Run a co-design process to develop the Community Benefit Fund together with impacted residents, predominantly those living in the PSL. This will ensure the fund is designed to respond to community need and interests.
Potential impacts to psychological health (from stress, anxiety, fear)	Continuing community engagement and communications throughout the construction and operational phase. Operate a community contact channel (e.g., complaints FAQ / complaints hotline). This can be used as an ongoing point of contact for community throughout the construction phase.
Social conflict over differing degrees of support for the project, undermining community cohesion and resilience	Run a co-design process to develop the Community Benefit Fund together with impacted residents, predominantly those living in the PSL. This will ensure the fund is designed to respond to community need and interests.
Strain on regional infrastructure, services and housing	Contractor to develop and implement a Workforce Management Plan, to define standards of behaviour for workers and how worker needs (such as healthcare) will be supported with minimal impact to on local services. Explore opportunities to partner with other renewable energy developers to support and coordinate worker service and social infrastructure needs and transportation, in order to minimise impacts on residents.
Changing local character and sense of community due to visual, community and land use change caused by the CWO REZ	Contractor to develop and implement a Workforce Management Plan, to define standards of behaviour for workers and how worker needs (such as healthcare) will be supported with minimal impact to on local services.

Social Impact	Social Impact Mitigation Measures
Perceived inability for people to influence what is happening in their community due to the scale of change in the CWO REZ	Consider delivering further engagement over the development and pre-construction period. This would allow for community voices to shape final project outcomes and the Project team the ability to directly address community concerns relating to specific aspects of the Project. However, it is noted that this mitigation cannot address the cumulative renewable energy development context across the REZ.
Decommissioning social impacts	Undertake community engagement with residents in the PSL to explain the decommissioning process, understand any concerns, and develop a decommissioning approach that minimises impacts on community wherever possible. Prepare decommissioning plan to manage the impact of construction vehicles and decommissioning works on neighbouring residents. Prepare a decommissioning workforce strategy prior to the commencement decommissioning works. Provide additional landscape works to reinstate or improve the landscape. This may involve converting the site to natural bushland.

Additional to the mitigation and management measures outlined in Table 6-30, a Social Impact Management Plan (SIMP) should be prepared post-approval phase of the Project. The SIMP would be prepared in accordance with NSW SIA Guideline Technical Supplement.

6.12. Construction Workforce and Accommodation Strategy

Following the submission received during the exhibition of the EIS, a CWAS has been developed (Appendix Q; Ethos Urban 2024b).

The CWAS aims to identify suitable accommodation options to mitigate the impacts of accommodating a significant number of onsite non-local workers during the construction phase of the Project. The CWAS seeks to ensure a practical and sustainable accommodation solutions are developed to support the Project whilst minimising or avoiding any negative impacts the local communities may experience.

6.12.1. Existing Environment

6.12.1.1. Study Area

The CWAS consider the two LGAs of DRC and MWRC as the Study Area. The Study Area is consistent with the Study Area used in the Economic Impact Assessment (EIA) which formed part of the exhibited EIS. The main regional cities/townships/settlements in the Study Area are all located within a 90-minutes' drive of the Project Site. For the purpose of this CWAS, only townships within 60 minutes of the Project Site, representing a safe driving distance to and from the Project Site, have been assessed.

6.12.1.2. Study Area Population

The Study Area has an estimated population of 81,240 persons in 2021 which is forecasted to increase by +10,380 persons over the projected period from 2021-2036. This forecasted increase has been considered as part of the CWAS.

6.12.1.3. Study Area Economic Overview

The Study Area's key sectors/business activities that are reliant on local accommodation include tourism, mining, agriculture and commerce. It is important that these sectors are not negatively impacted by accommodation demand from the Project/other major infrastructure projects, and this is a key consideration for the CWAS.

6.12.1.4. Study Area Labour Force

The Study Area had a labour force of 41,370 persons and an unemployment rate of 1.7% (source: Australian Government – Small Area Labour Markets data), as of December 2023. This is a significantly lower unemployment rate compared to NSW (3.3%) and highlights the difficulty of sourcing local workers to support the construction phase of the Project. The Study Area currently has approximately 690 persons who are unemployed, some of whom might benefit from the Project employment directly (subject to suitable skills match) or through backfilling opportunities associated with jobs vacated by workers taking up Project employment.

