

Banandra Wind Farm

Scoping Report

July 2026



Banandra Wind Farm Scoping Report

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July 26

Our Ref:

30295338

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
ABS	Australian Bureau of Statistics
AHIMS	Aboriginal Heritage Information Management System
AHD	Australian Height Datum
BAM	Biodiversity Assessment Method
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BDAR	Biodiversity Development Assessment Report
BOM	Bureau of Meteorology
CASA	Civil Aviation Safety Authority
CLM Act	<i>Contaminated Land Management Act 1997 (NSW)</i>
CPHR	Conservation Programs, Heritage and Regulation
Crown Land Act	<i>Crown Land Management Act 2016 (NSW)</i>
dB(A)	A-weighted noise or sound power level in decibels
Commonwealth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DPE	NSW Department of Planning and Environment (now DPHI)
DPHI	NSW Department of Planning, Housing and Industry
DPIE	NSW Department of Planning, Industry and Environment (now DPHI)
EIS	Environmental Impact Statement
EMF	Electromagnetic Field
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>
EPL	Environment Protection Licence
GDE	Groundwater dependent ecosystem
GHGNAA	Greenhouse Gas
GW	Gigawatts
GWh	Gigawatt hour
Ha	Hectares
IRSAD	Index of Relative Socio-economic Advantage and Disadvantage
km	Kilometre
kV	Kilovolt
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
LLS	Local Land Services

Acronym	Definition
LSPS	Local Strategic Planning Statement
LVIA	Landscape and Visual Impact Assessment
MNES	Matter of National Environmental Significance
MW	Megawatt
MWh	Megawatt Hour
NEM	National Electricity Market
NPfl	<i>Noise Policy for Industry 2017</i>
NSW	New South Wales
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water (was DPE)
NSW EPA	NSW Environment Protection Authority
OSOM	Oversize Over mass
PCT	Plant Community Type
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
RAAF	Royal Australian Air Force
REZ	Renewable Energy Zone
RFS	NSW Rural Fire Service
SAII	Serious And Irreversible Impacts
SAL	Suburb And Locality
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SIA	Social Impact Assessment
SSD	State Significant Development
TEC	Threatened Ecological Community
TfNSW	Transport for NSW

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1 Introduction

1.1 Project overview

Squadron Renewable Energy Developments Pty Ltd (the Proponent) is seeking development consent for the construction, operation, maintenance and decommissioning of the Banandra Wind Farm. Key aspects of the Project are summarised below:

- **Project components:**
 - Up to 93 wind turbine generators (WTGs)
 - A substation, including a switching station
 - Associated ancillary and temporary infrastructure.
- **Generation Capacity:** Approximately 558 megawatts (MW) of renewable electricity.
- **Grid Connection:** Electricity generated by the WTGs will be exported to the National Electricity Market (NEM) via a direct connection to the existing 330 kilovolt (kV) Darlington Point to Wagga Wagga transmission line.

The Project would be located near the town of Darlington Point, NSW approximately 40 kilometres (km) south of Griffith and 30 km west of Narrandera, within the local government areas (LGA) of Murrumbidgee and Narrandera.

A summary of the location of the Project is provided in Table 1-1. The location and regional context is shown in Figure 1-1.

Table 1-1: Location of the Project

Item	Details
Size	Project site: 11,707 hectares (ha) Development corridor: 3,336 ha
Local government area	Murrumbidgee and Narrandera
State electorate	Murray and Cootamundra
Suburb	Darlington Point
Address (Project site)	Sturt Highway, Darlington Point 2706
Lot details	Located on 106 freehold lots including: Lots 31-40, 43, 46-47, 68-74, DP 750898; Lots 2, 4-5, 11-15, 31-38, 57-60, 70-76, DP 750873; Lots 12-13, 15-17, 19-22, 26-31, 37, 70, 105, DP750903; Lots 20-27, 49-50, 53, 68-73, 76-78, 81, 98, DP 750890; Lots 1-3, 5, DP 1153301; Lots 4-5, DP 239304; Lots 4-5, DP 259880; Lots 5-7, DP 1249830; Lot 1, DP 601813; Lots 1, 3, 5, DP 1185251;; Lot 1, DP 1280195; Lot 2, DP 1148980; Lot 2, DP 1159848; Lot 3, DP 542213
Renewable energy zone (REZ)	Located outside the REZ. The nearest REZ to the Project site is the South West REZ.
Water catchment	Murrumbidgee River catchment (part of the Murray–Darling Basin). The Project is approximately two km south of the Murrumbidgee River and contains several on-site creeks, channels and dams (e.g. Coleambally Canal, Spillers Creek, Tubbo Channel). Refer to Chapter 6.9 (Water and hydrology) and Figure 6-11 for detailed watercourses.

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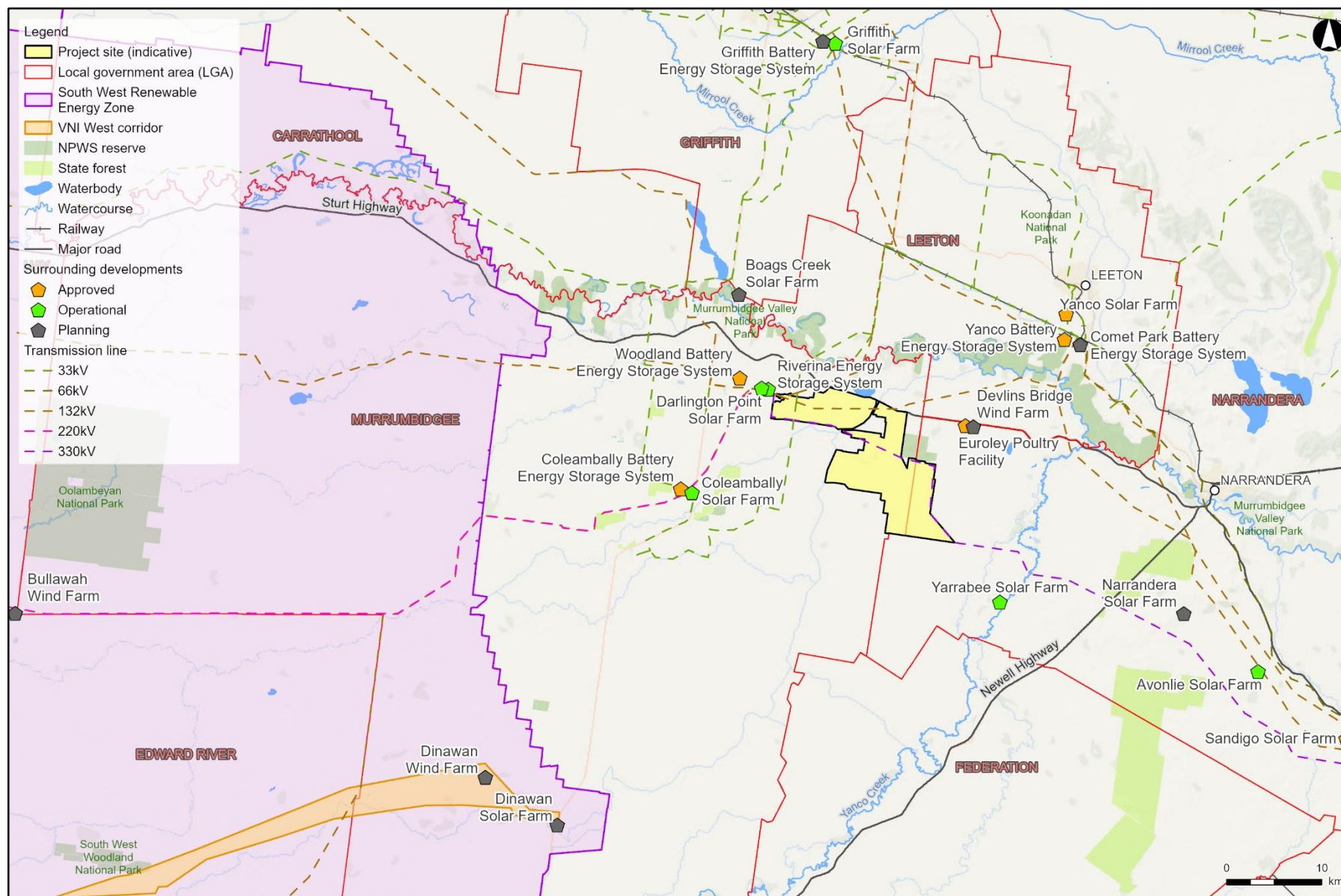


Figure 1-1: Location and regional context

The Project is State Significant Development (SSD) as defined under *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP) and will require development consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Arcadis Australia Pty Ltd was engaged by the Proponent to prepare a Scoping Report. The purpose of this report is to identify the key environmental, social, and economic issues that will inform the preparation of the Secretary's Environmental Assessment Requirements (SEARs) and require further assessment in the Environmental Impact Statement (EIS).

1.2 Project objectives

The objectives of the Project are to:

- Contribute to improving the security, stability and resilience of the NEM through renewable energy generation and energy storage capacity
- Assist in delivering network benefits and renewable energy services in line with the NSW Electricity Infrastructure Roadmap (2020) (although the Project is not in a REZ)
- Support the transition to renewable energy through additional capacity of approximately 558 MW
- Support Australia's commitments to reduce greenhouse gases and contribute to NSW achieving net-zero emissions by 2050 as set out in the *NSW Climate Change Policy Framework* (2016)
- Contribute to achieving the Energy Security Target established by the *NSW Electricity Strategy* (2019) and enacted in the *Electricity Infrastructure Investment Act 2020* (EII Act)
- Avoid and/or minimise environmental and community impacts wherever practicable, through careful design and implementation of best practice environmental management and mitigation
- Contribute to positive community and economic outcomes in the Darlington Point, Coleambally and Narrandera communities and the wider South East region of NSW.

1.3 The Proponent

The Proponent for the Project is Squadron Renewable Energy Developments Pty Ltd (Squadron Energy), part of the Squadron Energy and Tattarang group of companies. Squadron Energy is an Australian-owned leading renewable energy company that develops, operates and owns renewable energy assets in Australia, with 2 gigawatts (GW) of renewable energy in operation and under construction (Figure 1-2).

Squadron Energy has proven experience and expertise across the lifecycle of energy projects, working with local communities to lead the transition to Australia's clean energy future. Squadron Energy is a signatory to the *Clean Energy Council's Community Engagement Best Practice Charter for Renewable Energy Developments*. This involves a voluntary set of commitments that the Proponent will uphold when developing and operating clean energy projects to engage respectfully with the communities in which they plan and operate projects, to be sensitive to environmental and cultural values and to make a positive contribution to the regions in which they operate.

The details of the Proponent are provided in Table 1-2.

Table 1-2: Proponent details

Proponent details	Details
Name	Squadron Renewable Energy Developments Pty Ltd
Address	55 Market Street, Sydney NSW 2000
ABN	84 653 587 172
Nominated contact	David Stanke – Project Manager
Contact details	banandrawind@squadronenergy.com
Scoping Report	Prepared by Arcadis Australia Pty Ltd

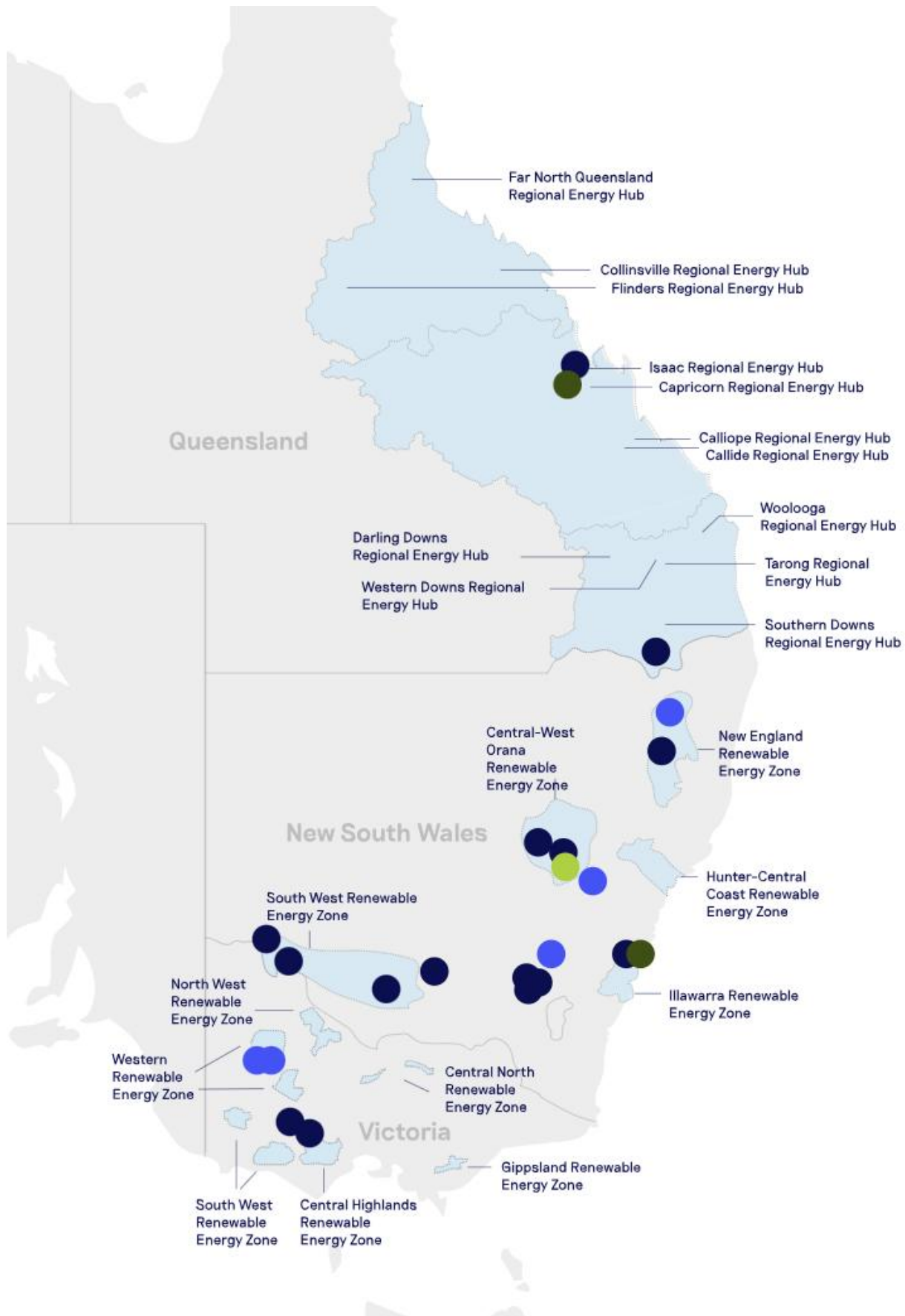


Figure 1-2: Squadron Energy projects

1.4 Related development

Related development includes any:

- Existing or approved development that would be:
 - Incorporated into the Project
 - Operated in conjunction with the Project under a separate development consent or approval
- Development that is required for the Project but would be subject to a separate assessment is described in Section 3.4 and relates to any proposed offsite temporary workers accommodation.

At this stage, no related development has been identified. The Banandra Wind Farm is proposed to connect directly to the existing 330 kV Darlington Point to Wagga Wagga transmission line and does not require or depend on any other development or infrastructure that would be incorporated or operated in conjunction with the Project.

1.5 Project background

Squadron Energy has been investigating the potential to develop a renewable energy project in the area since 2023. A further internal screening review was undertaken in 2024 to determine the suitability of the Project to progress to the next stage of development. Specific consideration was given to:

- Estimated wind resource (speed and direction), potential marginal loss factors and grid connectivity
- Commercial viability, including consideration of constructability and operability
- Applicable Commonwealth, State and local legislation and guidelines to identify the relevant regulatory and permitting requirements
- Environmental and planning constraints that would influence the design and development of the proposed layout, including siting and sizing of wind turbine generators, access tracks and other project elements and the recommended construction methodology to ensure safe and economically viable layout.

Ongoing refinement of the Project with consideration of the above will continue through the development of the EIS. Key principals that will be adopted to avoid, minimise or offset the impacts of the Project to the extent known at this scoping stage include:

- An iterative and flexible approach to design (responding to identified environmental and social impacts and constraints) that supports the lowest Levelised Cost of Energy
- Minimise vegetation clearing in areas of higher conservation value by re-siting non-linear infrastructure outside of known/mapped constraints where impacts are unacceptable
- Preference to use previously disturbed land (i.e. land previously modified by agricultural operations, including cleared areas, established access tracks and local roads)
- Enhance significant Aboriginal cultural and historic heritage values (where mapped)
- Minimise direct and indirect impacts on neighbouring landholders by locating infrastructure away from nearby residences and adjoining properties, where the impact is not agreed to
- Effective stakeholder engagement and commitment to a community benefit scheme that demonstrates the company's social licence through the full project lifecycle
- Undertaking a comprehensive assessment of mitigation measures to select suitable and relevant measures that will minimise impacts and maximise the benefits of the Project.

1.6 Purpose of this Report

The purpose of this Scoping Report (report) is to support Squadron Energy's application to the Minister for Planning for planning approval of the Project under Part 4, Division 4.7 of the EP&A Act, with the first step to obtain SEARs for the EIS. The report aims to:

- Describe the Project in simple terms (Chapter 3)
- Include an analysis of feasible alternatives considered having regard to the objectives of the development, and identify the alternatives that will be investigated further in the EIS (Section 3.7)
- Give an early indication of community views on the Project and provide an overview of the community engagement that will be carried out during the preparation of the EIS (Chapter 1)
- Provide a preliminary assessment of the Project's potential social, noise and vibration, and landscape and visual impacts and the means which these impacts are identified, assessed, and managed (Chapter 6)
- Identify the key matters requiring further assessment in the EIS and the proposed approach to assessing each of these matters, having regard to any relevant Government legislation, plans, policies or guidelines (Chapter 6).

This report has been prepared with regard to:

- *State significant development guidelines – preparing a scoping report* (the SSD Scoping Report Guideline) (DPIE, 2022)
- *Undertaking engagement guidelines for state significant projects* (the Engagement Guidelines) (DPHI, 2026a)
- *Social impact assessment guideline for state significant projects* (the SIA Guideline) (DPHI, 2026b)
- *Cumulative impact assessment guidelines for state significant projects* (the CIA Guidelines) (DPHI, 2026c)
- *Wind Energy Guideline: Guidance for State significant wind energy development* (the Wind Energy Guideline) (DPHI, 2024a)
- *Wind Energy Guideline: Technical Supplement for Landscape Character and Visual Impact Assessment* (Wind Energy Visual Technical Supplement) (DPHI, 2024b)
- *Wind Energy Guideline: Technical Supplement for Noise Assessment* (Wind Energy Noise Technical Supplement) (DPHI, 2024c).

Table 1-3 provides a summary of the overarching requirements from the SSD Scoping Report Guideline and where they have been addressed within this report.

Table 1-3: Addressing of SSD Scoping Report Guideline requirements

Requirement	Where addressed
A simple but accurate description of the Project	Chapter 3
The relevant strategic and statutory context	Chapter 2 and Chapter 4
Analysis of feasible alternatives considered having regard to the objectives of the development and identification of alternatives that will be investigated further in the EIS	Chapter 3
A summary of the findings of any early community engagement and a description of the engagement that would be carried out during the preparation of the EIS	Chapter 5
The identification of matters that would require further assessment in the EIS and how they would be assessed.	Chapter 6

The detailed breakdown of all guideline requirements and where they are addressed is included in **Appendix A**.

1.7 Structure of this Report

The structure and content of this report is as per the SSD Scoping Report Guideline and is outlined in Table 1-4.