6.12.1.5. Construction Workforce Accommodation Demand

The Proponent has estimated that the Project is likely to require 250 Full-Time Equivalent (FTE) workers at the peak of construction. Based on the tight labour force conditions in the Study Area (i.e. very low unemployment rate and labour force availability), the Proponent anticipates approximately 10% of these workers can be sourced from within the Study Area (or 25 FTE workers) and 90% (or 225 FTE workers) will need to be sourced from outside the Study Area (non-local workers requiring accommodation).

When the construction phase of the Project is considered overall, a monthly average of 130 FTE workers are likely to be required, comprising 13 FTE local workers and 117 non-local workers.

6.12.1.6. Regional Property Market Overview

The CWAS has reviewed the local housing and commercial accommodation markets for the major townships which are within 60-minute from the Project Site including:

- Short-term rentals: hotels, motels. Holiday/caravan parks and private rentals
- Long-term rentals: properties which can be leased for an extended period i.e. 6-12 months
- Unoccupied dwellings
- TWAFs.

6.12.1.7. Cumulative Accommodation Demands

The Project will likely compete for labour, accommodation, and other resources with major infrastructure projects being constructed concurrently in the EIA Study Area (principally renewable energy and energy storage projects being driven by investment in the CWO REZ). Additionally, impacts on key industry sectors and demand from population growth needs to be factored on the identified projects located within a 60-minute drive time of the Project.

6.12.2. Construction Workforce Requirements

Data provided by the Proponent indicates an average of 130 FTE jobs (on average per month) will be supported over the construction phase, which is expected to span 24 months. Actual workforce numbers will vary from month to month depending on the intensity of construction at the time. The Project's peak period is estimated to last for four (4) weeks (i.e. above average number of on-site workers), with 250 FTE positions supported by on-site construction activities in the peak month.

6.12.3. Mitigation Measures

The mitigation measures proposed within the CWAS are highlighted in Table 6-31.

Table 6-31: CWAS Mitigation Measures

Mitigation Option	Details	Purpose
Construction of a TWAF	Construct, operate and decommission a TWAF with capacity to cater for the peak onsite workforce. The TWAF should be located on-site. The TWAF should seek to provide the following amenities and facilities: • One-bed accommodation units with ensuites • Onsite kitchen and dining area • Retail area • Recreational facilities including but not limited to gymnasium, mess area, and tavern (wet mess area). • Communications room • Laundry facilities • Medical facility	Minimise pressure on the local short-term accommodation sector and housing markets by placing all non-local workers in a purpose-built TWAF. By providing a range of worker amenities at the TWAF, impacts on the local community services will be reduced/minimised.
Reuse or lease of existing or	Undertake consultation with other major project proponents hosting a TWAF on their sites and/or independent TWAF providers active in the local area.	Minimise pressure on the local short-term accommodation sector and housing

Mitigation Option	Details	Purpose
decommissioned TWAFs	Potential exists for TWAFs to be shared; noting most camps are built to cater for peak construction workforce levels. Generally, peak activity only last for a short period of the overall construction phase (e.g. several months); therefore, some TWAFs are likely to have capacity to accommodate workers from other projects (assuming geographical alignment of the projects and contractual agreements can be made). Of course, a purpose built TWAF developed specifically for the Project (see above), may also provide the opportunity for accommodation sharing with other projects (if this was considered a desirable and feasible option for the Proponent). Examples of approved/planned projects intending to construct TWAFs include: • **Sandy Creek Solar Farm** (peak workforce of 350 workers, a 350-bed facility is proposed on- site) • **Tallawang Solar Farm** (peak workforce of 420 workers, a 400-bed facility is proposed on-site) • **Spicers Creek Wind Farm** (peak workforce of 590 workers, a 330-bed facility is proposed off-site in Dubbo) • **Birriwa Solar Farm** (Peak workforce of 500 workers, maximum capacity of 500 beds proposed on-site). Note, other projects in the region are also planning TWAFs, however, this information is not currently publicly available and subject to confidentiality.	markets by placing some/all non-local workers in a shared purpose-built TWAFs. May reduce/minimise impacts on the local community services, but this will be dependent on the type and range of worker amenities provided at the shared TWAFs.
Upgrade and lease of the Cudgegong River Holiday Park	Invest in the expansion and refurbishment of the nearby Cudgegong River Holiday Park. This would see additional cabins developed on-site to increase the capacity to accommodate a significant share of the non-local workforce.	Minimise adverse pressure on the local housing market and expand the capacity of the existing holiday park. In the long term this will add to future tourism supply.
Build new permanent housing	Undertake engagement with real estate agents and residential developers to identify new housing and accommodation opportunities in the private market (e.g. release of dwellings in new stages of residential development projects such as Caerleon Estate, Mudgee). The newly constructed dwellings could then be reverted to permanent residential accommodation once the Project is constructed.	To maximise local accommodation opportunities, with minimised further pressure applied to the local housing market, while also providing future housing supply for the local housing market.
Use of limited short-term commercial accommodation	A supporting option for the Project (e.g. in conjunction with a TWAF/shared TWAF), is for the Project to utilise a small amount of commercial and short stay accommodation to cater for Project workers visiting the area for short periods (e.g. a few days or a week). Under this option, it is recommended that the use of such accommodation is geographically spread to ensure	To minimise impacts on the local commercial accommodation sector, while also providing valuable economic benefits to local accommodation providers – especially during off peak seasons.