Table 1-4: Structure and content of this report

Chapter		Description
Chapter 1	Introduction	Introduces the Project, the Proponent and provides an outline of the structure of the document.
Chapter 2	Strategic context	Provides an outline of the need and justification of the Project, as well as a description of the strategic alternatives and locations considered.
Chapter 3	The Project	Describes the Project, including general construction activities and alternative considered.
Chapter 4	Statutory context	Provides an outline of the statutory approvals framework, including applicable legislation and planning policies.
Chapter 5	Engagement	Outlines the stakeholder and community engagement carried out to date and for consideration in the EIS.
Chapter 6	Proposed assessment of impacts	Summarises the proposed scope of investigations for the Project during the preparation of the EIS, based on the potential direct and indirect impacts identified in this Scoping Report.
Chapter 7	References	Lists the information sources used in this Scoping Report.
Appendix A	Scoping report compliance checklist	Compliance checklist of the requirements for a Scoping Report and where they have been addressed.
Appendix B	Scoping summary table	Provides an overview of the matters requiring further assessment in the EIS by the level of assessment required.
Appendix C	Wind turbine generator coordinates and	Preliminary wind turbine generator coordinates and receivers within eight km of the Project
Appendix D	Visual Scoping report	Visual and landscape assessment scoping materials and initial findings (supporting technical report).
Appendix E	Noise Scoping report	Noise assessment scoping materials and preliminary modelling results (supporting technical report).
Appendix F	Biodiversity species tables	Table of vegetation mapping along with their associated TECs and SAI status (if relevant) and list of migratory species surrounding the project area
Appendix G	Protected Matters Search Tool (PMST)	Search results from the EPBC Act Protected Matters Search Tool (PMST) managed by the Commonwealth DCCEEW
Appendix H	Social Scoping report	Social impact scoping materials and preliminary SIA inputs (supporting technical report).

1.8 Terminology used

This Report uses the following terms for clarity and consistency:

- **Project:** Refers to the proposed wind farm development described in this report, including the proposed WTG and all associated ancillary infrastructure and temporary facilities (see Section 3 for full Project description).
- **Project site:** The land area within which the Development corridor is currently sited. This defines the extent of the property boundaries and the boundary used for the EPBC Act referral.
- **Preliminary Project layout:** The preliminary layout assessed for the purposes of this Scoping Report, comprising the indicative WTG locations.
- **Development corridor:** The planning area surrounding the indicative WTG locations, substation (including a switching substation), and associated ancillary infrastructure, including WTG hardstands, internal roads, transmission lines (overhead and underground), operation and maintenance compounds, laydown areas and concrete (or asphalt) batching plants. The corridor allows for design flexibility and micro-siting of infrastructure during detailed planning, and within which environmental and technical constraints will be considered and applied.
- **Disturbance footprint:** The area of physical disturbance due to project activities. The Disturbance footprint will be refined and reduced as the Project progresses through detailed design and is expected to be significantly smaller than the overall Development corridor.
- **Study area:** The spatial extent defined for individual environmental, social and technical investigations and impact assessments, which varies by discipline and is described in the relevant chapter or technical appendix.
- **Associated receiver:** A residential or non-residential receiver located on land where the owner has entered into a formal agreement with the Proponent to host infrastructure or accept Project impacts.
- **Non-associated receiver:** A residential or non-residential receiver located on land where the owner has not entered into an agreement with the Proponent; these receivers are treated as potentially affected receptors in the technical assessments for the EIS and community engagement.

2 Strategic context

2.1 Relevant strategic planning and policy

Table 2-1 provides a summary of national, state, regional and local planning and policy contexts as relevant to the Project. The project fully aligns with the relevant strategic plans and policies at all tiers of Government.

Table 2-1: Project alignment with strategic plans and policies

Strategy, plan or policy	Description	Project relevance
National Policy Context		
2015 Paris Climate Agreement	The Agreement provides a pathway for developed nations to assist developing nations in their climate mitigation and adaptation efforts while creating a framework for the transparent monitoring and reporting of countries' climate goals. Australia announced its ratification of the Paris Agreement on 10 November 2016.	As a large-scale renewable energy development, the Project will contribute to achieving Australia's greenhouse gas emission reduction targets.
National Electricity Market (NEM)	The NEM comprises a wholesale market for electricity sales and the physical system comprising transmission infrastructure.	The Project supports the continued operation of the NEM by contributing to the security of energy supply, specifically increasing the supply of renewable energy.
Climate Change Act 2022	The Act sets out Australia's greenhouse gas emissions reduction targets, to provide for annual climate change statements, to confer advisory functions on the Climate Change Authority, and for related purposes.	The Project would contribute to emission reductions required in this legislation through the uptake of renewable energy.
2024 Integrated System Plan (ISP) (AEMO, 2024)	Australia's National Electricity Rules require the Australian Energy Market Operator (AEMO) to produce a plan every two years for essential infrastructure that will meet future energy needs, known as the Integrated System Plan (ISP). The 2024 Integrated System Plan (AEMO, 2024) (2024 ISP) provides a roadmap for the NEM. With coal-fired generation retiring, the 2024 ISP confirms that renewable energy, connected by transmission and distribution, firmed with storage and backed up by gas-powered generation, is the lowest-cost way to supply electricity to homes and businesses as Australia transitions to a net zero economy. The Draft 2026 ISP reaffirms that this presents the least-cost way to supply secure and reliable electricity to consumers as coal plants retire, while meeting government policies through to 2050. The Final 2026 ISP is due to be published in June 2026.	The Project would contribute to addressing the objective of supplying renewable energy to provide consumers with reliable, and secure and affordable power.

Strategy, plan or policy	Description	Project relevance
State Policy Context		
<i>NSW Electricity Strategy (2019)</i>	This strategy is the NSW Government’s plan for a reliable, affordable, and sustainable electricity future. The purpose is to improve the efficiency and competitiveness of the NSW electricity market through an integrated approach to all demand and supply options. It encourages investment in lower cost generation, and energy saving technologies and identifies “delivering more resilient electricity supplies’ as a key action”.	The Project would increase supply of electricity to market and contribute to sustainable electricity outcomes (wind generation and battery storage).
<i>NSW Electricity Infrastructure Roadmap (2020)</i>	The NSW government’s 20-year plan aims to transform the electricity system into one that is cheap, clean and reliable. It is enabled by the <i>Electricity Infrastructure Investment Act 2020</i> and aims to shift towards a greener future in reducing carbon emissions.	The Project aligns with the roadmap through the provision of cheap and clean renewable energy.
<i>Climate Change (Net Zero Future) Act 2023</i>	The Act legislates NSW’s targets to reduce greenhouse gas (GHG) emissions by 50 per cent by 2030 and 70 per cent by 2035 to achieve net zero GHG emissions by 2050.	The Project would contribute to emission reductions required in this legislation through the uptake of renewable energy.
<i>Australia’s Net Zero Plan (DCCEEW, 2024)</i>	The Net Zero Plan sets NSW Government actions to achieve net zero emissions by 2050, focusing on emissions reduction, economic development in low-carbon industries, and enabling policy settings to support the energy transition.	The Project aligns with the Net Zero Plan by delivering renewable electricity that reduces reliance on fossil fuel generation and supports decarbonisation of the electricity sector.
Regional and Local Policy Context		
<i>Murrumbidgee Local Environmental Plan (LEP) 2013</i> <i>Narrandera LEP 2013</i>	LEPs provide the statutory local framework that guides development and land use decisions throughout NSW. They do this through zoning and development standards, which provide a framework for how land can be developed and used. Under Section 1.2 of both LEPs, the aim is to make local environmental planning provisions for land in Murrumbidgee in accordance with the relevant standard environmental planning instrument under section 3.20 of the EP&A Act. Both the Murrumbidgee and Narrandera LEPs specifically permit “electricity generating works” (including wind farms and battery storage) with development consent in the RU1 Primary Production zone, which covers the Project area.	The Project is mainly located within the Murrumbidgee LEP area, with a small portion within the Narrandera LEP. The Project is permissible with consent as “electricity generating works” under the RU1 Primary Production zone in both LEPs.
<i>Murrumbidgee Local Strategic Planning Statement 2020</i>	This outlines a 20-year land use vision for Murrumbidgee LGA. Priorities include economic diversification (including renewables), protection of agriculture, sustainable infrastructure, and meaningful community engagement.	The Project supports local economic diversification, safeguards productive land through careful siting of Project infrastructure, invests in sustainable infrastructure, and engages with the local community.

Strategy, plan or policy	Description	Project relevance
<i>Murrumbidgee Council Community Strategic Plan 2025–2035</i>	This community-led plan for Murrumbidgee, focuses on economic growth, sustainability, social wellbeing, and improved infrastructure.	The Project aligns with priorities for local employment, economic growth, environmental sustainability, and opportunities for community benefit-sharing.
<i>Local Strategic Planning Statement 2020 Narrandera Shire Council</i>	This Local Strategic Planning Statement (LSPS) sets the framework for Narrandera Shire’s economic, social and environmental land use needs over the next 20 years. It supports economic diversification, protection of agricultural land, sustainable infrastructure, renewable energy, and resilience to hazards and climate change.	The Project supports LSPS priorities for economic diversification, investment in renewable energy, and sustainable land use. It aligns with Council’s objective to enable new industry, manage environmental risks, and deliver local benefits.
<i>Community Strategic Plan 2040 Narrandera Shire Council</i>	The Community Strategic Plan (CSP) sets a long-term vision for Narrandera Shire as a connected, sustainable, and evolving community. It identifies priorities including environmental protection, resilience to climate change, economic growth, infrastructure improvement, and community wellbeing.	The Project aligns with CSP priorities for sustainability, local economic development, and infrastructure. It supports Council’s vision for a resilient, low-carbon future and delivers local and regional benefits.
<i>Riverina Murray Regional Plan 2041</i>	The LGA of Murrumbidgee and Narrandera are both within the Riverina Murray Region. The <i>Riverina Murray Regional Plan 2041 (DPE, 2023c)</i> is an update to the <i>Riverina Murray Regional Plan 2036</i> , which provided the NSW Government’s vision for land uses in the Riverina Murray region. This plan sets the long-term vision for the region’s economy, environment, and infrastructure. The plan focuses on economic diversification, sustainable agriculture, environmental protection, and supporting renewable energy. The Riverina Murray’s climate, resources and strategic connections to utility infrastructure place it in a strong position to contribute to and capitalise on the net zero target and electricity infrastructure plans. In recent years, large-scale solar farms account for more than 50% of major projects.	The Project planning will continue through an EIS project considering environmental and social impacts. The Project contributes to economic diversification and sustainable energy supply in the region.

2.2 Site setting and features

2.2.1 Local and regional community

The Project is located within the Murrumbidgee LGA, with a small portion extending into the Narrandera LGA. The Murrumbidgee LGA, with a population of approximately 3,600, is a rural area focused on agriculture, with Darlington Point serving as the main township and service hub. Coleambally, another key town within the Murrumbidgee LGA, is located approximately 21 km south-west of the Project site and also provides important services, amenities, and accommodation options for the local and regional community. The Narrandera LGA, to the east, has a population of approximately 5,800 and is also centred on agriculture and related industries.

Darlington Point is the closest township to the Project site, situated approximately 10 km north-west of the Project. The town provides key services, retail, and social infrastructure for the local community and broader region. The location of Project relative to Darlington Point and Coleambally is shown on Figure 2-1.

The Project site consists predominantly of freehold land including 106 lots which are privately owned and used for agriculture (grazing). The land is primarily zoned RU1 Primary Production under the Murrumbidgee LEP 2013. Land zoning and the existing land uses of the Project site and surrounding area is shown on Figure 2-2 and Figure 2-3.

2.2.2 Natural and built environment

The Project site is located in a predominantly rural setting used for agricultural purposes, notably cattle and sheep grazing. The landscape features large expanses of native vegetation, including woodland and grassland communities, with some areas dedicated to cropped or improved pastures. This land use pattern supports the agricultural productivity of the region.

The natural environment is characterised by the presence of mapped significant biodiversity values, with various Plant Community Types (PCTs) and Threatened Ecological Communities (TECs) identified during the preliminary assessments. Biodiversity constraints are mapped and discussed in Section 6.4.

The built environment includes houses and sheds located outside of the Project site boundary. Several associated receivers are near the Sturt Highway, close to the north-western part of the Project site. Four existing transmission lines (33 kV, two 132 kV, and 330 kV) traverse the Project site. The surrounding road network, receivers, and transmission infrastructure are shown on Figure 2-4.