Mitigation Option	Details	Purpose
	sufficient supply of beds remain available to support existing visitor markets.	

To ensure the effectiveness of the CWAS, the Strategy must be flexible and regularly reviewed and adjusted, as necessary. Monitoring and review should occur quarterly or at significant project milestones, ensuring continual enhancement and integration of lessons learned.

During construction, the Proponent and the appointed head contractor will be required to review, monitor, and report on whether the Project's direct onsite non-local workforce is adequately housed in a TWAF, either in a proponent-constructed TWAF or an established TWAF for another project in the CWO REZ, within a 60-minute drive time.

The CWAS should be reviewed and adjusted if quarterly monitoring identifies issues and the objectives of the CWAS are not being met, and the accommodation requirements of the Project are negatively impacting the local community. Additionally, if the Proponent or head contractor receives written complaints regarding the accommodation of non-local workers, a database of complaints should be prepared, and changes to the CWAS should be considered and implemented accordingly.

6.13. TWAF

A planning addendum for a TWAF was prepared by Barnson (2025) to support the SSD application for the construction, operation and decommissioning of a TWAF (Appendix A.2; Barnson 2025). The proposed TWAF is intended to accommodate the peak non-local construction workforce for the Project of up to 225 construction personnel during the Projects construction period and is strategically located to minimise travel times, reduce workforce pressure on the existing local housing supply, and improve site access and operational logistics (Barnson 2025).

The proposed accommodation facility will provide a range of essential services and amenities to support worker wellbeing, including:

- Fully serviced individual accommodation units
- Communal dining and catering facilities
- Laundry and cleaning services
- Reception and administrative facilities
- Recreational areas including gymnasium, BBQ areas, and relaxation spaces
- On-site vehicle parking and dedicated bus turning and layover areas to support safe and efficient transport operations (Barnson 2025).

The TWAF addendum includes an environmental assessment that considered potential impacts associated with the TWAF upon amenity, traffic and access, infrastructure servicing, and environmental values. Potential impacts from the TWAF are outlined below in Section 6.13.1. The TWAF addendum concluded that the proposed TWAF will not result in any significant adverse impacts and that any potential impacts can be appropriately managed through the implementation of standard mitigation measures. The project is expected to deliver a range of positive outcomes, including:

- Reducing demand on local housing stock and accommodation services
- Supporting local employment and business engagement opportunities
- Enhancing construction efficiency through reduced travel times and improved logistics
- Contributing to the broader delivery of renewable energy infrastructure in NSW (Barnson 2025).

6.13.1. Potential Impacts

6.13.1.1. Biodiversity

The TWAF is located within the Development Corridor previously assessed within the EIS (ELA 2023a) and associated impacts are considered within the revised BDAR (ELA 2026b). The TWAF is located within PCT 272 (White Box – Black Cypress Pine – Red Gum ± Mugga Ironbark Shrubby Woodland) in two condition classes, good condition and DNG. PCT 272 is not associated with any listed TECs. The TWAF location contains no hollow-bearing trees, provides marginal quality habitat for the Koala, and no Koalas and nests were identified during targeted survey (Barnson 2025).

In selecting the TWAF location, a targeted site selection process was undertaken in 2024 to avoid higher conservation value vegetation. Two alternative sites were excluded due to the presence of Box Gum Woodland (a potential SAII entity), with the final site selected specifically to avoid such impacts. Furthermore, a 50-metre buffer has been applied to protect riparian vegetation along the adjacent Cudgegong River and Little Oaky Creek, notably avoiding a stand of River Oak (*Casuarina cunninghamiana*) along the riverbank (Barnson 2025).