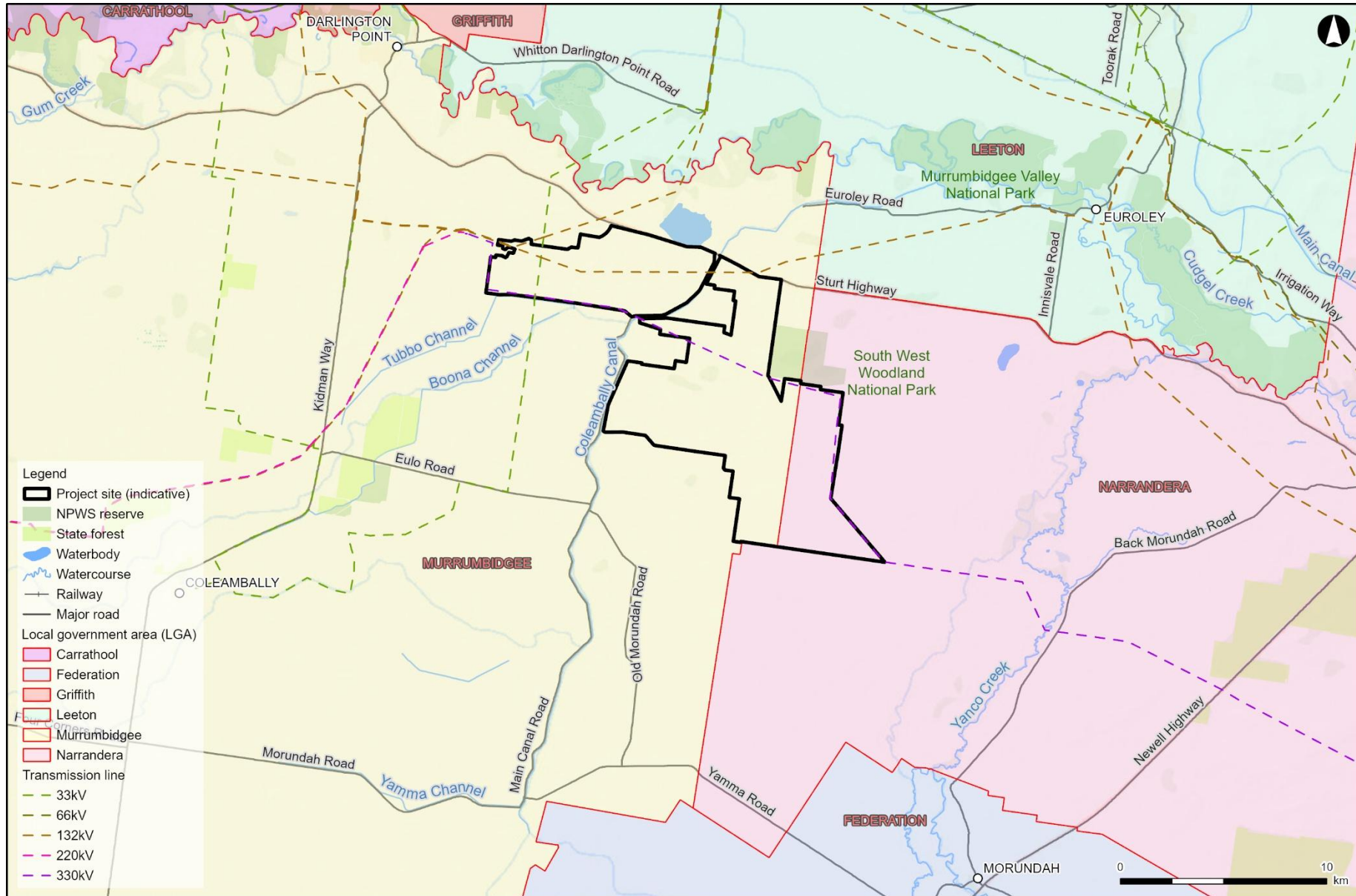


Figure 2-1: Local context

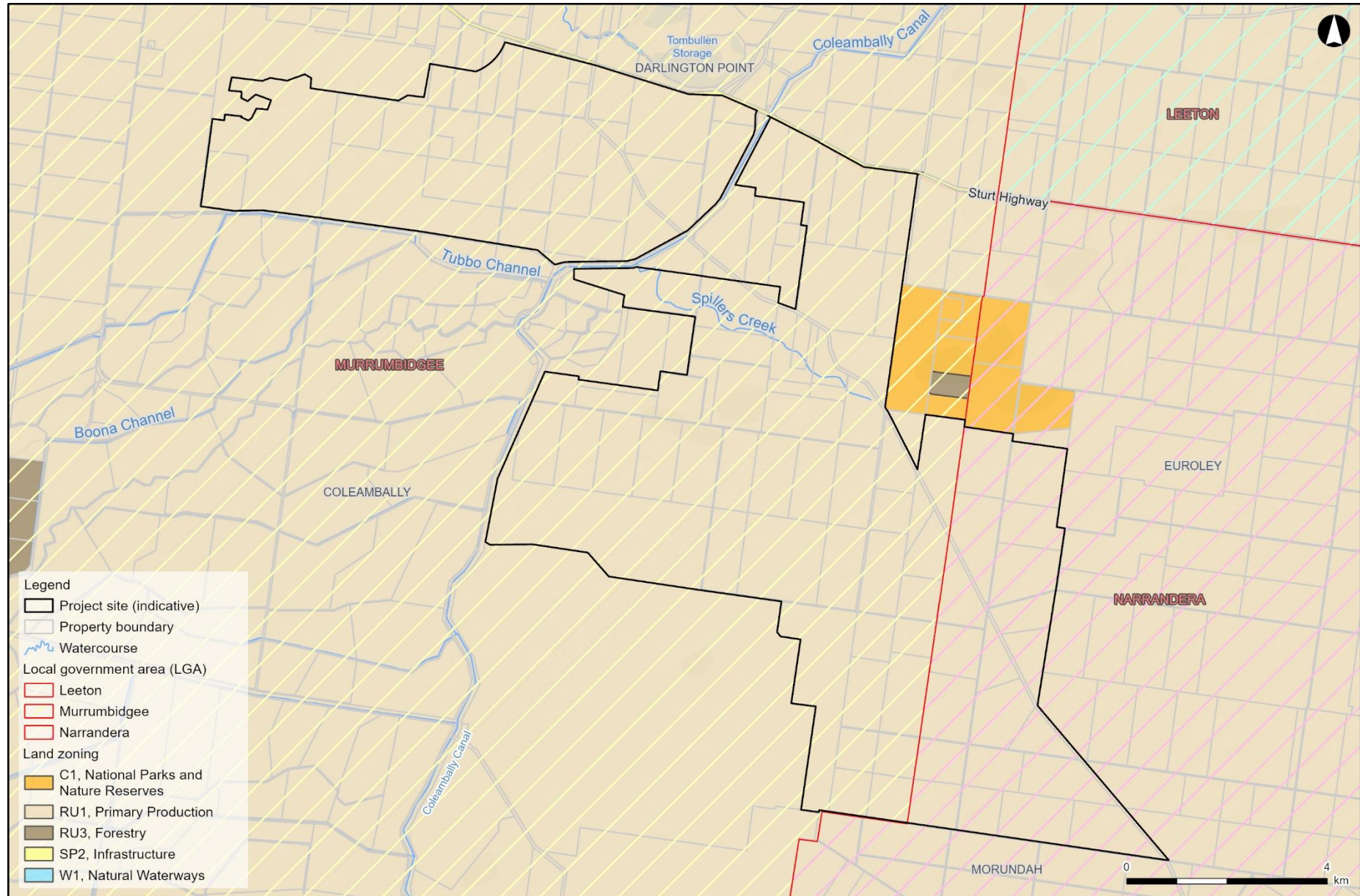


Figure 2-2: Land zoning context

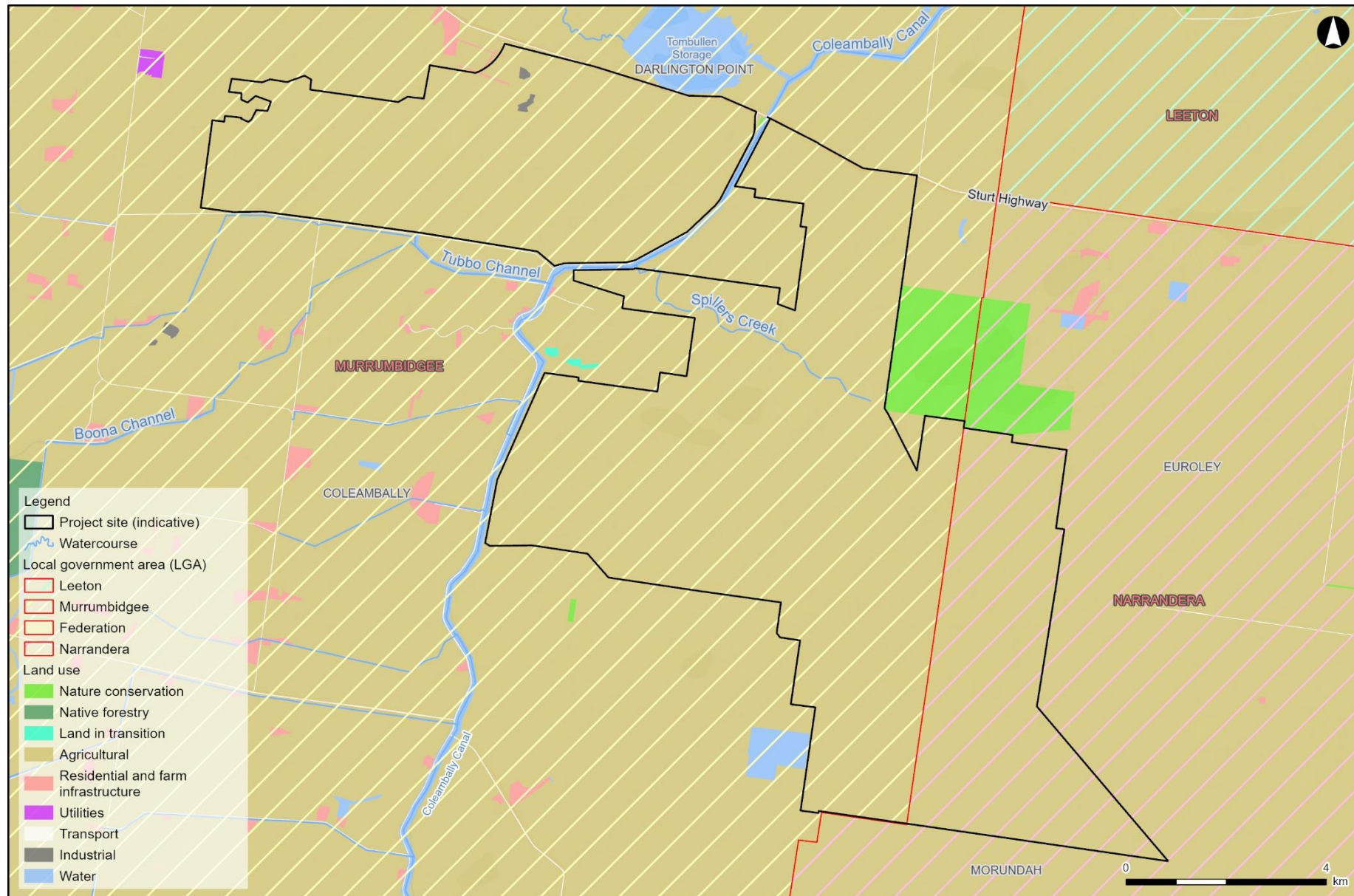


Figure 2-3: Land uses within the Project site

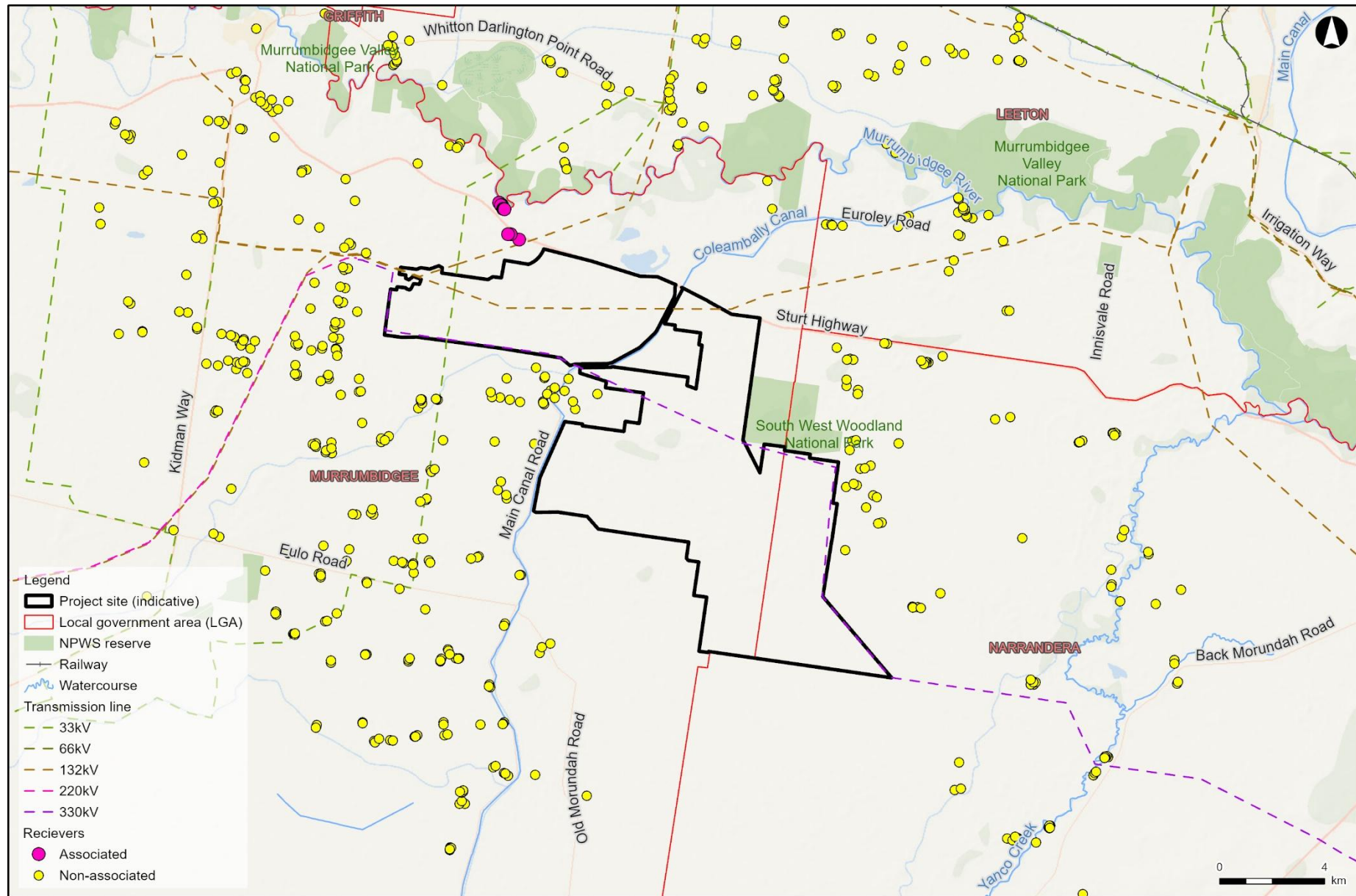


Figure 2-4: Nearby receivers

2.2.3 Environmental risks and hazards

Wind farm developments are often located in rural areas, which typically result in changes to landscape character and may generate impacts from construction and/or operation. Key environmental risks or hazards include biodiversity, noise and vibration, landscape and visual, and social aspects. Key potential environmental and social impacts and risks for the Project have been assessed in Chapter 6.

All environmental risks and hazards would be considered and mitigated as part of the Project design and will be assessed as part of the EIS.

2.3 Regional context

The Project would be located approximately 30 km from the South West REZ, which is a designated area of focus for large-scale renewable energy projects. The South West REZ, along with other existing and proposed renewable energy developments in the region, has the potential to contribute to cumulative impacts in certain locations when considered collectively.

Figure 1-1 provides an overview of the regional context including renewable energy projects in the Riverina Murray region. Approved and proposed renewable energy projects within 50 km of the Project (based on publicly available information at the time of this report) are outlined in Table 2-2.

Table 2-2: Surrounding renewable energy projects

Project	Application	Status	Indicative distance from Project (km)
Darlington Point Solar Farm	SSD-8392	Operational	1
Devlins Bridge Wind Farm	SSD-76610458	Preparing EIS	1
Yarrabee Solar Farm	SSD-9237	Approved	1
Woodland Battery Energy Storage System (BESS)	SSD-30526266	Approved	4
Boags Creek Solar Farm	SSD-74997474	Preparing EIS	5
Coleambally Solar Farm	SSD-8208	Operational	15
Comet Park BESS	SSD-76008209	Preparing EIS	19
Coleambally BESS	SSD-23368211	Approved	19
Yanco BESS	SSD-67478479	Approved	20
Yanco Solar Farm	SSD-9515	Approved	20
Narrandera Solar Farm and BESS	SSD-102673712	Planning	29
Avonlie Solar Farm and BESS	SSD-9031	Operational	33
Griffith BESS	SSD-85372970	Planning	37
Griffith Solar Farm	SSD-6604	Operational	38
Riverina Solar Farm	SSD-7482	Operational	39
Dinawan Wind Farm	SSD-50725708	Planning	45
Sandigo Solar Farm and BESS	SSD-8872	Approved	48
Dinawan Solar Farm and BESS	SSD-50725959	Planning	49

These projects, combined with the Banandra Wind Farm, may result in cumulative impacts on environmental, social, and economic factors within the region. Additionally, it is anticipated that further renewable energy projects, which are not yet publicly disclosed or known at the time of this report, may be proposed in the region in the future.

Given the increasing number of renewable energy developments in the region, the potential for cumulative impacts will require thorough and detailed consideration during preparation of the EIS for the Banandra Wind Farm. The cumulative impacts assessment will be guided by the *Cumulative Impact Assessment Guidelines* (DPIE, 2022a) and will consider factors such as overlapping environmental impacts, regional socio-economic changes, and infrastructure requirements.

The approach to assessing cumulative impacts for the Banandra Wind Farm is further detailed in Section 6.11 of this report.

2.4 Planning and other agreements

Residential and non-residential receivers located on land where the owner hosts Project infrastructure or has entered into an agreement with the Proponent are referred to as associated receivers. All other residential and non-residential receivers are referred to as non-associated receivers.

An agreement is proposed with the occupants of the host receiver within the Project site. At this stage, no other agreements have been entered into with neighbouring properties or other groups. The Proponent may seek to enter into agreements in consultation with nearby neighbours, or if relevant EIS assessments identify that relevant impact criteria cannot be met at non-associated receivers.

Associated and non-associated landholders within and surrounding the Project site are shown on Figure 2-4.

Squadron Energy is committed to ensuring there are local benefits as a result of the Project and will continue to consult with landowners, Murrumbidgee Council, Narrandera Shire Council, and the local community throughout development of the EIS. Agreements may relate to the funding of infrastructure, road upgrades or items to support local communities to ensure there are local benefits as a result of the Project.

2.5 Project Justification

Over the past 10-15 years, there has been a steady increase in the number of renewable projects that are generating electricity for use in the NEM, while more of the older coal fired power stations have been retired and decommissioned. This transition from thermal generation to renewable generation is planned to continue.

The Project is justified because it:

- Conforms with the strategic and regional context
- Would be located approximately 30 km from the South West REZ, benefiting from transmission infrastructure established to support renewable generation in the region, adding to the benefits predicted from the REZ Access Scheme
- Is suitably sited in a region with ideal climatic and physical conditions for large-scale wind energy generation
- Is close to existing or proposed transmission line infrastructure providing a connection to dispatch electricity to the NEM
- Would generally be compatible with existing agricultural land uses
- Is strategically located to minimise the number of nearby receivers
- Would create employment opportunities and benefits to the local and regional economy.

3 The Project

3.1 Project components

The Project includes the installation, operation, maintenance and decommissioning of up to 93 wind turbine generators (WTG), a substation (including a switching substation) and associated ancillary and temporary infrastructure. The Project will have a capacity to generate approximately 558 MW of electricity.

The power generated by the Project (from the WTGs) would feed into the electricity grid (NEM) via direct connection to the 330 kV Transmission Line Darlington Point to Wagga Wagga.

The indicative Project components are provided in Table 3-1 and the Preliminary Project layout is shown on Figure 3-1. Refinement of the Project components and layout will continue during the EIS as potential environmental, social and amenity impacts are identified. The key principals to avoid, minimise, mitigate or offset potential impacts are described in Section 1.5 that will apply to the Project and have done so since Project conception which includes our iterative and flexible approach to design that identifies and adopts a hierarchical response for the protection of environmental values. Evidence of this design approach to date is provided in Section 3.8.3.

Table 3-1: Indicative Project components

Project component	Approximate dimensions	Quantity
Wind turbine generators (WTG)		
WTG height	Up to 270 m	Up to 93
Tower (hub) height	Up to 185 m	
Rotor diameter	Up to 200 m	
WTG foundations (excavation size)	35 m diameter	
Ancillary infrastructure		
Blade laydown (co-located)	25(W) x 105(L) m	Up to 93
WTG hardstands	60(W) x 200(L) m	Up to 93
Internal roads (including drainage)	6.5 m wide (subject to construction requirements)	To be determined
Substation	260 m x 200 m including an Asset Protection Zone	1
Switching Yard	Area TBC	1
Operation and maintenance compound	150 m x 150 m	To be determined
Transmission lines (overhead / underground)	Overhead up to 60 m wide easement Underground 3.5 m wide easement per cable	To be determined
Permanent meteorological masts	Up to 170 m	Up to 6
Telecommunication facilities, utility services and external road upgrades	Subject to detailed design	To be determined

Project component	Approximate dimensions	Quantity
Temporary facilities		
Site compounds and offices, laydown areas (including equipment, stockpile and material storage), concrete (or asphalt) batching plants, rock crushing facilities and temporary access roads	Variable. Subject to detailed design and located within the Development corridor. Hardstands will be sized appropriately based on engineering and Safety in Design requirements	To be determined
Temporary meteorological masts	2 x 160 m	Up to 2 campaigns
Temporary workers accommodation	Requirements to be assessed during the EIS based on workforce strategy and baseline accommodation assessment	To be determined

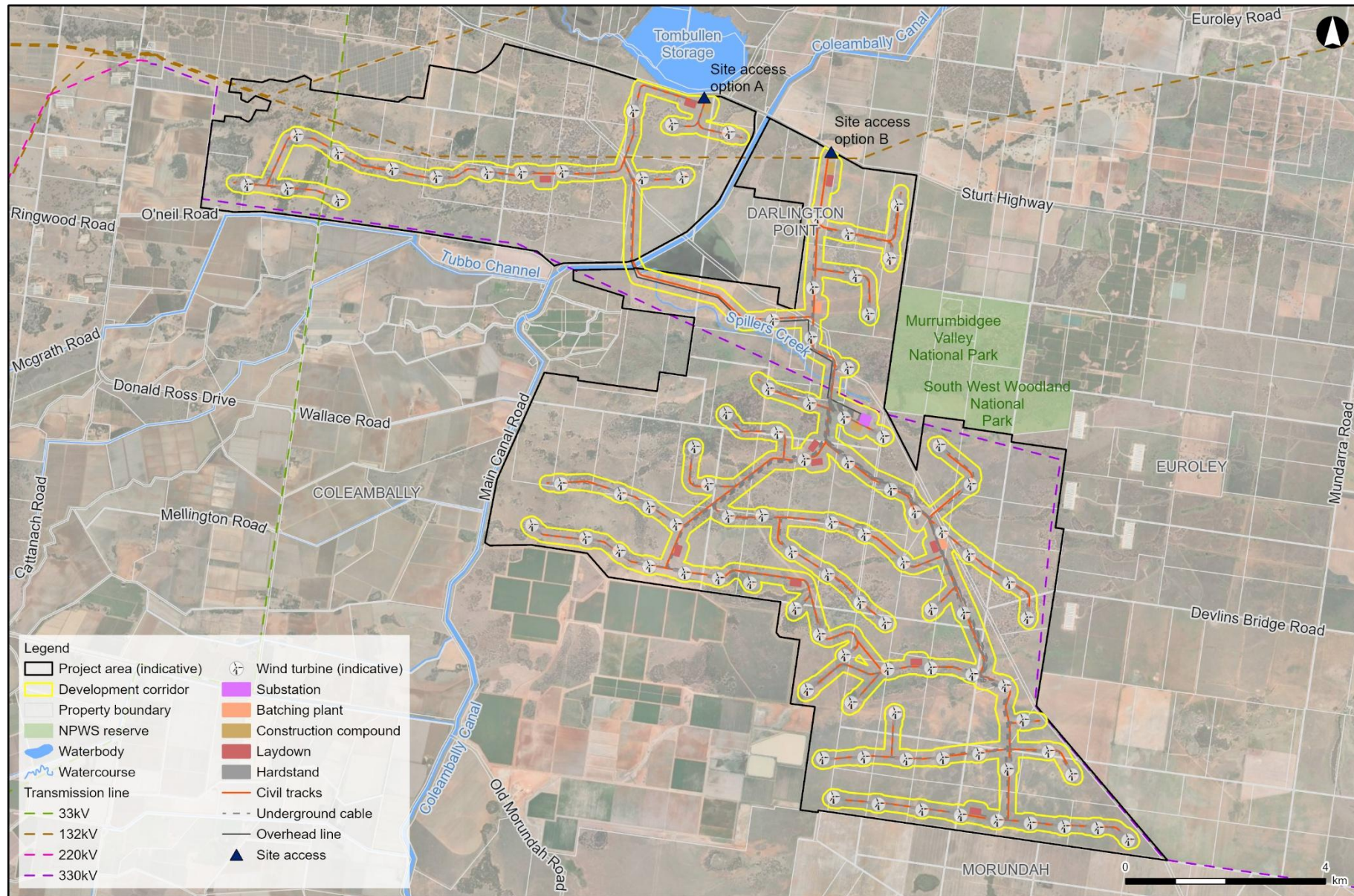


Figure 3-1: Preliminary Project layout

3.1.1 Wind turbine generators (WTG)

The key components of a WTG are described in Table 3-2 and shown in Figure 3-2. The WTGs will be three-bladed with the rotor and nacelle mounted on a tower with an internal ladder or lift.

Table 3-2: WTG components

WTG component	Description
Design height	WTG designs continue to evolve, with a trend towards larger WTG. At the current scoping stage, the Project has been designed to accommodate WTGs of up to 270 m in height. Final numbers and power output will be dependent on the final geographic footprint as well as outcomes of the various engineering, environmental and social studies and is subject to change. Any changes to the design height will be assessed as part of the EIS, with a final height proposed for approval.
Foundation	Two types of foundation for the WTG may be required for the Project; pending geotechnical investigation of the ground conditions across the Project site. This may include slab (gravity) foundations or rock anchor foundations.
Towers	The supporting tower structure of a WTG is typically comprised of a reducing cylindrical tower made from either a welded steel shell, concrete, or a concrete steel hybrid, fitted with an internal ladder and lift.
Nacelle	The nacelle is the housing constructed of steel and fibreglass that is mounted on top of the tower and is typically around 15 – 18 m long, 4.5 m high and 4.5 m wide (depending on the WTG model). It encloses the gearbox, generator, transformers (WTG model dependant), motors, brakes, electronic components, wiring and hydraulic and lubricating oil systems. Weather monitoring equipment located on top of the nacelle will provide data on wind speed and direction for the automatic operation of the WTG. Obstacle hazard lighting, if required, would be installed to the top of the nacelle.
Rotor	The WTG rotor drives the generator within the nacelle producing electrical output. In general, a larger rotor enables greater generation capacity, however site-specific wind conditions influence the rotor selected for installation at any given wind farm.
Blades	WTG blades are typically made from glass fibre reinforced with epoxy or plastic and are attached to a steel hub and includes lightning protection inside the blade.
Generator transformer	WTGs produce electricity at low voltage which is then stepped up to medium voltage (33 kV or greater) by a transformer located in either the nacelle, within the base of the tower, or adjacent to the base of the tower on a concrete pad. The footprint of the transformer is small as it would sit on the WTG footing and/or the hardstand assembly area.

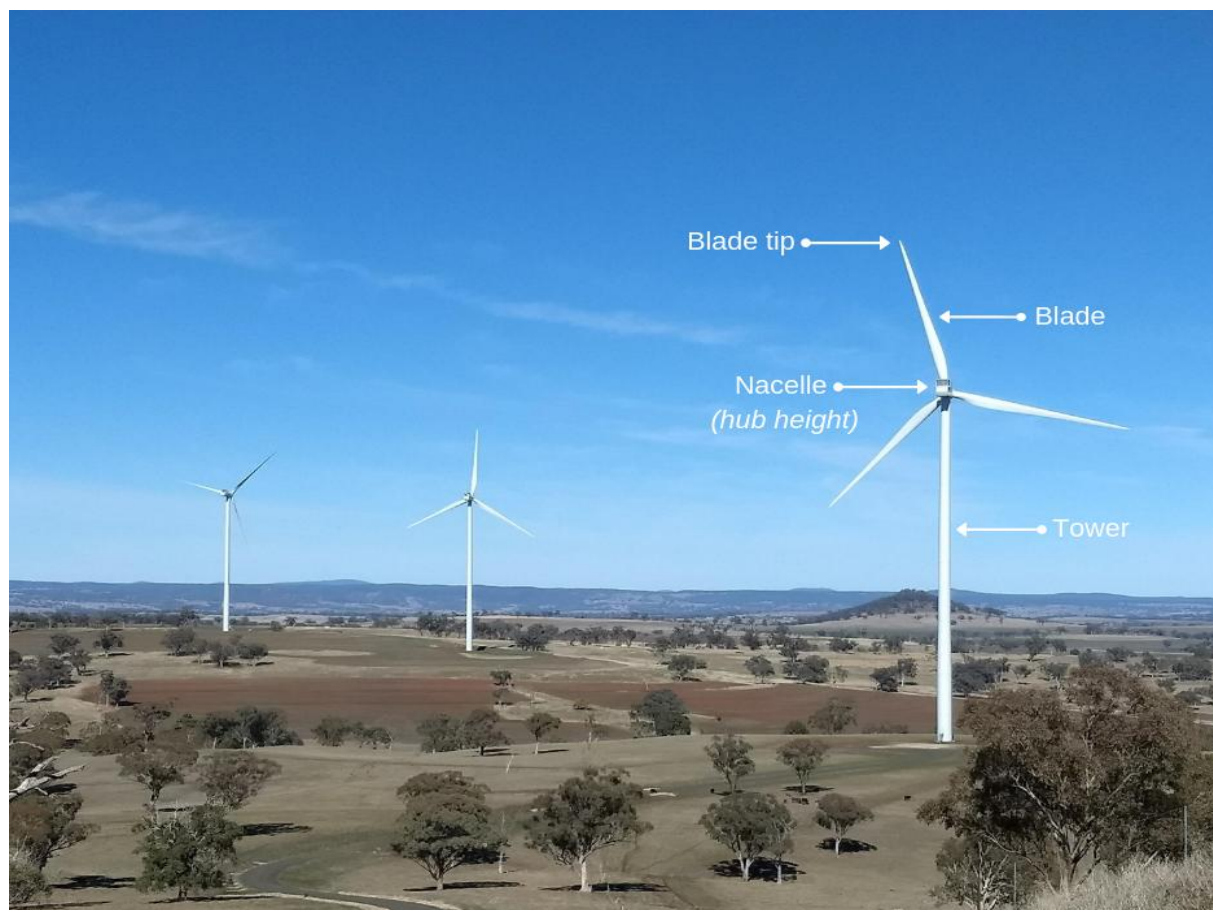


Figure 3-2: Components of a wind turbine generator as shown at Sapphire Wind Farm

3.1.2 Other permanent ancillary infrastructure

Other permanent ancillary infrastructure necessary for the operation of the Project is described in Table 3-3.

Table 3-3: Permanent ancillary infrastructure

Permanent ancillary infrastructure	Description
WTG hardstands	Hardstands are required adjacent to each WTG location for the assembly, erection, maintenance, repowering and/or decommissioning activities. Hardstands will be compacted to meet load bearing capacities, surfaced with pavement material if required and maintained throughout the construction and operational life of the Project.
Internal roads and drainage	Internal roads will be established within the Project site for the construction, operation, repowering and/or decommissioning of the Project. These would provide access from the public road to the WTGs, substations, and other permanent and temporary facilities. Design to date has considered the following: • Setback distance of minimum 20 m from landowner minor infrastructure • Setback distance of minimum 300 m – 2 km from landowner yards and dwellings • Avoidance of high value biodiversity impacts from preliminary biodiversity assessment including NSW Biodiversity Values mapped Plains Wanderer habitat, suitable Superb Parrot habitat and high value woodland regions • Avoidance of waterways and dams within the Project
Electrical plant compounds	Area containing substation and/or switching station.

Permanent ancillary infrastructure	Description
Transmission lines	Underground and overhead cabling will be required to electrify the Project. These will be installed via trenching for underground designs or via poles and stringing for overhead designs.
Public road upgrades	Subject to WTG selection and a review of the available transport routes for Oversize Overmass (OSOM) vehicles, external road upgrades may be required. Construction resources required for the Project may be sourced from local suppliers and may require the use of alternate public roads/routes including for general site access. The routes used to move the resources through the surrounding towns and road network (and access the site) will be along the permitted standard heavy vehicle road network where feasible, or alternatively along routes subject to an endorsed Traffic Management Plan.
Substation	Substations include the infrastructure required to collect the internal electrical reticulation to increase the voltage for transmission to connect to the grid, and the infrastructure to physically connect to the grid (switching station). The typical substation arrangement will include step-up transformers, an array of cable marshalling, busbars, switchgear and protection, various voltage and current transformers, operation and facilities building with parking, communication facilities and tower, diesel generator, lighting, a buried earth grid, lightning masts, power conditioning equipment, a reactive power control system, and network support equipment as agreed with Transgrid. A switching station achieves the same purpose but contains far less surface infrastructure.
Operation and maintenance (O&M) compound	One or more permanent O&M compounds will be established for the day-to-day operation of the Project. Each O&M compound may include lay down areas, site operations facilities and services buildings, workshop, storage, parking and other facilities for operations staff.
Permanent meteorological masts	Meteorological masts, up to hub height of the WTGs, will be installed on-site (final quantity subject to AEMO requirements relative to final to-be-constructed wind farm layout). The purpose of these masts is to aid in performance monitoring of the WTGs. The permanent meteorological masts would be of a guyed, narrow lattice or tubular steel design.
Telecommunication facilities	Telecommunications facilities providing for transmission of voice, data, image, graphic and video information are proposed to be installed on site at standalone locations or onto wind farm infrastructure such as permanent masts.
Utility services	The Project would be connected to Transgrid's transmission network and when not generating will draw a small amount of electricity from the grid. Backup and emergency power at the substations may be supplied by the local distribution line, on-site batteries and/or a standalone diesel generator. Two separate and independent telephone communications facilities (optic fibre and microwave) will be required to be installed between the substations to enable safe remote monitoring and control of the Project. Operational water requirements will be provided to the proposed facilities and auxiliary services building from a storage tank designed to collect water from roof drainage and augmented by potable water delivered by tankers. An approved septic system or composting system will be installed to treat minor quantities of wastewater, subject to securing the relevant authorisation. Other waste will be classified and removed from the Project site to an approved facility (landfill, recycling etc).

3.2 Project site

The Project site incorporates all project elements and ancillary infrastructure within a conservative boundary for scoping. It includes a broad buffer to accommodate design flexibility and further micro-siting during the EIS. The Development corridor, to be refined during the EIS, allows for the optimal placement of infrastructure while applying necessary setbacks and consideration of environmental constraints having regard to conceptual civil and electrical design specifications and constructability.

The Disturbance footprint will be determined within the Development corridor during detailed design and will be subject to all required assessments and approvals presented as part of the Project's EIS. At this stage the Preliminary Project layout is based on turbine siting and has been provided to guide scoping-based assessments and future design to inform EIS related studies. The application will seek approval for surface disturbance anywhere within the Development corridor to provide the flexibility for the detailed design of the project footprint, while allowing a detailed environmental assessment process to be completed with relevant constraints avoided and setbacks applied in relation to the corridor bounds. Temporary and permanent meteorological masts may be located outside of the Development corridor.

3.3 Project phases and timing

Construction works will commence as soon as practicable following Project approval and secondary approvals, contractor selection, detailed design, procurement processes and a final investment decision. At this stage, construction is estimated to commence in 2030.

Squadron Energy proposes to construct the Project as a single stage of development; however this would be subject to ongoing review depending on factors such as grid connection capacity. An overview of the overarching Project phases and timing is provided in Table 3-4.

Table 3-4: Project phases and timing

Project phase	Status and timing estimate
Planning and approvals	In progress, aiming to be completed in 2029
Construction and commissioning	Commencing in 2030 for a period of up to 24 months
Operation and maintenance	Planned to operate in 2032 with an estimated operational life of 30 years
Decommissioning	At the end of its operational life

3.4 Construction

The key construction facilities and activities are described in Table 3-5.

Table 3-5: Construction facilities

Key construction facilities	Description
Workers accommodation	A detailed workers accommodation strategy will be developed as part of the EIS. Accommodation options are essential to support every stage of the Project, including during early works, with the peak requirements during the main construction phase. The accommodation strategy would review existing availability in the context of the Project's construction phases. This will include consideration of: • Fly camp (for site establishment activities) • Off-site; a) lease or b) purchased land

Key construction facilities	Description
	- Off-site updates of existing facilities and - Off-site local real estate and other commercial accommodation. No on-site options are available following consultation with the host landowner. New workers accommodation will involve built form and a dedicated effluent disposal location that satisfies safety in design and union requirements based on the proposed construction workforce of approximately 600 FTE peak. Minimum inclusions comprise rooms with ensuites, amenity facilities, office administration, meeting areas and kitchen/dining services. It will be designed, dependent on location, to be fully self-sufficient or connected to public utilities.
Site compounds and offices, including amenities	The construction phase will require temporary infrastructure such as portable offices, hygiene facilities and parking bays within temporary site compounds or co-located with substations or other permanent infrastructure. Temporary construction compounds will be typical of that used at construction sites. (Similar infrastructure may be required during major maintenance activities during operations and during decommissioning.)
Laydown areas (including areas for equipment, stockpile and material storage)	Laydowns areas will be set out to maximise construction efficiencies and minimise waste being exported from the Project site. These areas will most likely be co-located with permanent and ancillary infrastructure as required. Laydown areas would be generally used for: - Material and equipment storage - Stockpiling excess soils for reuse, steel or timber for tower or pole construction, vegetation matter or essential commodities (e.g. Water and quarry products) requirements - Work areas to construct watercourse crossings for internal roads/cablings - Truck turnarounds.
Construction / material resources	Water and quarry materials will be required for construction. The Project will seek to mitigate impacts to existing supply chains and reduce off-site haulage by using on-site water and quarry materials sources. This will be based on project construction water and quarry material demands derived from design, and will be subject to feasibility investigations including: - Assessment of the infrastructure, capacity suitability and access, for surface water and groundwater to source water on site - Geotechnical investigations (desktop or site based) on the capacity, quality specifications and access, to source quarry materials on site. There may be one or more water supply points within the Project site. A water supply point will likely include an access track and turnaround, fill point (bore for groundwater or pump for surface water), with a standpipe. Temporary storage (tanks or ponds) or existing on-site storages may be used, facilitated by a network of pipes and pumps. A containerised water treatment may be installed if required based on the suitability of the water for the end use. The requirements for quarry materials will be based on cut and fill earthwork calculations, pavement and foundation designs. It is likely that these materials will be sourced from one or more excavations or cuts ('borrow pits'). The borrow pit(s) will include a crushing and screening plant, stockpiling, testing facility and a drainage system. The preferred water and quarry material sources (on-site and/or off-site) will be determined based on feasibility investigations and stakeholder engagement relating to potential on-site and off-site sources. The EIS will describe the preferred sources of water and quarry materials and will assess the potential positive and negative impacts of extraction and use of these resources.
Concrete (asphalt) batching plants with rock crushing facilities	Temporary rock crushing, and concrete or asphalt batching plants, will be used to produce material for WTG foundations and ancillary infrastructure in accordance with quality specifications.
Other	Security fencing, lighting, signs and temporary meteorological masts will be required.

3.4.1 Transport and access

Access to the Project site is anticipated to be via the Sturt Highway and local roads, with possible upgrades to public roads for accommodating OSOM vehicles. Preliminary transport route studies have been assessed for potential ports of entry including Port Kembla, Port of Newcastle, Port of Geelong and Port Adelaide. It is anticipated that access to the Project site will be from the Sturt Highway. A preferred option using an existing intersection has been identified. Transport routes will be determined in the EIS, with a Traffic Management Plan developed as required.

Procurement of resources required for the Project may be sourced from suppliers local to the Project and may require the use of public roads. The routes used to move the resources through the surrounding towns and road network will be along the major road network and standard heavy vehicle road network, or alternatively along routes permitted.

Minor temporary construction roads, tracks, or even light vehicle movements may be required to facilitate site access for light vehicles and OSOM vehicles to the Project including the erection of/access to overhead transmission lines, work front construction and maintaining environmental management measures and monitoring.

3.5 Commissioning

The commissioning phase marks the transition from construction to operational readiness. This process encompasses a series of grid and regulatory tasks required to energise and connect the new infrastructure to the external power network. Commissioning is a progressive activity, beginning with the substation and advancing to individual WTGs.

During commissioning, turbines are started up and shut down according to a Commissioning Plan approved by both the AEMO and the relevant Network Service Provider (NSP). Notably, commissioning overlaps with the latter stages of construction, as infrastructure elements are tested and brought online incrementally.

For environmental compliance purposes, commissioning officially begins when the first group of turbines is energised, and their operational functions are verified in accordance with the approved plan. The completion of commissioning is signified by the transition of the wind farm into its operational phase, subject to AEMO approval, which also marks the point at which ongoing environmental compliance obligations for operational activities take effect.

Prior to commissioning, a pre-commissioning phase is undertaken. This stage includes a range of checks to ensure:

- The WTG controllers were successfully equipped with necessary programs
- WTG controllers' parameters are set-up to run in accordance with the local grid specifications
- All mechanical parts and electrical equipment are functioning normally
- Setup of the protection settings for circuit breakers and check against WTG parameters
- All sensors are communicating correctly and normally with the WTG controllers
- All electrical motors are functioning and operational.

This pre-commissioning phase is part of the installation of components of the wind turbines and usually occurs or is planned to occur prior to the full commissioning checks and commissioning. The extent that some turning of turbines occurs in this pre-commissioning phase is limited. No WTGs would be connected to the grid in this pre-commissioning phase, and are therefore not deemed to be commissioned for the purpose of environmental compliance with operational requirements.

3.6 Operation

Once complete, the Project will operate 24 hours per day, seven days per week with the operations. The maintenance team would attend site during standard working hours, unless responding to an alarm, fault, or undertaking major maintenance works. Ongoing monitoring and maintenance would be required, including maintenance of the WTGs, associated infrastructure, vegetation, and internal access tracks. It is expected that the Project would operate for up to 30 years dependent on the project's asset management strategy.

3.7 Decommissioning and rehabilitation

Decommissioning and rehabilitation occur in two stages:

- Progressive (post construction) and
- Final (end of life).

Progressive decommissioning and rehabilitation of any temporary facilities not required for operations will be addressed in construction management plans.

End of life planning will either involve extension, 're-powering' or deconstruction/decommissioning. Before this time, the Proponent may consider re-permit and repowering, or decommissioning individual WTGs based on equipment performance, equipment condition and commercial viability.

A conceptual decommissioning plan will be presented as part of the EIS submission to describe the final decommissioning and rehabilitation approach that forecasts technological advances, regulatory changes and escalating costs.

3.8 Project alternatives

3.8.1 Do nothing

The 'do nothing' scenario would result in the continued use of the Project site for agricultural production and prevent any new development of renewable energy infrastructure at this location. This would forgo opportunities to provide renewable energy, grid stability, and economic benefits to the region, and would not contribute to decarbonisation or government renewable energy targets.

3.8.2 Alternative site

Alternatives to the Project site were considered as part of the site identification process, including other potential sites within NSW. The following factors were specifically considered:

- Landowner appetite for hosting project infrastructure
- A good wind resource
- Flat topography and land area available to microsite infrastructure and avoid constraints (subject to further assessment)
- Proximity to existing transmission infrastructure to facilitate efficient grid connection
- Adequate distance from sensitive receivers, such as residential dwellings and environmentally sensitive areas.

Other sites in the region did not provide the same strong combination as part of portfolio optimisation. The Project site was therefore selected as the preferred location and internal investment approved for advancing the project following diligent governance processes.

3.8.3 Preferred option and alternative layouts

The Preliminary Project layout has gone through many changes since the Project's inception. Environmental, civil constructability, and social constraints have been, and will continue to be, key considerations during the refinement of the Project.

The steps involved to reach the current layout are listed below:

1. Created an inclusion area within the Project site that considers all known constraints including (but not limited to):
 - Excluding high value biodiversity impacts from preliminary biodiversity assessment including NSW Biodiversity Values mapped Plains Wanderer habitat, suitable Superb Parrot habitat and high value woodland regions
 - Setback minimum distance of 500 m from the adjacent Murrumbidgee Valley National Park
 - Setback minimum distance of 300 m from existing transmission line easements
 - Setback minimum distance of 2 km from non-associated receivers
 - Detailed analysis and setback from Australian Communications and Media Authority Frezel zone
 - Setback from waterways and dams within the Project
 - Setback distance of 300 m from local roads
 - Setback distance of 300 m from property boundaries
 - Excluding landowner infrastructure. Setback distance of between 150 m – 2 km were applied for minor infrastructure to sheering sheds and homesteads.
2. The WTG layout for energy production has been optimised. This is calculated by inputting the known wind resource and wind turbine spacing into a computer model and running iterative calculations to maximise the capacity of the wind farm to produce energy within the inclusion area. This produced an initial layout with 132 WTGs with a 300-m tip height.
3. Optioneering with different WTG models to establish the Project with turbine model flexibility. This produced a layout of 100 WTGs with a 300-m tip height.
4. Micrositing of eight WTGs up to 320 m to avoid heavily vegetated areas.
5. Moving 36 WTGs west to accommodate a proposed substation location, currently in electrical design.
6. Analysis to understand appropriate turbine sizing and impacts to the community based on visual impacts. The turbine tip height was reduced to 270 m.
7. Assessment of each WTG location with respect to noise impacts to non-associated residences. As a result of this, some WTGs were relocated, and 100 WTGs remained in the current layout.
8. Review of Safety in Design increased the setback distance from the Sturt Highway to 600 m.
9. Applied setback minimum distance of 500 m to Tombullen Storage north of the Project and minimum distance of 200 m from Essential Energy transmission infrastructure.
10. Removal of turbines with noise exceedance of >35dB. Seven WTGs were removed, producing a current scoping layout of 93 WTGs.

The current layout represents a balance between maximising renewable energy generation and minimising environmental and social impacts. It optimises the use of land with lower environmental value, aligns infrastructure along existing tracks where possible, and incorporates best-practice avoidance measures.

The layout will continue to be further refined through the EIS process, informed by the outcomes of technical studies and ongoing stakeholder engagement.

4 Statutory context

Legislation that is relevant to the Project has been included in Table 4-1. The relevant statutory requirements for the Project would be outlined in further detail in the EIS.

Table 4-1: Statutory requirements for the Project

Matter	Requirements for the Project
Power to grant consent	<i>Environmental Planning and Assessment Act 1979 (EP&A Act) and Environmental Planning and Assessment Regulation 2021 (EP&A Regulation)</i> The EP&A Act and the EP&A Regulation are the primary pieces of legislation that regulate land use planning and development assessment in NSW. This legislation is supported by a range of environmental planning instruments, including State Environmental Planning Policies (SEPP) and Local Environmental Plans (LEP). Part 4 of the EP&A Act establishes the framework for assessing development that is permissible with consent. Section 4.36(2) provides for the declaration of a project as SSD: <i>(2) A State environmental planning policy may declare any development, or any class or description of development, to be State significant development.</i> Clause 2.6 of the <i>State Environmental Planning Policy (Planning Systems) 2021</i> (Planning Systems SEPP) states that development is declared SSD for the purposes of the EP&A Act if: <i>(b) The development is specified in Schedule 1 or 2.</i> Schedule 1, Clause 20 of the Planning Systems SEPP determines 'electricity generating works' to be SSD if it meets the following criteria: <i>'Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that:</i> <i>(a) has a capital investment value of more than \$30 million, or</i> <i>(b) has a capital investment value of more than \$10 million and is located in an environmentally sensitive area of State significance'</i> The Project is a development for the purpose of electricity generating works and exceeds the threshold for SSD with a capital investment value of more than \$30 million. Under Section 4.5 of the EP&A Act the consent authority for SSD is the Minister for Planning. The Minister for Planning has issued a general delegation of the consent authority function for SSD projects to the Independent Planning Commission in instances where more than 50 public objections are received on the application, the applicant has made a reportable political donations disclosure and/or if either Murrumbidgee or Narrandera Councils object to the Project.
Permissibility	<i>Murrumbidgee Local Environmental Plan 2013 (Murrumbidgee LEP 2013) and Narrandera Local Environmental Plan 2013 (Narrandera LEP 2013)</i> The Project is zoned as RU1 Primary Production under both the Murrumbidgee and Narrandera LEPs, where "electricity generating works" are permissible with consent, supported by Clause 2.36(1)(b) of the <i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i> (Transport and Infrastructure SEPP). <i>State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP)</i> • Clause 2.36(1)(b) of the Transport and Infrastructure SEPP states that development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed rural, industrial, or special use zone (i.e. a non-residential zone). The Project site is zoned RU1 (Primary Production) under both LEPs and is a prescribed rural zone. Therefore, the Project is permissible with consent.