All potential impacts associated with the TWAF have been considered within the overall impact envelope of the revised BDAR. No additional biodiversity offset obligations are triggered specifically by the TWAF, as residual impacts have already been accounted for in the broader project offset strategy (Barnson 2025).

6.13.1.2. Aboriginal Cultural Heritage

The TWAF is located with the Development Corridor previously assessed within the EIS (ELA 2023a) and associated impacts are considered within the revised ACHA Report (ELA 2026c). The TWAF is located near two recorded Aboriginal heritage items:

- BWFAS92A – A moderate-density artefact scatter found along an eroded vehicle track on a gentle ridgeline slope (Lot 6 DP240821). Identified during an archaeological survey, the site includes various stone artefacts: sixteen basalt flakes, three greywacke flakes, a rhyolite grinding stone, a flaked river cobble, quartz, FGS, chert, and quartzite flakes
- BWFAS93 – A low-density artefact scatter identified in a gully eroded by dam construction and livestock activity. Although the soil is shallow and disturbed, the artefacts suggest a larger campsite may have existed nearby. The site is on gently sloping to flat land close to the Cudgegong River (Barnson 2025).

Both sites are expected to be directly impacted by construction activities and have been recommended be subject to community-led movement of Aboriginal objects and detailed site recording prior to construction (Barnson 2025).

6.13.1.3. Water and Waste Water

The TWAF estimated water requirement will be approximately 33 kilolitres per days based upon a 225-person camp therefore, it is estimated that between 18.4 and 24.5 ML water will be required during the operation of the TWAF. Water supply for the TWAF will be via bulk water deliveries via tanker trucks from approved off-site sources, which will be determined during the detailed design phase of the Project, with potential options including licensed extraction from the Macquarie River, Cudgegong River, Burrendong Dam, or other approved water supply operators in the region.

Delivered water will be stored in dedicated water storage tanks strategically located across the TWAF to support daily operational demands. Storage capacity will be designed to accommodate fluctuations in water use and to ensure uninterrupted supply during peak construction periods (Barnson 2025).

The TWAF wastewater/sewage will be treated on-site using a self-contained wastewater/sewage treatment plant. The system will treat both greywater and blackwater in accordance with EPA and NSW Health requirements (Barnson 2025).

6.13.1.4. Flooding

The TWAF has been located and designed to accommodate the maximum flood level of 353m, with the maximum historical flood level recorded at the Burrendong Dam being 352.98m AHD in 1990 (Barnson 2025).

6.13.1.5. Traffic and Transport

The traffic and transport impacts have been considered within the IES (ELA 2023a), and the inclusion of a TWAF are considered to provide substantial benefits to the traffic and transport impacts previously

assessed. The inclusion of the TWAF is expected to reduce daily light vehicle movements on external roads from an average of 65 to 7, and from 125 to 13 during peak periods. This represents an 89–94% reduction in external traffic volumes and significantly reduces impacts on the surrounding road network (Barnson 2025).

During the two-month construction phase of the TWAF, traffic volumes will remain modest, with approximately 53 vehicle movements expected daily. This includes up to 25 workers generating 50 light vehicle movements per day and an average of three truck deliveries per day (68 total heavy vehicle deliveries over one month). These levels are considered short-term and manageable and will not result in any adverse impacts on the surrounding road network (Barnson 2025). Furthermore, they do not exceed those movements considered within the EIS (ELA 2023a) during the construction phase of the Project.

The TWAF will provide up to 214 parking spaces, exceeding anticipated demand even during peak workforce periods. Parking and access infrastructure will be constructed in accordance with AS 2890 standards, with internal roads capable of accommodating construction and service vehicles (Barnson 2025).

6.13.1.6. Landscape and Visual

The landscape and visual impacts of the TWAF are considered to be minimal given it has been located within an area away from any existing significant development or rural dwellings (Barnson 2025). Potential lighting impacts from the TWAF are also expected to be minimal.