Matter	Requirements for the Project
	• Clause 2.7(1) of the Transport and Infrastructure SEPP states that the provisions of the Transport and Infrastructure SEPP prevail where there are inconsistencies with any other Environmental Planning Instruments, including LEPs. Due to Clause 2.36(1)(b) and Clause 2.7(1) of the Transport and Infrastructure SEPP, the Project is permissible with development consent. • Clause 2.42 of the Transport and Infrastructure SEPP sets out provisions that the consent authority must have regard to when determining a development application for solar or wind electricity generating works on land in a regional city. A regional city means an area of land identified as “subject land” on the Regional Cities Map. The Project is not mapped on the Regional Cities Map. Accordingly, this provision does not apply to the Project. • Clause 2.48 of the Transport and Infrastructure SEPP sets out provisions related to electrical easements and power lines in which the consent authority must give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks and take into consideration any response to the notice that is received within 21 days after the notice is given. Clause 2.48(1a, 1b and 1d) are considered relevant to the Project, subject to EIS development.
Commonwealth approvals	<i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i> The Commonwealth EPBC Act establishes the Commonwealth’s role in environmental assessment, biodiversity conservation and the management of protected areas. Under the EPBC Act, a referral to the Commonwealth Department of Climate Change, Energy, Environment and Water (DCCEEW) is required for proposed ‘actions’ that have the potential to significantly impact on any Matters of National Environmental Significance (MNES) or the environment of Commonwealth land (including leased land). Current matters of MNES are: • World heritage properties • National heritage places • Wetlands of international importance (often called ‘Ramsar’ wetlands after the international treaty under which such wetlands are listed) • Nationally listed threatened species and ecological communities • Listed migratory species • Commonwealth marine areas • The Great Barrier Reef Marine Park • Nuclear actions (including uranium mining) • A water resource, in relation to coal seam gas development and large coal mining development. Due to the scale of the proposed Project and the MNES present in the Study area, it is likely that the Project will require referral under the EPBC Act to the Commonwealth DCCEEW. A search of the EPBC Act Protected Matters Search Tool (PMST) was undertaken on 12 February 2026. Forty-eight threatened species and seven TECs were identified in the PMST search as potentially occurring MNES in the Study area. This is discussed in more detail in Chapter 6.4. An EPBC Referral will be lodged to determine whether the Project requires formal assessment and approval under the EPBC Act as a controlled action or not. If the Project is determined to be a controlled action, it is proposed that the Project would be assessed under the bilateral agreement between the NSW and Commonwealth Government.

Matter	Requirements for the Project
	<i>Native Title Act 1993</i> An objective of the Commonwealth <i>Native Title Act 1993</i> is to recognise and protect native title. Section 8 states that the <i>Native Title Act 1993</i> is not intended to affect the operation of any law of a State or a Territory that is capable of operating concurrently with the Act. Searches of the registers maintained by the National Native Title Tribunal indicate there are no native title claims or any indigenous land use agreements registered with respect to land proposed for the Project. The local Aboriginal Land Council for the Project site is Griffith Local Aboriginal Land Council and Leeton and District Local Aboriginal Land Council. <i>Civil Aviation Act 1988</i> The primary aim of the <i>Civil Aviation Act 1988</i> is to establish a regulatory framework for maintaining, enhancing and promoting the safety of civil aviation. <i>Civil Aviation Regulation 1988</i> The regulation requires that obstacles with a height above 100 m at ground level (e.g. turbines and meteorological monitoring masts) are reported as tall structures for inclusion in the vertical obstacle database and on appropriate aeronautical chart. A detailed assessment in accordance with the regulations and consultation with the relevant agencies (Royal Australian Air Force (RAAF), Civil Aviation Safety Authority (), National Agricultural Aviation Association) will be undertaken as part of the preparation of the EIS. Reporting of tall structures to the RAAF is required under the <i>Civil Aviation Regulations 1988</i>. If an activity poses a risk to aircraft operations within a certified aerodrome, an Air Space Change Process will apply.
Other approvals	<i>Crown Land Management Act 2016</i> Authority to use, traverse, access or build infrastructure on Crown land and roads is required under the <i>Crown Land Management Act 2016</i> and/or the <i>Roads Act 1993</i>. Preliminary searches indicate parcels of Crown land to be present adjacent to the Project site. Consultation with NSW Crown Lands would occur during development of the EIS and should any works be proposed in these areas an approval would be obtained. <i>Protection of the Environment Operations Act 1997 (POEO Act)</i> Under Section 48 of the POEO Act, an Environment Protection Licence (EPL) from the NSW Environmental Protection Authority (EPA) is required for scheduled activities listed in Schedule 1. Schedule 1, Clause 17 of the POEO Act includes “electricity works (wind farms)” as a scheduled activity. Accordingly, an EPL will be required for the Project. Additional EPLs required for construction elements will be identified as part of constructability reviews and recorded in the EIS, for example crushing/grinding/separating or extractive activities dependent on thresholds or road construction. <i>Roads Act 1993</i> An approval is required under Section 138 of the <i>Roads Act 1993</i> to permit the erection of a structure or carry out work in, on or over a public road. This approval would be obtained prior to the commencement of relevant works. Any road upgrades required for the Project and impact assessment of the upgrades would be assessed and identified in the EIS. <i>Water Management Act 2000</i> Any person or organisation, including a local water utility, taking water from a water source must be authorised to take water by a water access licence and a water supply work approval under section 60A of the <i>Water Management Act 2000</i> unless an exemption applies. Water access licences may be required for the Project. Water sources for construction and operations would be identified and quantified within the EIS. Detailed investigations would be carried out as part of

Matter	Requirements for the Project								
	the EIS to determine whether the Project would impact on aquifers or groundwater. Relevant licence and approvals would be obtained prior to the commencement of construction. <i>Conveyancing Act 1919</i> <i>Lease of Premises - Turbines</i> The Project would require a lease from the owners of the Project land. Lease of a wind farm site is treated as a lease of premises regardless of whether the lease would be for more or less than 25 years. Subdivision consent is not required under Section 23G of the <i>Conveyancing Act 1919</i>. Separate leases will be entered into for each registered proprietor. However, if a registered proprietor owns more than one lot which the Project will affect, only one lease is required to cover the multiple lots owned by that registered proprietor. <i>Lease of Premises - Substation</i> The Project will require a lease from the owner of the Project land which the substation is situated or to subdivide and purchase the land. Electrical substations are treated as premises rather than fixtures due to the substantial and permanent nature of their construction. Either a lease of premises together with rights of access or an easement over the substation site together with rights of access will be entered into.								
Approvals not required for SSD	In accordance with Section 4.41 of the EP&A Act, some environmental planning legislation does not apply to SSD projects, meaning that these separate planning approval processes do not apply to SSD projects providing the impacts have been assessed and approved under the SSD development consent. The approvals that do not apply are listed in Table 4-3. <i>Table 4-2 Approvals not required under Section 4.41 of the EP&A Act</i> <table> <tr> <th>Approval</th><th>Discussion</th></tr> <tr> <td>A permit under section 201, 205 or 219 of the <i>Fisheries Management Act 1994</i></td><td> The Project may require work near or within watercourses to facilitate the upgrade of internal road crossings or establish new crossings of mapped watercourses within the Project site. These works will be undertaken in accordance with the <i>Controlled Activities – guidelines for Riparian Corridors on Waterfront Land</i> (DPE, 2022) and <i>Guidelines for watercourse crossings on waterfront land</i> (DCCEE, 2024). The methodology proposed for the Biodiversity Development assessment report (BDAR) assessment and water assessment is outlined in Section 6.4 and Section 6.9. </td></tr> <tr> <td>An approval under Part 4, or an excavation permit under section 139, of the <i>Heritage Act 1977</i></td><td> The NSW State Heritage Inventory identifies the Project site as local heritage, Tubbo Station. The methodology proposed for the heritage assessment is outlined in Section 6.5. </td></tr> <tr> <td>An Aboriginal heritage impact permit under section 90 of the <i>National Parks and Wildlife Act 1974</i></td><td> A search of the Aboriginal Heritage Information Management System (AHIMS, conducted 5 February 2026) found 38 identified sites present on the Project site. The methodology proposed for the heritage assessment is outlined in Section 6.5. </td></tr> </table>	Approval	Discussion	A permit under section 201, 205 or 219 of the <i>Fisheries Management Act 1994</i>	The Project may require work near or within watercourses to facilitate the upgrade of internal road crossings or establish new crossings of mapped watercourses within the Project site. These works will be undertaken in accordance with the <i>Controlled Activities – guidelines for Riparian Corridors on Waterfront Land</i> (DPE, 2022) and <i>Guidelines for watercourse crossings on waterfront land</i> (DCCEE, 2024). The methodology proposed for the Biodiversity Development assessment report (BDAR) assessment and water assessment is outlined in Section 6.4 and Section 6.9.	An approval under Part 4, or an excavation permit under section 139, of the <i>Heritage Act 1977</i>	The NSW State Heritage Inventory identifies the Project site as local heritage, Tubbo Station. The methodology proposed for the heritage assessment is outlined in Section 6.5.	An Aboriginal heritage impact permit under section 90 of the <i>National Parks and Wildlife Act 1974</i>	A search of the Aboriginal Heritage Information Management System (AHIMS, conducted 5 February 2026) found 38 identified sites present on the Project site. The methodology proposed for the heritage assessment is outlined in Section 6.5.
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Matter	Requirements for the Project				
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Other relevant legislation and planning instruments	<i>Biodiversity Conservation Act 2016 (BC Act)</i> Part 7, Division 2 of the BC Act specifies the requirements for a biodiversity assessment depending on the planning pathway under the EP&A Act. If an activity is likely to have a significant impact, or will be carried out in a declared area of outstanding biodiversity value, the proponent must apply the Biodiversity Assessment Method (BAM) and must prepare a BDAR. A Preliminary Biodiversity Constraints Assessment has already been completed for the Site, providing a robust foundation for the BDAR. The preliminary assessment has identified key biodiversity constraints, mapped vegetation communities, and highlighted areas of high ecological value, including TECs and important habitats for threatened species. The BDAR will be prepared for the Project and will assess biodiversity offsets consistent with the Biodiversity Offset Scheme (BOS). The methodology proposed for the BDAR assessment is outlined in Section 6.4. <i>Biosecurity Act 2015</i> The <i>Biosecurity Act 2015</i> aims to protect natural resources from the adverse impact of pests, disease, weeds and contaminants on agricultural land and parks and reserves (such as those near to the site). All plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. During construction of the Project, any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable. The BDAR will assess for the presence of weeds on the Site. <i>Contaminated Land Management Act 1997 (CLM Act)</i> The CLM Act outlines the circumstances in which notification to the EPA is required in relation to the contamination of land. This may become relevant during construction of the Project if contamination is encountered. A public register of notifications under this Act is maintained. An assessment of contamination risk will be included in the EIS. <i>Waste Avoidance and Resource Recovery Act 2001 (WARR Act)</i> The WARR Act was established to promote waste avoidance and resource recovery. The Act encourages the most efficient use of resources to reduce environmental harm. Waste management and resource use for the Project will be carried out in accordance with the WARR Act. <i>State Environmental Planning Policy (Resilience and Hazards) 2021 (R&H SEPP)</i> R&H SEPP applies to any projects that fall under the policy's definition of 'potentially hazardous industry' or 'potentially offensive industry'. Certain activities may involve handling, storing or processing				

Matter	Requirements for the Project
	a range of substances which in the absence of locational, technical or operational controls may create a risk or offence to people, property or the environment. Such activities would be defined as potentially hazardous or potentially offensive. The Project is not considered to be a 'potentially hazardous industry' or 'potential offensive industry' under the R&H SEPP. Nonetheless, the EIS for the Project will include an assessment of potential hazards and risks associated with the construction and operation of the Project. Refer to Section 0.0.0 for more information. R&H SEPP Chapter 4 (Remediation of land) The R&H SEPP also provides a state-wide approach to the remediation of contaminated land for the purpose of minimising the risk of harm to the health of humans and the environment. In accordance with Chapter 4 (Remediation of land), a consent authority must not consent to the carrying out of development on any land unless: • It has considered whether the land is contaminated. • If the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or would be suitable, after remediation) for the purpose for which the development is proposed to be carried out. • If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied the land would be remediated before the land is used for that purpose. An assessment will be prepared to determine the potential contamination risk associated with the Project as described in Section 6.8. Noting the agricultural land use of the Project site, the assessment will take into consideration historical land use that may have resulted in contamination within and surrounding the Project site. State Environmental Planning Policy (Biodiversity and Conservation) 2021 (B&C SEPP) The B&C SEPP provides a framework for the regulation of the clearing of native vegetation in NSW. Murrumbidgee Local Environmental Plan 2013 (Murrumbidgee LEP) The relevant provisions of the Murrumbidgee LEP such as Clause 6.1 (Earthworks), Clause 6.3 (Terrestrial biodiversity), Clause 6.4 (Groundwater vulnerability), Clause 6.5 (Riparian land and watercourses) and Clause 6.6 (Wetlands) will be considered in the EIS as they relate to the Project. Narrandera Local Environmental Plan 2013 (Narrandera LEP) The relevant provisions of the Narrandera LEP such as Clause 6.1 (Earthworks), Clause 6.4 (Terrestrial biodiversity), Clause 6.5 (Groundwater vulnerability), Clause 6.6 (Riparian land and watercourses) and Clause 6.7 (Wetlands) will be considered in the EIS as they relate to the Project. Under Section 2.10 of the Planning Systems SEPP, it is noted that Development Control Plans do not strictly apply to SSD projects but may be considered on a case-by-case basis as appropriate during the EIS.
Pre-conditions to exercising the power grant consent	The preconditions to exercising the power to grant approval have been identified for the Project in this document. An EIS would be prepared in accordance with relevant legislative requirements and guidelines. The Project is permissible with landowners' consent.
Mandatory matters for consideration	The key Commonwealth, State and Local legislative and policy instruments applicable to setting the SEARS for the Project are identified throughout this table (Table 4-1). The relevant statutory requirements for the Project would be outlined in further detail within the EIS.

5 Engagement

5.1 Community and stakeholder engagement objectives

Squadron Energy is committed to undertaking genuine and meaningful community and stakeholder engagement and consultation for the Project. The communication and engagement objectives for the Project are to:

- Seek feedback from the local community regarding the proposed project and integrate this feedback into the project planning and design as far as possible
- Keep the community informed about the Project, its likely impacts, and likely benefits, through the provision of early, accurate and timely information
- Identify key stakeholders for further engagement and provide multiple opportunities and mechanisms for meaningful engagement with all stakeholders
- Understand the potential social impact of the project to inform and implement mitigation measures
- Ensure that the team developing the project fully understands the local context, including any local impacts that it may have or opportunities that it could provide
- Build and maintain Squadron Energy's social licence within the community.

Stakeholder engagement is carried out by the Banandra Wind Farm Project team, with input from Squadron Energy's Stakeholder Engagement team and supported by Squadron Energy's First Nations Engagement team. Squadron Energy considers it important that trusting relationships are developed between the people on the ground who are involved in the Project on a day-to-day basis, and the stakeholders that are part of, and connected to, their local community and region.

Squadron Energy begins with robust stakeholder mapping and analysis to understand the needs of the community and begins building relationships from Project inception. Squadron Energy builds on these relationships to maintain open and transparent communications with stakeholders throughout the Project lifecycle.

5.2 Community and stakeholder consultation

The key stakeholders identified from the stakeholder mapping analysis for the Project are outlined in Table 5-1.

Table 5-1: Identified stakeholders

Stakeholder Group	Stakeholders	Geographical extent of interest
Host Landholders	Landholders with the potential to host WTGs and/or project infrastructure	Local
Neighbouring Landholders	There are 116 neighbouring residentials / places of business within 7.7 km of potential turbine locations	Local/regional
First Nations groups	• Griffith Local Aboriginal Land Council (LALC) • Leeton & District LALC • Warangesda Mission - Darlington Point • Waddi Housing and Advancement Corporation, Darlington Point • Waddi Cultural Centre, Darlington Point	Local/regional

Stakeholder Group	Stakeholders	Geographical extent of interest
Communities within the social locality	Local community: • Darlington Point • Coleambally • Leeton • Narrandera • Yanco • Whitton	Regional
Local Council	• Murrumbidgee Council • Narrandera Shire Council	Regional
Community Interest Groups and Community Services	• Rotary Club Leeton • Rotary Club Narrandera • Coleambally Lions Club • Leeton Lions Club • Narrandera Lions Club • Country Women's Association Narrandera • Country Women's Association Coleambally • Country Women's Association Yanco • Murrumbidgee Landcare Incorporated • NSW Farmers Leeton/Narrandera • Riverina Local Land Services (LLS)	Regional
Schools	• Darlington Point Public School • Coleambally Central School • St Peter's Primary School Coleambally • Narrandera Public School • Narrandera High School • St Joseph's School • TAFE Narrandera	Regional
Industry and Local Business	• Coleambally Chamber of Commerce • ABC Riverina • FM 95.1 (radio) • Triple M 963 (radio) • Hit 99.7 (radio) • Hit Riverina 1152 AM (radio) • Triple M Riverina 963 AM (radio) • The Punt Hotel Darlington Point • The Post Office Darlington Point • The Gumview café and corner store Darlington Point • Heath's Butchery Darlington Point • The Friendly Grocer Darlington Point • Darlington Point Riverside Caravan Park	Regional

Stakeholder Group	Stakeholders	Geographical extent of interest
Government – State	• Crown Lands • Department of Finance, Services, and Innovation – NSW Telco Authority • NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) • Biodiversity, Conservation and Science Directorate (BCSD) • Energy Corporation • Water Group • NSW Department of Planning, Housing and Infrastructure (DPHI) • Department of Primary Industries – Agriculture and Fisheries (DPI) • NSW Environment Protection Authority (EPA) • Fire and Rescue NSW • Heritage NSW • NSW Rural Fire Service (RFS) • Regional NSW – Mining, Exploration and Geoscience (MEG) • Transport for NSW (Transport) • TransGrid • WaterNSW • NSW Renewable Energy Sector Board • NSW Department of Customer Services (DCS) • NSW National Parks & Wildlife Service (NPWS) • NSW Forestry Corporation • Essential Energy	State
Government - Federal	• Airservices Australia • Bureau of Meteorology (BOM) • Civil Aviation Safety Authority (CASA) • Department of Agriculture, Fisheries and Forestry (DAFF) • Department of Defence • Department of Climate Change, Energy, the Environment and Water • Australian Energy Market Operator	Federal
Government - elected representatives	• Federal Member for Farrer, David Farley • NSW Member for Murray, Helen Dalton MP • NSW Member for Cootamundra, Stephanie Cooke	

5.3 Consultation undertaken to date

The Project team has completed a variety of engagement activities with host landowners, neighbours and local business, First Nations Stakeholders, Council and relevant agencies. There has been about 661 stakeholder interactions as of 1 June 2026. Stakeholder engagement has been ongoing since Project inception, using a combination of face-to-face meetings, phone calls, emails, and SMS communications.

With regard to government agency consultation, the Project team has consulted with DPHI, the Conservation Programs Heritage and Regulation (CPHR) group (within the NSW DCCEEW), and NPWS noting that the Project site is located adjacent to Murrumbidgee National Park and South West Woodland Nature Reserve. No restrictions or advice regarding particular sensitivities were provided during the consultation. TfNSW and NSW Heritage were also informed of the Project and will be consulted further during the EIS phase.