6.13.1.7. Noise and Vibration

The noise and vibration impacts associated with the TWAF are expected to not exceed those impacts previously assessed within the EIS (ELA 2023a). Marshall Day Acoustics (MDA) were engaged to undertake a targeted construction noise assessment for the TWAF. The TWAF is co-located with the existing construction compound near the Project Site access and is strategically positioned to minimise potential impacts on nearby sensitive receivers. Given the rural and low-density context of the Project Site, ambient noise levels are generally low. All TWAF construction activities are proposed to occur during standard construction hours, and the predicted noise levels at both associated and non-associated receivers fall within acceptable thresholds defined by the NSW Interim Construction Noise Guideline (ICNG) (Barnson 2025).

The assessment concluded that noise levels at the nearest non-associated receiver (P5-1), located approximately 3.75 km from the TWAF site, are expected to range between 30–35 dB(A), well below the ICNG noise-affected management level of 45 dB(A). At the nearest associated receiver (L6-1), located approximately 1.3 km away, noise levels may range from 45–50 dB(A), slightly above the ICNG threshold; however, as an associated receiver, a commercial agreement is in place, and a higher noise tolerance is permitted. The assessment also notes that predicted noise levels are conservative, assuming simultaneous operation of all plant and equipment, and that actual onsite levels are likely to be lower (Barnson 2025).

6.13.1.8. Bushfire

The TWAF is located within Bushfire Prone Land, with the TWAF located in Category 3 vegetation and the surrounding areas located in Category 1 vegetation. As the TWAF involves two or more manufactured homes, it is classified as a Special Fire Protection Purpose.

A Bush Fire Assessment Report (BFAR) has been prepared by Barnson and is included within Appendix A.2 – C. The BFAR included a detailed assessment in accordance with Planning for Bush Fire Protection 2019 and relevant NSW RFS policies applicable to the TWAF. The report assessed the surrounding topography and vegetation to determine appropriate asset protection zones (APZs) to enhance bushfire resilience (Barnson 2025).

6.13.1.9. Social

Socially, the facility has been strategically located within the broader Project Development Footprint to avoid adverse impacts on established communities. The Project Site is remote, away from residential centres, and designed to operate as a self-contained accommodation precinct. This mitigates potential issues such as housing stress or reduced amenity in neighbouring towns. The recent inclusion of Construction Workers Accommodation within the SEPP Housing 2021 demonstrates the State Government's recognition of the critical role such developments play in supporting large-scale infrastructure projects while managing potential community impacts (Barnson 2025).

The Project aligns with broader sustainability goals at the national and state levels and contributes to a well-managed energy transition. It also fosters a safe and appropriately designed environment for workers, ensuring they remain close to the Project Development Footprint and minimising risks associated with commuting and fatigue (Barnson 2025).

6.13.1.10. Economic

The TWAF directly supports the rollout of renewable energy infrastructure, specifically the Burrendong Wind Farm, by providing dedicated temporary accommodation for the construction workforce. The facility will result in immediate employment opportunities throughout the construction and operational phases and generate flow-on economic benefits for local businesses through increased demand for goods and services. The Project is expected to stimulate economic activity in Dubbo and surrounding areas, contributing to regional growth and resilience (Barnson 2025).

Importantly, all servicing costs associated with the development will be borne by the Proponent. This ensures that no additional pressure is placed on existing infrastructure or community services. Furthermore, any infrastructure or assets remaining on-site following decommissioning may be evaluated for potential legacy use and repurposing, offering a longer-term benefit to the community (Barnson 2025).

6.13.2. Mitigation Measures

Proposed mitigation measures for the TWAF are summarised below, and more detail is provided in Appendix A.2 and Appendix C of this Amendment Report.

- Biodiversity – as per the mitigation measures outlined with the revised BDAR (ELA 2026b)
- Aboriginal Cultural Heritage – as per the mitigation measures outlined within the revised ACHA Report (ELA 2026c)
- Water – water supply sources for the TWAF will be appropriately licensed, and supply arrangements will ensure sufficient volumes are available to meet the facility's demands throughout construction and operation
- Wastewater – a separate application in accordance with the Local Government Act 1993, proposing the installation of an on-site wastewater treatment system that meets relevant

regulatory requirements. The application will detail the system design, treatment capacity, effluent disposal method, and ongoing maintenance procedures to ensure compliance with council, EPA, and NSW Health standards (Barnson 2025)

- Flooding – the TWAF will involve cut-and-fill earthworks across the site to ensure the TWAF is above the maximum flood level, and to provide a consistent development platform across the TWAF (Barnson 2025)
- Traffic and Transport – development of a Workforce Transport Strategy, including shuttle bus services and carpooling initiatives to reduce individual vehicle movements. These measures will be supported by a Green Travel Plan and reinforced through worker inductions to promote efficient internal movement and limit unnecessary travel (Barnson 2025)
- Landscape and visual – lighting for the TWAF is to consider the mitigation measures outlined within the EIS (ELA 2023a)
- Noise and vibration – development of a Construction Noise and Vibration Management Plan (CNVMP) as per recommended within the EIS (ELA 2023a)
- Bushfire – implement recommendations within the BFAR, including the appropriate APZs, construction standards and recommended measures relating to landscaping, access, and services to support a safer bushfire outcome for the TWAF.