Figure 5-1 and Table 5-2 summarise the types of engagement activities undertaken up to 1 June 2026.

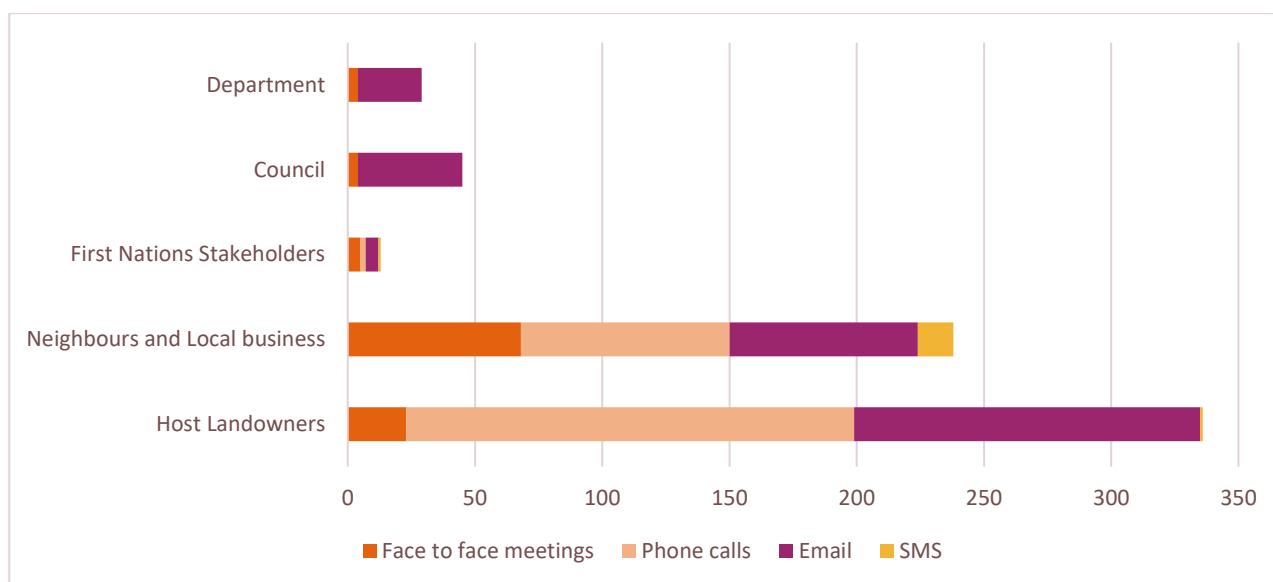


Figure 5-1: Consultation undertaken to date

Table 5-2: Frequency and type of engagement

Event type	Frequency of engagement
Meeting	104
Phone Call	260
Email	281
SMS	16

These activities demonstrate an adaptable approach to engagement, tailored to the preferences and availability of different stakeholder groups.

5.3.1 Feedback received

Feedback received to date has included queries and concerns on topics such as:

- Visual and noise impacts
- Changes to property access and local roads
- Economic opportunities (local jobs and business participation)
- Environmental impacts (biodiversity, amenity)
- Social impacts and distributive equity of Project benefits
- Environmental management (fire management)
- Housing and accommodation
- Materials and resources (water).

This feedback has informed ongoing Project design and will be incorporated into impact assessments and mitigation strategies as part of the EIS process.

5.3.2 Community information session summary

Community information sessions were held on the 26th and 27th of May 2026 with a total of 31 people in attendance over six hours, providing an opportunity for local residents and stakeholders to engage directly with the project team. The sessions supported Squadron's early-stage consultation as part of the scoping process, allowing community members to learn more about the proposed development, ask questions, and provide initial feedback. Information on the project's current status, indicative layout, and upcoming planning processes was made available in an informal and accessible format to encourage open dialogue.

Feedback received during these sessions will inform the ongoing development of the environmental assessment and stakeholder engagement strategy. The drop-in format proved effective in enabling one-on-one conversations, helping to build awareness of the project and ensuring that local perspectives are considered as the project progresses through the scoping phase.

5.4 Engagement and consultation proposed during preparation of the EIS

Engagement will continue and expand during preparation of the EIS and will include:

- Ongoing face-to-face and online meetings with key stakeholders
- Information sessions and drop-in events for the wider community
- Targeted workshops with specific groups (e.g., First Nations, local business, schools)
- Regular Project updates via newsletter, email, and the Project website
- Dedicated mechanisms for receiving and responding to feedback (enquiries, complaints)
- Government and regulatory stakeholder briefings.

Engagement will be reviewed and adapted based on feedback and the evolving needs of stakeholders, in line with best practice guidelines.

The feedback and participation from engagement and consultation activities will be used to further inform the environmental and social impact assessments for the Project. Key issues identified in Section 6 and the associated technical reports will help to inform targeted engagement and consultation.

5.5 Public exhibition of the EIS

The EIS will be placed on public exhibition for a minimum of 28 days as stated in the EP&A Act. Advertisements will be placed in newspapers to advise of the public exhibition and where the EIS can be viewed, and details of proposed community engagement and consultation activities, including information sessions.

Engagement and consultation activities during public exhibition of the EIS may include:

- Community information sessions
- Newsletter letterbox drop
- Emails
- Information on project webpage
- Information available at local council offices
- Stakeholder meetings
- Local business engagement
- Government stakeholder engagement
- Local First Nations engagement tailored to community led methods.

The extent and form of this engagement and consultation will be determined prior to the EIS exhibition.

5.6 Engagement and consultation during construction and operation

Should the Project be approved, engagement and consultation will continue with the community and key stakeholders during construction and operation. This will generally involve:

- Keeping the community informed about the Project, its likely impacts, and likely benefits, through the provision of accurate and timely information
- Creating a property-plan with host landowners which addresses specific landowner matters, stipulates access to the site, as well as addressing key information such as land use and key dates of activities of the existing farm operations
- Providing up-to-date information on issues that affect stakeholders including road closures, over size and over mass deliveries
- Providing an efficient complaints and enquiries management process and ensure that complaints are responded to and resolved quickly
- Ensuring that the construction team fully understands the local context, including any local impacts that it may have or opportunities that it could provide
- Building and maintaining Squadron Energy's social licence within the community
- Stakeholder engagement plan to be updated and adapted to the construction phase of the project
- Pre-commencement "job-fairs" to source local labour, suppliers and subcontractors and maximise local content
- Consultation in accordance with statutory requirements
- Ongoing engagement and consultation with key stakeholders, local council and other government agencies
- Provision of regular updates to the neighbouring community.

6 Proposed assessment of impacts

6.1 Overview

In accordance with the *State significant development guidelines – preparing a scoping report* (DPIE, 2022), the scale of impact, nature of impact and sensitivity of the receiving environment for the environmental issues has been evaluated in the scoping summary table in **Appendix B**. The scoping summary table groups the matters requiring further assessment in the EIS by the level of assessment required.

Definitions for levels of assessment and the level of assessment proposed for each matter is summarised in Table 6-1. The assessment matters are grouped into the broad categories identified in the SSD Scoping Report Guidelines.

Table 6-1: Proposed level of assessment

Level of assessment	Definition	Assessment matter
Detailed	The Project may result in significant impacts on the matter, including cumulative impacts. The assessment of the impacts of the Project on the matter will require detailed studies and investigations to be carried out by technical specialists.	• Landscape and visual • Noise and vibration • Biodiversity • Aboriginal heritage • Historic heritage • Traffic and access • Social and economic • Hazards and risk • Water and hydrology
Standard	The Project is unlikely to result in significant impacts on the matter, including cumulative impacts. While the assessment of the impacts of the Project on the matter will involve technical specialists, these impacts are likely to be well understood, relatively easy to predict using standard methods and capable of being mitigated to comply with relevant standards or performance measures.	• Land • Waste • Air • Climate change • Greenhouse gas • Cumulative impacts
Matters requiring no further assessment	The Project will have no impact on the matter, or the impacts of the Project on the matter will be so small that they are not worth considering.	• Port, airport and rail facilities • Odour • Opportunity cost • Coastal hazards, land movement and dam safety

Following a review of the standard SEARs for wind energy, it is proposed that for this Project, the assessment of impacts from WTG and ancillary infrastructure, be undertaken in accordance with these requirements. The assessment would have regard to the draft energy framework, with the key issues deemed commensurate with the potential risks listed below.

6.2 Landscape and visual

6.2.1 Existing environment

The Project site is situated within the Riverina bioregion of southwest NSW, a broad alluvial plain formed by the historic deposition of sediments from the Murray, Murrumbidgee and Lachlan Rivers west of the Great Dividing Range.

The surrounding landscape is characterised by low-relief floodplains, river channels, and gently undulating plains, with expansive areas of agricultural land and mixed grasslands and woodlands typical of the Riverina. The climate in the bioregion is generally dry and semi-arid, with hot summers and cool winters, and rainfall is relatively low and variable. Native vegetation within the region includes river red gum (*Eucalyptus camaldulensis*) along major waterways, black box woodlands and chenopod shrublands and grasslands on the plains.

6.2.2 Potential impacts

A Visual Scoping Report was undertaken by Moir Studio (2026) in accordance with the *Wind Energy Guideline: Technical Supplement for Landscape Character and Visual Impact Assessment* (DPHI, 2024) (**Appendix D**).

Study area and setback

Based on a proposed WTG blade tip height of up to 270 metres, the Study area of the Project for private dwellings and public viewpoints is 7,732 metres (Figure 6-1). A Turbine Setback 1,705 metres has been identified for the Project (Figure 6-1). No non-associated receivers were identified within the turbine setback area. 116 sensitive receivers were identified within the Study area. The identification of sensitive receivers will be confirmed during EIS phase of the Project.

Viewshed mapping and simple assessment

Viewshed mapping was undertaken to determine the areas with potential visibility of the Project site. The mapping assumes there is no screening, structures or vegetation, and therefore considers the worst case scenario and is a conservative assessment. As a result of the flat to gently undulating topography of this area, 116 sensitive receivers identified within 7,732 metres of the nearest turbine were found to have a theoretical line of sight to the WTGs.

The overall visual impact rating for each viewpoint was determined for each viewpoint by considering the visual magnitude and visual sensitivity. Visual magnitude was determined by analysing the volume of the field of view that a project would occupy, and the visual sensitivity was determined by identifying the sensitivity of each viewpoint and receiver and categorising the scenic quality of the area in view.

Based on the simple assessment:

- 62 sensitive receivers were identified as having a **low** visual impact rating
- 15 sensitive receivers were identified as having a **moderate** visual impact rating
- 39 sensitive receivers were identified as having a **high** visual impact rating.

6.2.3 Assessment approach

The 54 sensitive receivers identified above as having moderate to high visual impact rating, will require further assessment as part of the EIS.

A Visual Impact Assessment will be undertaken in accordance with the *Wind Energy Guideline: Technical Supplement for Landscape Character and Visual Impact Assessment* (DPHI, 2024). This will include a detailed assessment to the visual impacts of all components of the Project, including turbines, transmission lines, substations other ancillary infrastructure, and (if required) night lighting.

Banandra Wind Farm Scoping Report

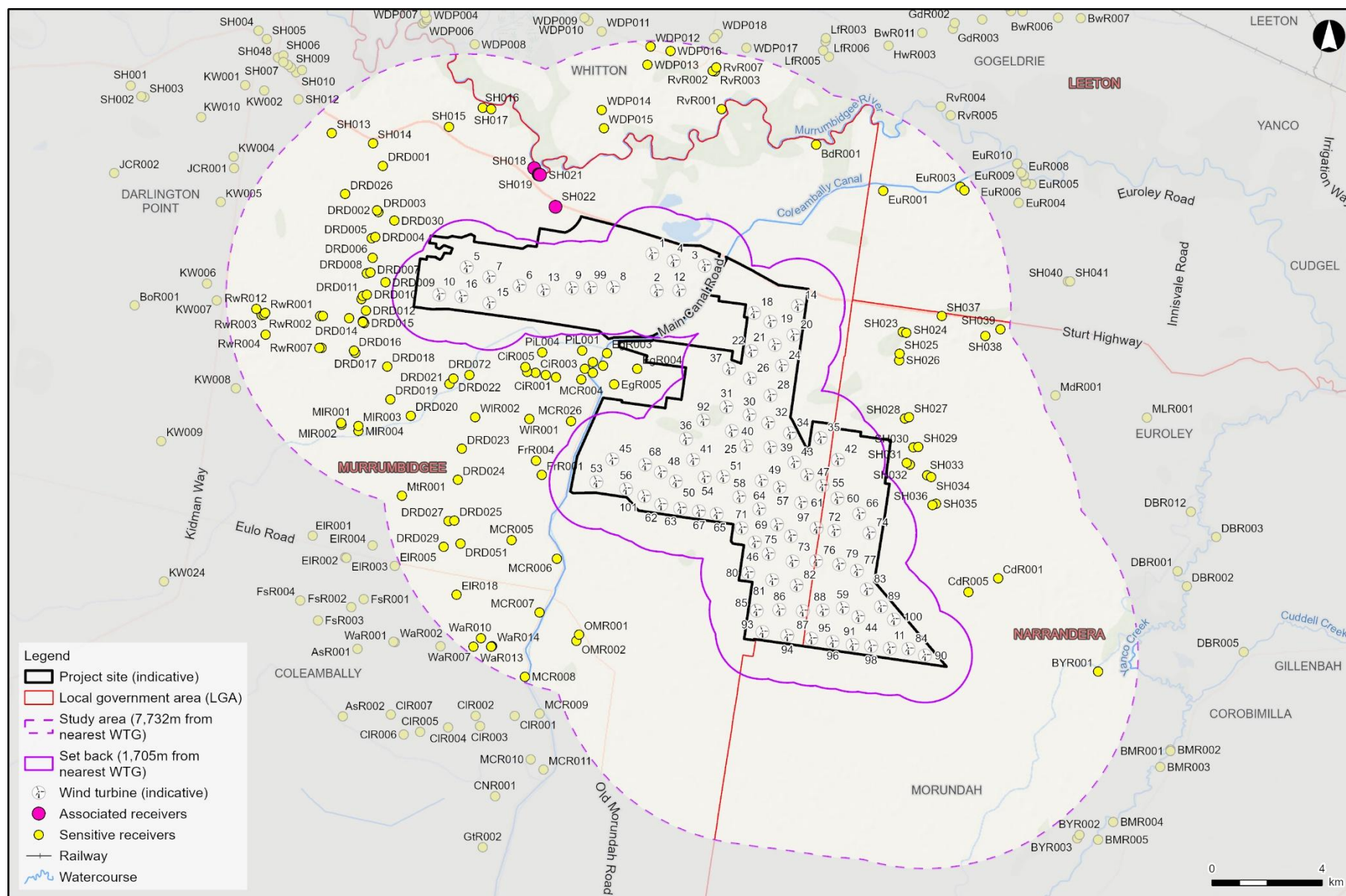


Figure 6-1: Visual scoping report study area and visual setback area (Moir, 2026)

6.3 Noise and vibration

6.3.1 Existing environment

There is a total of 139 receivers within 5 km of a proposed WTG location. Of the 139 receivers, 10 are classified as being associated with the Project, while the remaining are non-associated receivers, including 66 residential receivers. The land use and assessment status of these receivers will be confirmed following ground truthing during the EIS phase.

6.3.2 Potential impacts

A Preliminary Noise Impact Assessment was undertaken by Marshall Day Acoustics (2026) (Appendix E) in accordance with the *Wind Energy Guideline: Technical Supplement for Noise Impact Assessment* (DPHI, 2024d). The assessment has been based on an assumed General Electric 6.0-164 candidate wind turbine model and the provided manufacturer specifications (Table 6-2). As detailed design and neighbour engagements progress, detailed noise assessments will consider a range of models, and a noise envelope will be assessed to provide ongoing flexibility for final turbine selection subject to satisfying project approval conditions relating to noise.

Table 6-2: Selected candidate WTG model

Item	Detail
Make	General Electric
Model	GE 6.0-164
Rated power (MW)	6.0
Rotor diameter (m)	164
Operating mode	Standard
Modelled hub height (m)	185
Blade serrations	Yes
Cut-in wind speed (hub height) (m/s)	3
Cut-out wind speed (hub height) (m/s)	25

6.3.2.1 Non-associated receivers predicted noise levels

Residential receivers

Table 6-3 presents the predicted noise levels for all identified non-associated residential receivers within 5 km of the Project. The noise limit applicable to the wind farm at non-associated residential receivers is **35 dB L_{Aeq, 10 min}** in the absence of background noise monitoring (which will be undertaken as part of the EIS to redefine the noise limit as required). Predicted noise contours are provided in Figure 6-2 on this basis.

The predicted noise levels for the Project are below the noise limit of 35 dB L_{Aeq, 10 min} at all non-associated residential receivers by a minimum margin of 1 dB L_{Aeq, 10 min}.

Table 6-3: Predicted noise levels at non-associated residential receivers within 5 km

NOTE: The table only shows non-associated residential receivers with a predicted noise level of > 30 dB LAeq, 10 min (inc. +0.8 dB LAeq, 10 min uncertainty)

Receiver	Distance to nearest wind turbine (m)	Predicted noise level (dB LAeq, 10 min)
CdR005	2,779	31.8
CiR001	3,185	31.4
CiR002	3,073	31.2
CiR003	3,006	31.2
CiR004	2,843	31.2
CiR005	2,656	31.5
DRD009	2,007	30.2
DRD072	2,705	30.1
EgR001	3,085	32.4
EgR002	2,858	32.9
EgR003	2,397	33.5
EgR004	2,916	34.0
EgR005	2,714	33.3
FrR001	2,002	31.8
FrR004	2,322	31.0
MCR001	2,697	32.8
MCR002	2,947	32.3
MCR004	3,099	32.0
MCR026	2,037	32.9
PiL001	2,301	33.4
PiL004	2,266	32.9
SH027	2,996	31.3
SH028	2,852	31.7
SH029	2,951	31.8
SH030	2,775	32.2
SH031	2,502	33.5
SH032	2,556	33.3
SH033	2,824	32.1
SH034	2,924	31.8
SH035	2,647	32.2
SH036	2,511	32.6

Non-residential receivers

The number of non-residential receivers identified within the Study area is 63. However, this will be confirmed during the EIS phase following completion of ground truthing. Predicted noise levels at all non-residential receivers are provided in detail in Appendix E. The assessment indicated that predicted noise levels at all non-residential receivers are below the conservatively adopted commercial receiver noise limit of 65 dB $L_{Aeq, 10 \text{ min}}$ with a minimum margin of 26.3 dB $L_{Aeq, 10 \text{ min}}$ at all locations.

6.3.2.2 Associated receivers predicted noise levels

Predicted noise levels for all associated receivers with a predicted noise level greater than 30 dB $L_{Aeq, 10 \text{ min}}$ for informative purposes only, are presented in Table 6-4.

Table 6-4: Predicted noise levels at associated receivers

NOTE: The table only shows associated receivers with a predicted noise level of > 30 dB $L_{Aeq, 10 \text{ min}}$ (inc. +0.8 $L_{Aeq, 10 \text{ min}}$ uncertainty)

Receiver	Distance to nearest wind turbine (m)	Predicted noise level (dB $L_{Aeq, 10 \text{ min}}$)
SH022	3,002	30.5

Noise levels at associated receivers will be managed in accordance with the private agreements established between the proponent and the landowners.

6.3.2.3 Cumulative impacts

Based on information currently available within the public domain, it is known that the proposed Delvin's Bridge Wind Farm would adjoin the Project site boundary to the east and has proposed wind turbines within 10 km of the Project wind turbines. Therefore, cumulative noise will be a relevant assessment matter for the Project and will need to be considered in detail as part of the EIS assessment.

6.3.3 Assessment approach

A detailed assessment of noise and vibration impacts will be undertaken for the EIS. The assessment would be prepared in accordance with the relevant guidelines and technical notes required by the SEARs. It is likely to include assessment of:

- Operational wind turbine noise in accordance with the *Wind Energy Guideline - Technical Supplement for Noise Assessment* (Technical Supplement for Noise) (DPHI, 2024)
- Ancillary infrastructure noise, in accordance with the *NSW Noise Policy for Industry* (EPA, 2017)
- Construction noise in accordance with the *Interim Construction Noise Guideline* (DECC, 2009)
- Construction traffic noise in accordance with the *NSW Road Noise Policy* (DECCW, 2011)
- Detailed numerical consideration of cumulative impacts with other nearby wind farm project.