7. Justification of the Amended Project

The environmental and social impacts of the Project have been reduced and minimised as outlined in this Amendment Report. The Project will play a vital role in addressing the need for affordable, renewable electricity generation to assist in transitioning away from fossil fuel electricity generation, as well as providing material benefits to local communities. The Project is expected to provide the following strategic benefits:

- Support the energy transition away from primarily fossil fuels to clean
- Help alleviate the oncoming shortfall in energy generation capacity and provide readily dispatchable energy.
- Meet the increase energy demand predicted across NSW and Australia
- Reduce the production of carbon emissions in comparison to fossil fuels
- Positively contribute to NSW renewable energy generation targets
- Provision of approximately 250 FTE job opportunities during construction.

The Project is located with Central-West Orana Renewable Energy Zone (REZ). The NSW Government expects REZs will deliver multiple benefits to NSW, including:

- Energy bill savings from reduced wholesale electricity costs
- Emissions reduction from a cleaner energy sector
- Reliable energy from significant amounts of new energy supply
- Host community benefits through strategic planning and best practice engagement and formalised benefit sharing arrangements.

8. References

Aviation Projects 2023, Burrendong Wind Farm Aviation Impact Assessment. Prepared for Burrendong Wind Farm Pty Ltd, Aviation Projects.

CASA 2022, *CASA ADVISORY CIRCULAR AC 139.E-05 v1.1: Obstacles (including wind farms) outside the vicinity of a CASA certified aerodrome*

Department of Environment, Climate Change and Water 2010, *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*, Department of Environment, Climate Change and Water, <https://www.environment.nsw.gov.au/research-and-publications/publications-search/code-ofpractice-for-archaeological-investigation-of-aboriginal-objects-in-nsw>.

Department of Environment and Conservation (DEC) 2004, *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (Working Draft), DEC.*

Department of Planning 2011, *Hazardous Industry Planning Advisory Paper No 4 - Risk Criteria for Land Use Safety Planning*, Department of Planning, <https://www.planning.nsw.gov.au/sites/default/files/2023-03/hazardous-industry-planning-advisory-paper-no-4-risk-criteria-for-land-use-safety-planning.pdf>.

Department of Planning and Environment (DPE) 2016a, *Wind Energy Guideline for State Significant Wind Energy Development*, DPE, <https://www.planning.nsw.gov.au/~/media/Files/DPE/Guidelines/wind-energy-guideline-for-statesignificant-wind-energy-development-2016-12.ashx>.

DPE 2016b, *Wind Energy: Visual Assessment Bulletin*, DPE, <https://www.planning.nsw.gov.au/-/media/Files/DPE/Bulletins-and-Community-Updates/windenergy-visual-assessment-bulletin-2016-12.pdf>.

DPE 2016c, *Wind Energy: Noise Assessment Bulletin*, DPE, <https://www.planning.nsw.gov.au/-/media/Files/DPE/Bulletins-and-Community-Updates/wind-energy-noise-assessment-bulletin-2016-12.pdf>.

Department of Planning, Housing and Infrastructure (DPHI) DPHI 2024b, *State significant development guidelines – preparing a submissions report*, DPHI, <https://www.planning.nsw.gov.au/sites/default/files/2023-03/ssd-guidelines-preparing-a-submissions-report.pdf>.

DPHI 2024c, *Wind Energy Guideline – Technical Supplement for Landscape Character and Visual Impact Assessment*, DPHI, <https://www.planning.nsw.gov.au/sites/default/files/2024-11/wind-energy-guideline-visual-technical-supplement.pdf>.

Department of Planning, Industry & Environment (DPIE) 2022a, *Cumulative Impact Assessment Guidelines for State Significant Projects, DPIE,* <https://www.planning.nsw.gov.au/sites/default/files/2023-03/cumulative-impact-assessment-guidelines-for-ssp.pdf>.