Further detailed assessment work may involve background noise monitoring at key receivers to determine the applicable background adjusted noise limits in accordance with the Technical Supplement for Noise. The results of any background noise monitoring will be included in the noise and vibration impact assessment.

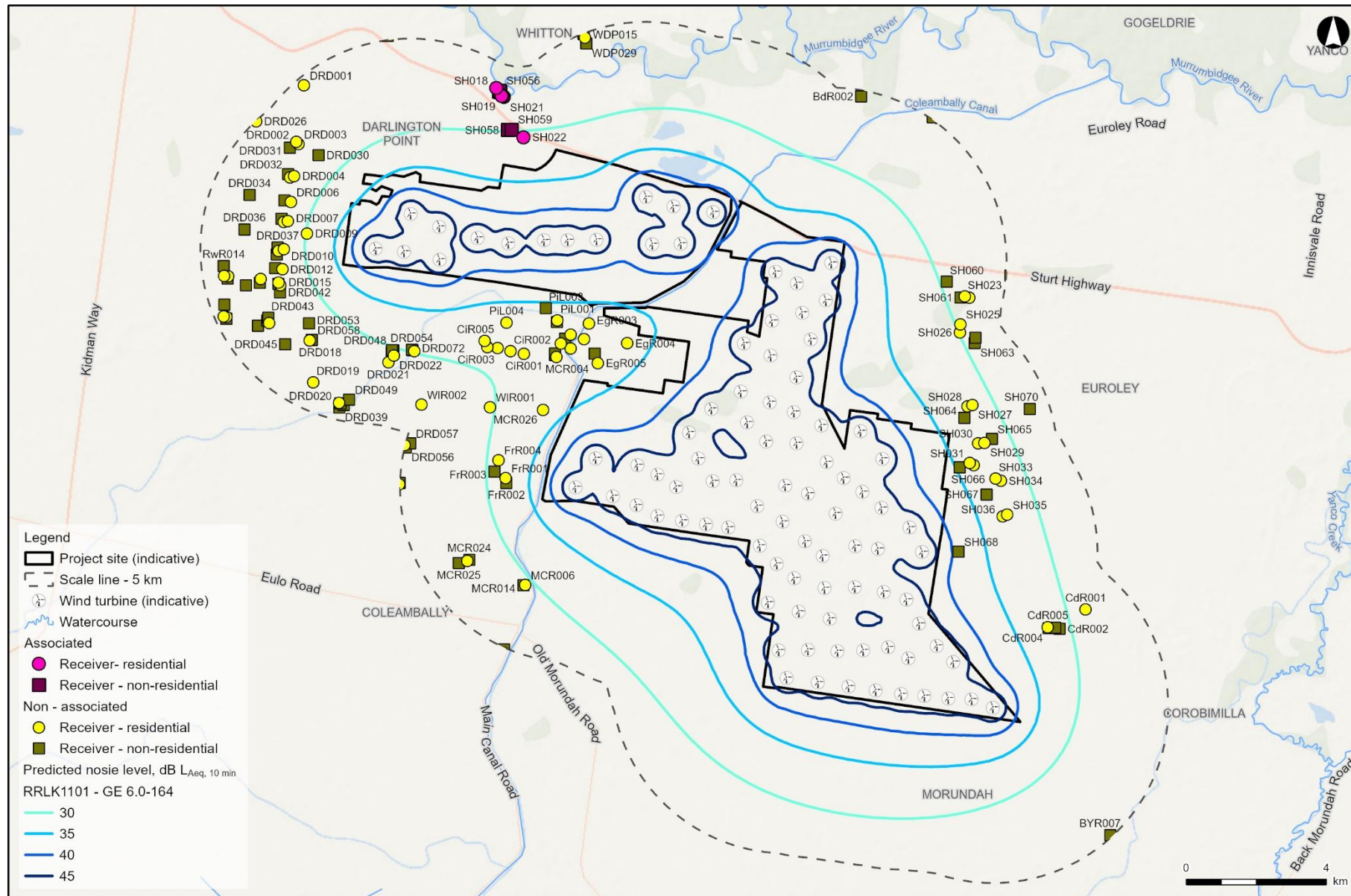


Figure 6-2: Predicted noise levels for receivers within 5 km of a proposed WTG (Marshall Day, 2026)

6.4 Biodiversity

6.4.1 Existing environment

A Preliminary Biodiversity Constraints Assessment (PBCA) (Arcadis, 2025) was undertaken in February 2025 for Squadron Energy to investigate the suitability of the Project site to support the project objectives. Preliminary field surveys were conducted in November 2024 by Arcadis ecologists, which involved ground-truthing vegetation types, assessing the threatened community status, mapping potential threatened flora and fauna habitats, and rapid assessment of biodiversity features.

The following databases were searched:

- BioNet Atlas of NSW Wildlife, managed by the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW)
- Protected Matters Search Tool (PMST), managed by the Commonwealth Department of Climate Change, Energy, the Environment and Water (Commonwealth DCCEEW)
- Biodiversity Assessment Method Calculator (BAM-C) managed by NSW DCCEEW
- Biodiversity Values Map (including Important Habitat Maps for Plains-wanderer) managed by NSW DCCEEW
- NSW BioNet Vegetation Information System (VIS) classification database managed by NSW DCCEEW
- NSW BioNet Threatened Species Data Collection managed by NSW DCCEEW
- NSW WeedWise managed by NSW Department of Primary Industries (DPI)
- Fisheries NSW Spatial Data Portal managed by DPI
- NSW Soil and Land Information (eSPADE).

State Vegetation Type Mapping

A total of 15 plant community types (PCTs) were mapped in the Project site according to the NSW State Vegetation Type Mapping (SVTM). Of the 15 PCTs mapped, 13 PCTs were ground-truthed in the Project site during preliminary investigations in November 2024. The total area of mapped SVTM in the Study area is 8,107 hectares, however a total of 11,554 hectares was ground-truthed during the preliminary field surveys. This discrepancy is due to the areas mapped as category-1 land being assigned to PCT 44, rather than a purely exotic vegetation zone. Refer to **Appendix F** Table F1 for further details comparing the non-validated SVTM mapping to the ground-truthed areas.

The associated TEC are either listed under NSW *Biodiversity Conservation Act 2016* (BC Act) and /or the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). From the preliminary ground-truthed vegetation, five TECs were identified in the Project site.

The vegetation mapping along with their associated TECs and SAIL status (if relevant) is summarised in Table F1 in **Appendix F** and shown in Figure 6-3.

Threatened species

Benchmark vegetation condition was used for the 13 preliminary PCTs mapped within the Project site to provide the candidate species list through the BAM-C. The BAM-C identified 14 candidate flora species and 16 candidate fauna species that would require targeted surveys, as part of the preparation of the Biodiversity Development Assessment Report (BDAR) that will be prepared as part of the EIS.

Potential habitat for candidate flora species exists as native grassland and woodland areas, which are abundant across the Project site.

During preliminary field surveys the Endangered Superb Parrot (*Polytelis swainsonii*) was observed and potential habitat for the Critically Endangered Plains-wanderer (*Pedionomus torquatus*) was recorded and mapped. Open woodland vegetation and natural grasslands in moderate to high condition also provide potential habitat for candidate fauna species. The location and extent of potential threatened fauna habitat is shown in Figure 6-4.

Threatened species sighting records from the BioNet atlas are shown in Figure 6-5.

Migratory species

Desktop searches using the EPBC Act PMST identified eight migratory species as potentially occurring within a 10 km radius of the Project site (**Appendix G**). These include migratory marine birds, terrestrial species, and wetland species protected under international agreements (JAMBA, CAMBA, ROKAMBA¹).

The list of migratory species is summarised in Table F2 in **Appendix F**.

Aquatic ecology

The Project site contains several creeks, dams and dried wetlands. Named watercourses include:

- Spillers Creek: transects the southern extent of the Project site east of Main Canal Road
- Coleambally Canal: an artificially constructed canal and a tributary of the Murrumbidgee River, which runs adjacent with Main Canal Road
- Tubbo Channel: runs west from the Coleambally Canal.

Ephemeral streams and dried wetlands and sedgelands are located throughout the Project site (refer to Figure 6-11). Other significant aquatic habitats within 2 km of the Project site include Tombullen Storage Dam and the Murrumbidgee River.

The Murrumbidgee River is mapped as high and very high HEVAE (High Ecological Value Aquatic Ecosystem) value (DPIE, 2018) and is mapped as Key Fish Habitat (KFH) as per the *Fisheries Management Act 2015*. Additionally, the Murrumbidgee River is mapped threatened species habitat for several threatened aquatic species. The PBCA identifies the presence or potential occurrence of nationally threatened aquatic species.

The Fivebough and Tuckerbil Swamps Ramsar Wetlands are located about 25 km north-east of the Project site and may provide important habitat for aquatic and migratory species.

6.4.1.1 Serious and Irreversible Impacts (SAII)

SAII candidate species are those threatened species and endangered populations most at risk of extinction from development-related impacts (DPE, 2023). An impact is considered serious and irreversible if it is likely to significantly contribute to the risk of a threatened species (including endangered populations) or an endangered ecological community becoming extinct, as set out in Clause 6.7 of the Biodiversity Conservation Regulation 2017. The PBCA has identified the presence of SAII candidate species and ecological communities within the Project site (Refer to Table F1 in **Appendix F**).

¹ JAMBA: Japan-Australia Migratory Bird Agreement, CAMBA: China-Australia Migratory Bird Agreement, ROKAMBA: Republic of Korea-Australia Migratory Bird Agreement

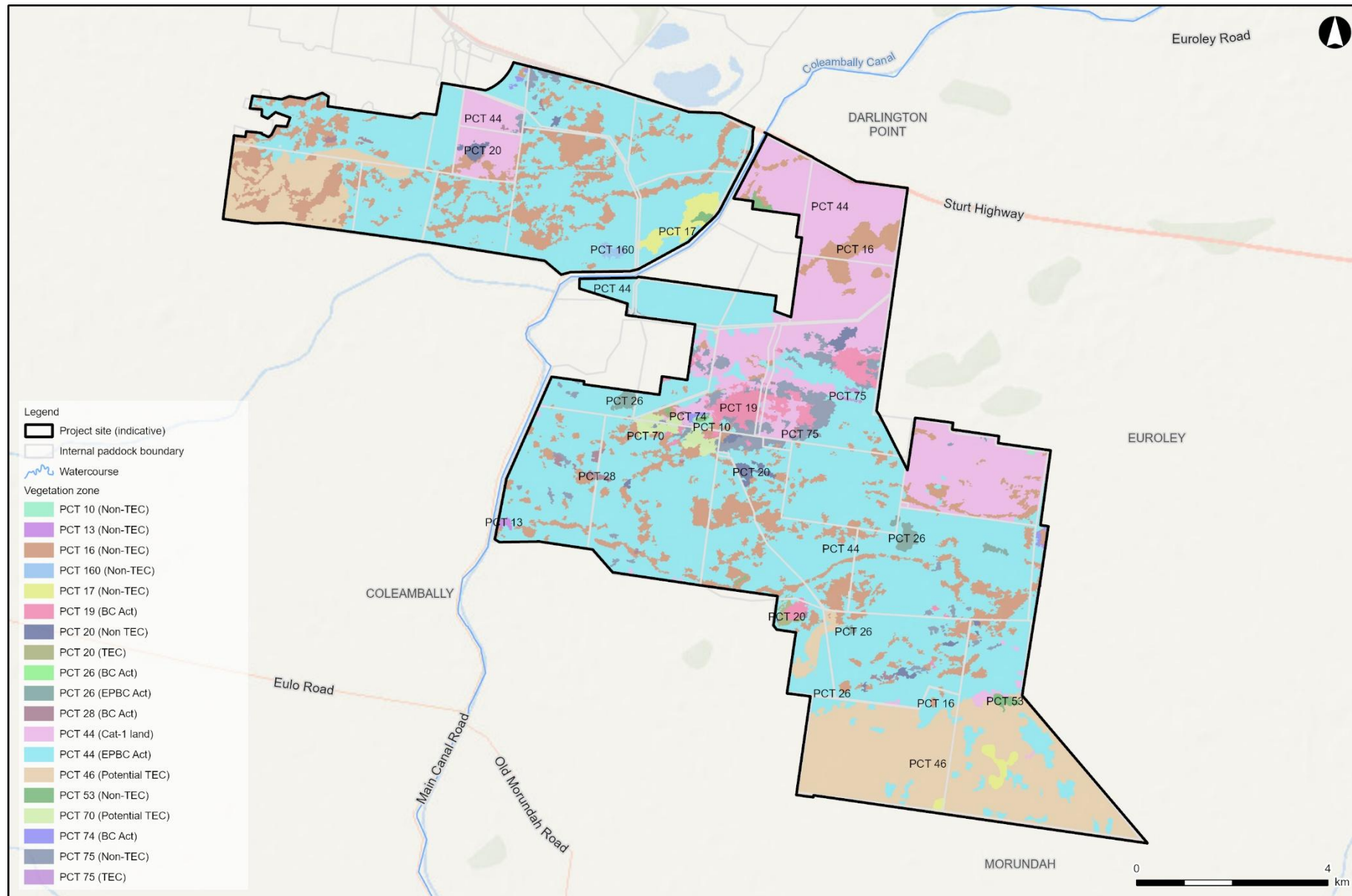


Figure 6-3: Overview of ground-truthed PCT mapping in the Project site

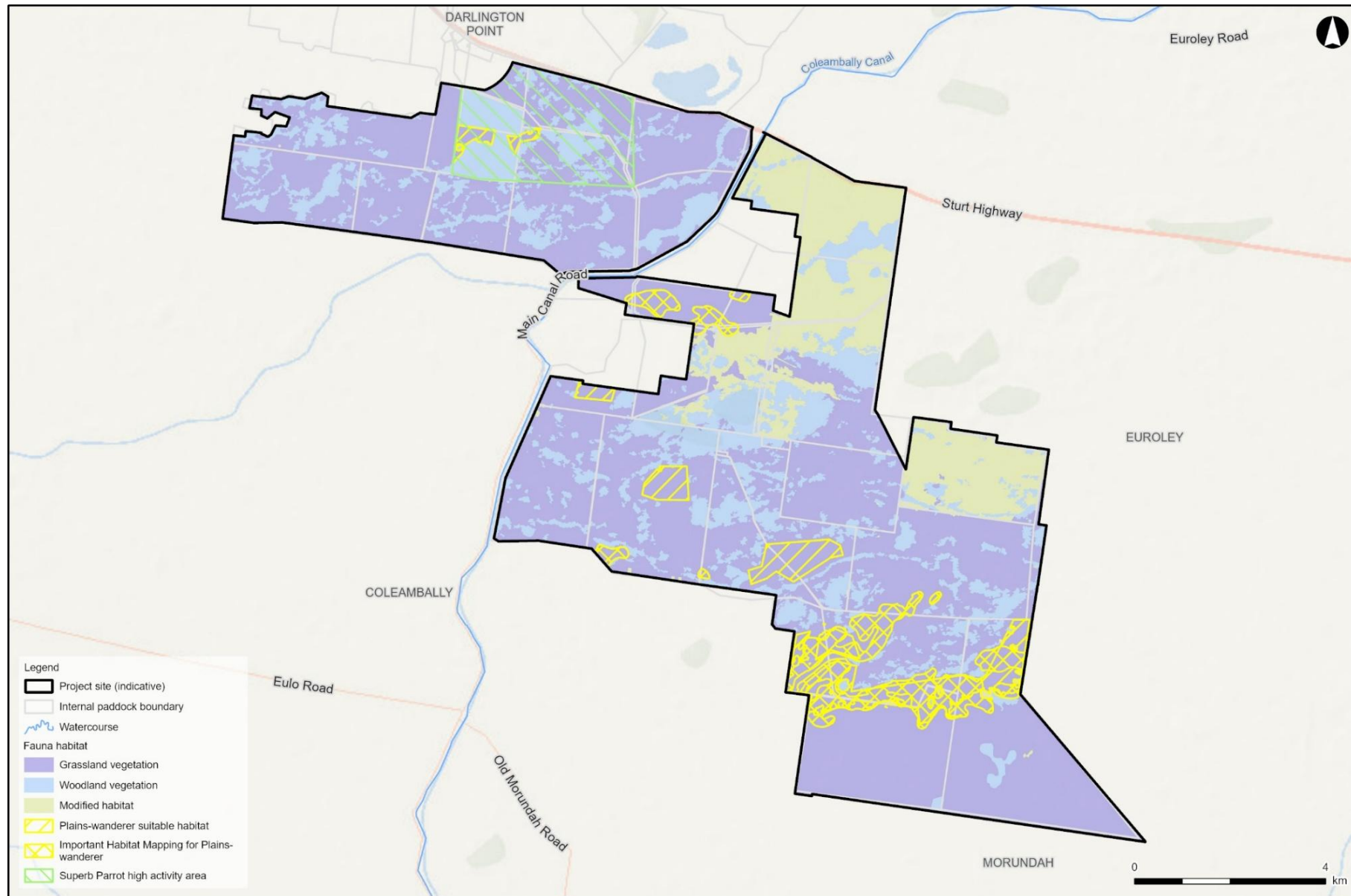


Figure 6-4: Overview of potential threatened fauna habitat in the Project site

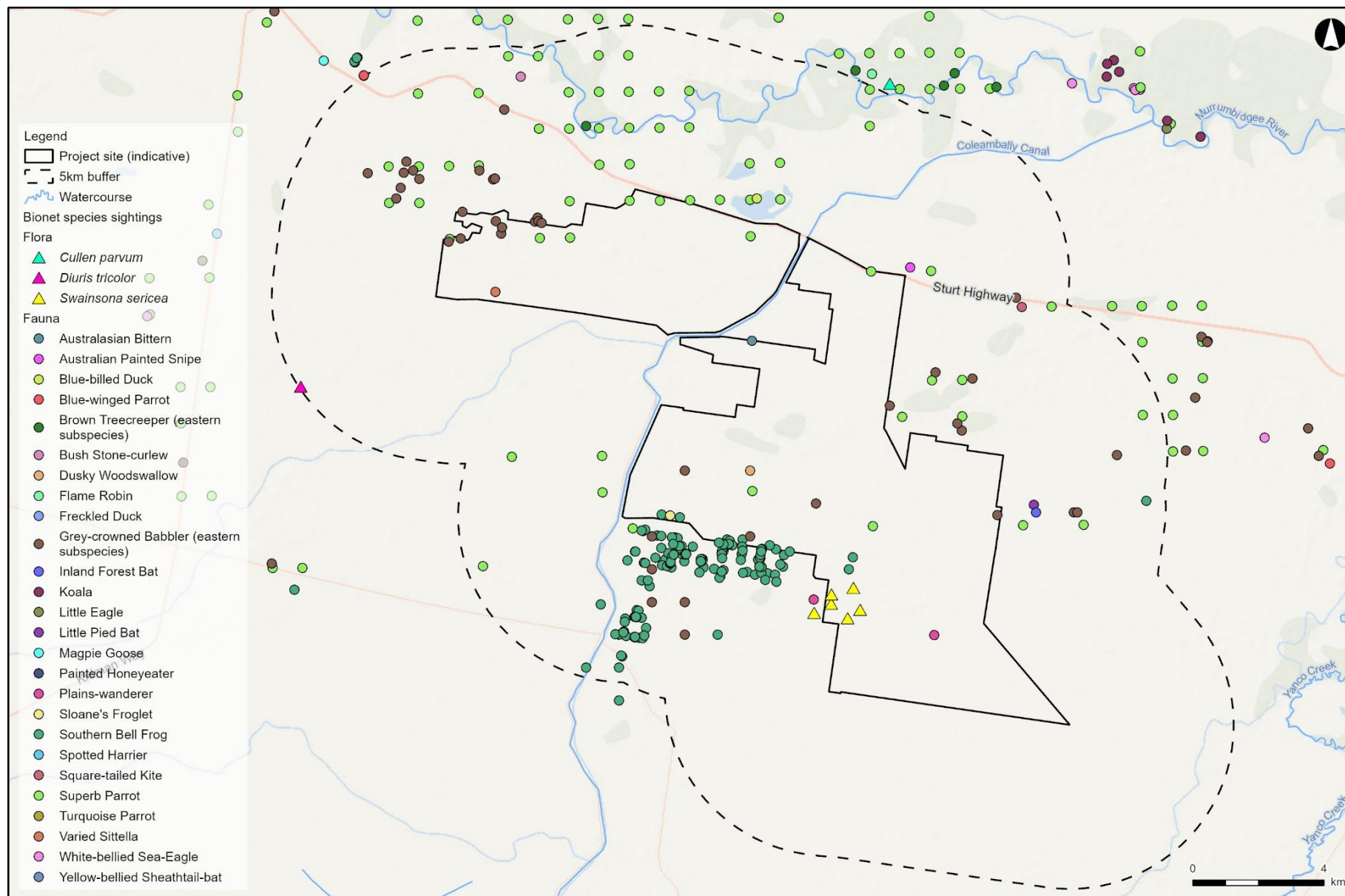


Figure 6-5: Threatened species sightings records from BioNet atlas 5 km around the Project site

6.4.1.2 Species credit species survey requirements

Targeted surveys, to inform the BDAR, would likely be required for the 14 candidate threatened flora species and the 16 candidate threatened fauna species identified by the BAM-C, EPBC Act PMST, and listed in the PBCA.