DPIE 2022b, *State significant development guidelines – preparing an amendment report*, DPIE, <https://www.planning.nsw.gov.au/sites/default/files/2023-03/ssd-guidelines-preparing-an-amendment-report.pdf>.

DPIE 2022c, *State significant development guidelines – preparing an environmental impact statement Appendix B to the State Significant development guidelines,* DPIE <https://www.planning.nsw.gov.au/sites/default/files/2023-03/ssd-guidelines-preparing-an-environmental-impact-statement.pdf>.

Eco Logical Australia (ELA), 2023a, *Burrendong Wind Farm – Environmental Impact Statement.* Prepared for Burrendong Wind Farm Pty Ltd, ELA, NSW.

ELA 2026a, *Burrendong Wind Farm Submissions Report*. Prepared for Burrendong Wind Farm Pty Ltd, ELA, NSW.

ELA 2026b, *Burrendong Wind Farm Biodiversity Development Assessment Report*. Prepared for Burrendong Wind Farm Pty Ltd, ELA, NSW.

ELA 2026c, *Burrendong Wind Farm Aboriginal Cultural Heritage Assessment Report*. Prepared for Burrendong Wind Farm Pty Ltd, ELA, NSW.

ELA 2026d, *Burrendong Wind Farm OSOM Road Upgrades - Heritage Memorandum*. Prepared for Burrendong Wind Farm Pty Ltd, ELA, NSW.

ELA 2025a, *Burrendong Wind Farm Temporary Workers Accommodation Facility – Heritage Memorandum*. Prepared for Burrendong Wind Farm Pty Ltd, ELA, NSW.

ELA 2025b, Burrendong Wind Farm Temporary Workers Accommodation Facility – Biodiversity Memorandum (ELA 2025b).

ELA 2024a, *Burrendong Wind Farm Surface Water Impact Assessment*. Prepared for Burrendong Wind Farm Pty Ltd, ELA, NSW.

ELA 2024b, *Burrendong Wind Farm Groundwater Impact Assessment*. Prepared for Burrendong Wind Farm Pty Ltd, ELA, NSW.

Ethos Urban 2024a, *Burrendong Wind Farm Social Impact Assessment Addendum.* Prepared for Burrendong Wind Farm Pty Ltd, Ethos Urban.

Ethos Urban 2024b, *Burrendong Wind Farm Construction Workers and Accommodation Strategy.* Prepared for Burrendong Wind Farm Pty Ltd, Ethos Urban.

Marshall Day Acoustics (MDA) 2023, *Burrendong Wind Farm Noise and Vibration Impact Assessment*. Prepared for Burrendong Wind Farm Pty Ltd, MDA.

MDA 2024, *Burrendong Wind Farm Noise and Vibration Impact Assessment Addendum*. Prepared for Burrendong Wind Farm Pty Ltd, MDA.

Mid-Western Regional Council (MWRC) 2024, Managing the impacts of State Significant Development. Prepared by PwC, MWRC,

<https://www.midwestern.nsw.gov.au/files/assets/public/v/1/development/mwrc-managing-the-impacts-of-ssd-final-v.01.pdf>.

Middleton Group 2024a, *Burrendong Wind Farm Blade Throw Assessment*. Prepared for Burrendong Wind Farm Pty Ltd, Middleton Group.

Middleton Group 2024b, *Burrendong Wind Farm Telecommunications Impact Assessment*. Prepared for Burrendong Wind Farm Pty Ltd, Middleton Group.

Moir Landscape Architects (Moir Studio) 2023, *Burrendong Wind Farm Landscape and Visual Impact Assessment*. Prepared for Burrendong Wind Farm Pty Ltd, Moir Studio.

Moir Studio 2024, *Burrendong Wind Farm Landscape and Visual Impact Assessment Addendum.* Prepared for Burrendong Wind Farm Pty Ltd, Moir Studio.

NSW Rural Fire Service (RFS) 2019, *Planning for Bushfire Protection, a guide for councils, planners, fire authorities and developers,* NSW RFS.

Rex J Andrews 2024, *Burrendong Wind Farm Route Assessment*. Prepared for Burrendong Wind Farm Pty Ltd, Rex J Andrews.

Stantec 2024, *Burrendong Wind Farm Traffic and Transport Impact Assessment*. Prepared for Burrendong Wind Farm Pty Ltd, Stantec.

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