These species are associated with mapped native vegetation and TECs, including key fauna such as Superb Parrot, Plains-wanderer, Southern Bell Frog (*Litoria reniformis*), and several threatened orchids and daisies.

Additionally, a full Bird and Bat Utilisation Survey will be required for the BDAR to accurately assess the collision risk and any indirect impacts of the proposal turbines on bird and bat species.

6.4.1.3 Matters of National Environmental Significance

The EPBC Act provides protection of the environment from actions proposed to 'have the potential to significantly impact on Matters of National Environmental Significance (MNES) or the environment of Commonwealth land'.

A search of the Commonwealth PMST was undertaken on 11 February 2026. The search area included a 30 km buffer from the Project site. The search results are summarised in Table 6-5 and a record of the PMST report is provided in **Appendix G**.

Table 6-5: MNES results for up to 30 km from the Project site

MNES	Relevance to development
World Heritage Properties	None
National Heritage Properties	None
Wetlands of International Importance	5
Threatened Ecological Communities	7
Threatened Species	48
Migratory Species	19
State and Territory Reserves	4
Commonwealth Marine Area	None
Commonwealth Lands	11
Listed Marine Species (including marine birds)	31
EPBC Act Referrals	7

Constraints mapping

The ground-truthed biodiversity values described above were used to classify the Project site into four constraint categories: very important (very high), important (high), moderately important (moderate), and low importance (low).

The constraints across the Project site are shown in Figure 6-6. These constraints have been used to inform the design of the Project scoping layout and the high-very high mapped woodland specifically, has been avoided.

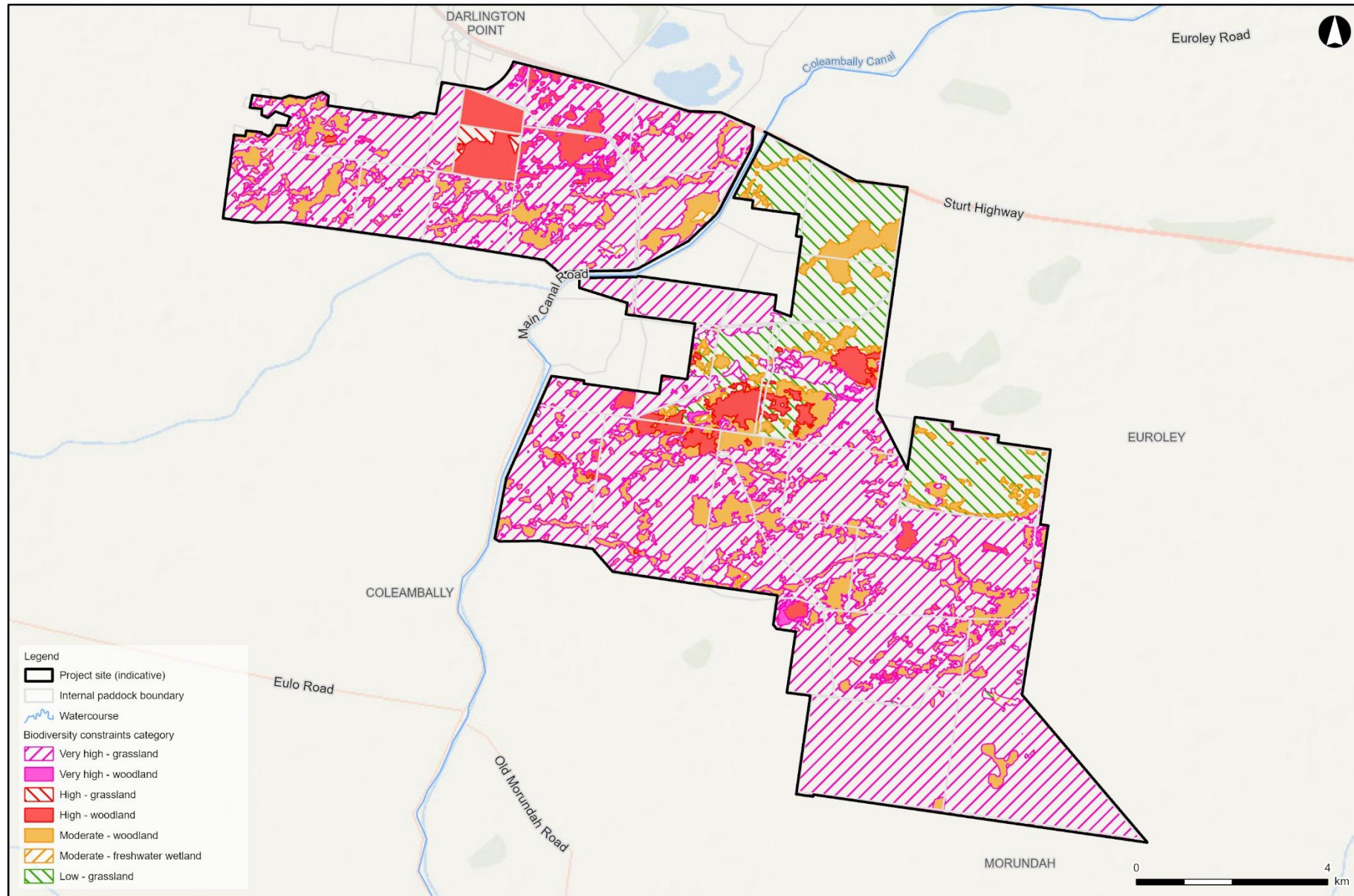


Figure 6-6: Overview of biodiversity constraints mapping in the Project site

6.4.2 Potential impacts

Potential direct, indirect and cumulative impacts of the Project will be assessed in detail as part of the EIS and will consider impacts during construction and operation. Some impacts may potentially be more prevalent during construction (i.e. vehicle strikes, intentional clearing, habitat loss) and others such as blade strike and connectivity loss more prevalent during operation. Potential impacts based on preliminary biodiversity values from wind farm construction and operation are summarised in Table 6-6.

Table 6-6: List of potential impacts of the Project

Impact Type	Potential Impact	Details
Direct impacts	- Clearing of native vegetation - Removal of threatened species habitat - Fauna mortality through vehicle strike and habitat removal during construction and blade strike during operations	- The Project is anticipated to involve clearing of native grasslands and woodland habitat. Some of these areas have been mapped very high and high biodiversity constraint. The Project will also impact on TECs such as the endangered Weeping Myall Woodland and Buloke Woodlands and critically endangered Grasslands of the Murray Valley Plains. - This removal would result in direct loss of potential habitat for threatened species, including Plains-wanderer, Superb Parrot, Southern Bell Frog, and other potential listed fauna and flora species. - Construction activities may also cause injury or death to ground-dwelling mammals, frogs, and reptiles, while operational blade strikes pose a risk to some species of birds and bats, especially those actively using mapped habitats.
Indirect impacts	- Reduced viability of adjacent habitat due to edge effects - Transport of weeds and pathogens from the site to adjacent vegetation - Changed fire regimes - Sediment, nutrient and pollutant run-off - Light, noise and vibration disturbance - Weed encroachment and vegetation degradation	- Edge effects from construction and ongoing operation may degrade high-quality grasslands and woodland habitats, reducing habitat suitability for potential threatened flora and fauna. - The Project site contains existing weed species such as Saffron Thistle, Paterson's Curse, and African Boxthorn, which could spread further due to disturbance, impacting native vegetation and potential threatened species habitat. - Construction activities may alter fire regimes, affecting fire-sensitive species and changing the structure of native grasslands and woodlands. - Increased sediment and nutrient runoff from earthworks could affect aquatic habitats, including ephemeral wetlands and habitats for Southern Bell Frog and threatened fish species. - Noise, vibration, and light generated by turbines and construction equipment may disturb sensitive fauna, particularly Superb Parrot, Plains-wanderer, and nocturnal mammals and birds. - Continued weed encroachment and disturbance may further decrease the resilience and ecological integrity of mapped TECs and other native vegetation patches.

Impact Type	Potential Impact	Details
Prescribed impacts	- Impacts from wind turbine strikes - Impacts to water bodies, water quality and hydrological processes - Impacts to habitat connectivity	- The operation of wind turbines may directly impact fauna due to turbine blade strikes, potentially leading to the decrease or loss of species in the area. - The proposed works could create a barrier to movement at a ground level and for birds and bats moving through the rotor swept area if not fully assessed and mitigated. - Construction of access roads and laydown areas have the potential to modify catchment areas and hydrological processes and threatened aquatic species if not managed for stormwater runoff.

6.4.3 Assessment approach

Biodiversity Development Assessment Report (BDAR)

In accordance with Section 7.9 of the BC Act, the EIS for the Project will be supported by a BDAR prepared in accordance with the BAM, which will be prepared by an Accredited Person under the BC Act. The BDAR will be built upon the preliminary biodiversity assessment.

Where the Project would impact on occupied habitat for a threatened species (identified through the preparation of a species polygon), and / or native vegetation with a Vegetation Integrity score greater than 17 (or 15 for a TEC) the Project will require biodiversity offsets. The BDAR will calculate the number and type of credits required for the Project in accordance with the BAM. These biodiversity offsets will be secured through the establishment of a Biodiversity Stewardship Agreement to generate the credits.

Impacts to SAI candidate species will be considered in accordance with Section 9.1 of the BAM, allowing the Minister of Planning to make a decision on whether the Project is likely to result in an SAI.

The BDAR will include a prescribed impact assessment and comprehensive risk assessment for wind turbine blade strike on birds and bats. Bird and bat utilisation surveys will be conducted across the wind turbine array area with the collection of bird and bat data at ground level and at-height, across all seasons. Prior to the commencement of BDAR field investigations (including bird and bat utilisation surveys) a comprehensive field survey plan will be developed in consultation with the required Stakeholders.

EPBC Act referral

Due to the potential presence of MNES within the Project site a referral to the Commonwealth DCCEW will be prepared and submitted as described in Section 4 of this Report.

6.5 Heritage

6.5.1 Existing environment

Desktop assessments of available resources were undertaken to ascertain Aboriginal, historic and natural heritage values which may be relevant to the Project site.

The following databases were searched:

- Aboriginal Heritage Information Management System (AHIMS), managed by NSW DCCEEW
- NSW State Heritage Inventory, managed by NSW DCCEEW
- Protected Matters Search Tool (PMST), managed by the Commonwealth DCCEEW
- Murrumbidgee Local Environment Plan (LEP) 2013 heritage listings
- Narrandera LEP 2013 heritage listings
- Leeton LEP 2014 heritage listings.

Aboriginal heritage

A search of the AHIMS, conducted 11 February 2026, found 38 identified Aboriginal sites present within the Project site. A broader map search of the AHIMS database found 77 recorded Aboriginal sites within a one km buffer of the Project site (Figure 6-8). These Aboriginal sites include artefacts, modified trees (carved or scarred), earth mounds, as well as a burial site located about 250 metres from the Project site boundary. The presence of Aboriginal sites in the surrounding area indicates occupation and cultural use in a regional context and that previous Aboriginal cultural heritage assessments may have been undertaken in the area.

The Project site is on Murrumbidgee and Narrandera LGAs and is located within two different Local Aboriginal Land Councils (LALC) areas. The majority of the site is within Griffith LALC and the southeast section of the Project site is within the Leeton & District LALC area. This is shown on Table 6-7.

Historic heritage

A report of the Commonwealth DCCEEW PMST (created 11 February 2026) does not list any World Heritage, National Heritage Places or Commonwealth Heritage Places present within a 30 km buffer of the Project site.

Further, a search of the relevant heritage registers revealed five heritage items within a 10 km radius of the Project site. Details of heritage items are outlined in Table 6-7 and shown in Figure 6-7.

The Project site is identified under the NSW State Heritage Inventory as having local heritage significance.

Table 6-7: Items of local heritage significance

Listing number	Listing type	List	Distance to Project site (km)
I2	Local Heritage Significance	Murrumbidgee LEP and Register of National Estate	Within
14330	Non-statutory	Register of National Estate	Within
14329	Non-statutory	Register of National Estate	Within
A4	State Heritage Significance	Murrumbidgee LEP and State Heritage Register	3.4
I93	Local Heritage Significance	Murrumbidgee LEP	4.5
A4	Local Heritage Significance	Murrumbidgee LEP	7.2

Listing number	Listing type	List	Distance to Project site (km)
I1	Local Heritage Significance	Murrumbidgee LEP	6.8
I3	Local Heritage Significance	Murrumbidgee LEP	8.4
I3	Local Heritage Significance	Murrumbidgee LEP	23

6.5.2 Potential impact

Construction

Construction activities associated with the Project have the potential to impact both Aboriginal and historic heritage values identified within and surrounding the Project site. The presence of 77 Aboriginal heritage sites within a 1 km buffer around the Project site boundary, including artefact scatters, modified trees, earth mounds, open camp sites and a burial, indicates a high level of cultural sensitivity. Ground disturbance during vegetation clearing, earthworks, and infrastructure installation may directly or indirectly impact these heritage sites.

The Project site boundary represents the maximum envelope for assessment and does not equate to the actual Disturbance footprint. The Disturbance footprint will be refined and reduced as the Project progresses through detailed design and is expected to be significantly smaller than the overall Development corridor.

Although no Commonwealth or National heritage places are located within the Project site, heritage item with listing number I2 (as per Table 6-7) is listed as locally significant under the Murrumbidgee LEP, and is located within the Project site. Construction-related impacts such as vibration, dust, and changes to visual character may affect the heritage significance of this item. Additionally, while nearby state-listed heritage items such as A4 and I3 are outside the immediate Project area, indirect impacts relating to changes to access, setting, or hydrology, would be considered.

To avoid significant impacts to heritage, the Disturbance footprint will be further refined during the detailed design phase, informed by ongoing archaeological assessment and consultation with relevant stakeholders. Mitigation and management measures will be developed to ensure avoidance of high-sensitivity areas wherever practicable, with the aim of minimising direct and indirect impacts to heritage values.

Operation

Although there is potential to disturb previously unidentified heritage sites during operation, activities would be normally confined to the existing and previously disturbed access tracks and infrastructure corridors from construction. As such, no additional land disturbance is anticipated. The operational risk to Aboriginal and Historical heritage values is considered low.

The operation of the Project may also influence the amenity, enjoyment, and perceived value of historic heritage sites in the surrounding area, particularly those of local significance in the nearby township of Darlington Point. Potential impacts may include noise, or changes to the visual landscape.

6.5.3 Assessment approach

Given the identification of Aboriginal sites within and surrounding the Project site, a detailed Aboriginal Cultural Heritage Assessment (ACHA) in accordance with the *National Parks and Wildlife (NPW) Act 1974* will be undertaken during the EIS phase. This will incorporate a review of findings from presumed previous Aboriginal cultural heritage investigations within and around the Project site. The ACHA will be prepared in consultation with the Griffith and Leeton and District LALCs.

This assessment will be guided by the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010b) and conducted in accordance with the following key guidelines:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011)*
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010a)*
- *Section 6 of the Wind Energy Guideline (DPHI, 2014).*

As the Project site contains locally listed significant heritage items under the Murrumbidgee LEP (listing numbers I2, 14330, and 14329) and is in proximity to other heritage items in the township of Darlington Point, a Statement of Historic Heritage Impact (SOHHI) will be prepared during the EIS phase. This assessment will address both potential direct and indirect impacts to heritage values, with particular focus on amenity, setting, and visual character during construction and operation.

This assessment will be undertaken in consideration of the *Guidelines for Preparing a Statement of Heritage Impact* (DPE, 2023), the *Guidelines for Assessing Places and Objects Against the Heritage Council of NSW Criteria* (DPE, 2023) and will align with the principles of the *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (ICOMOS, 2013).

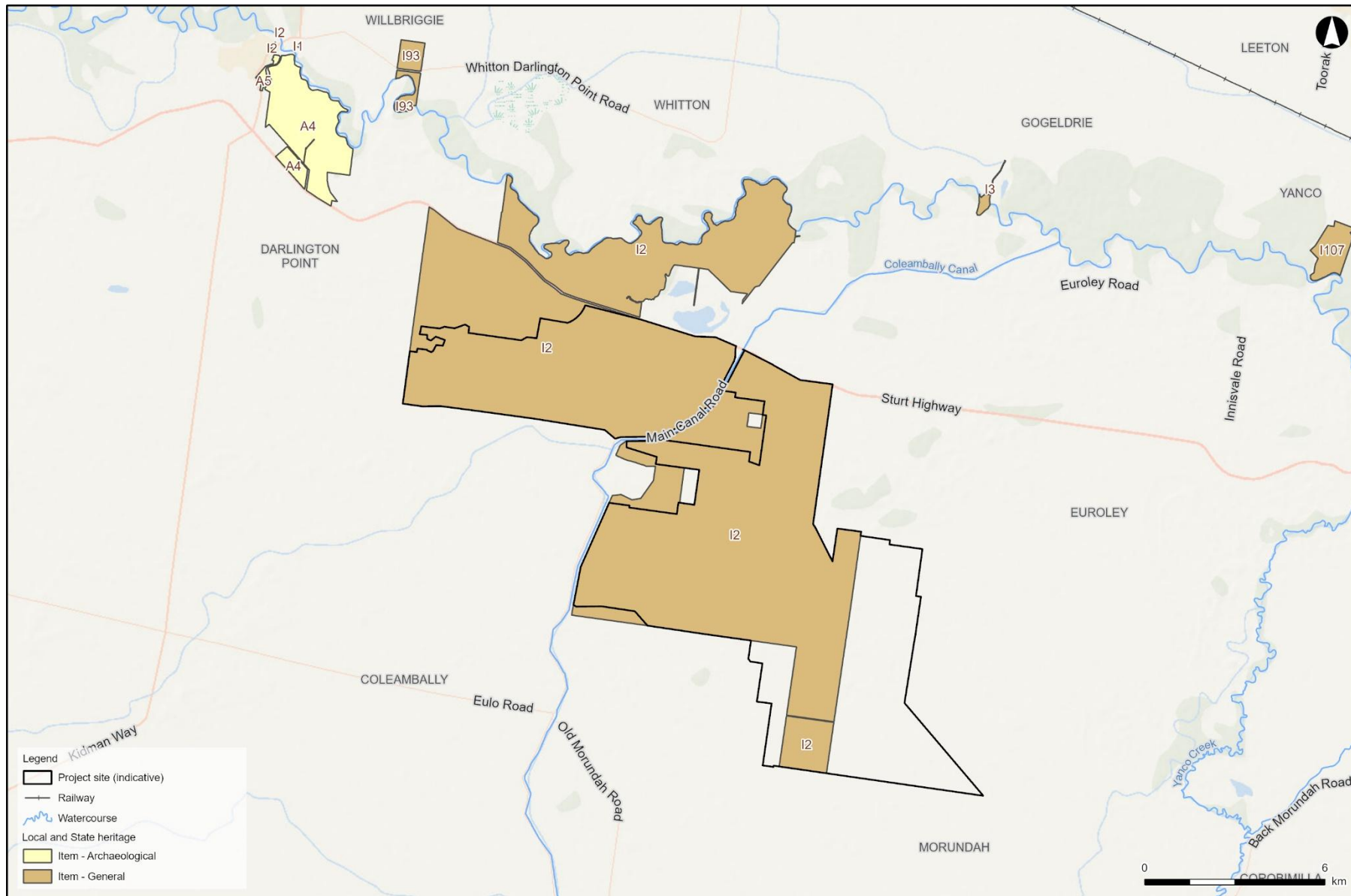


Figure 6-7: Historic heritage

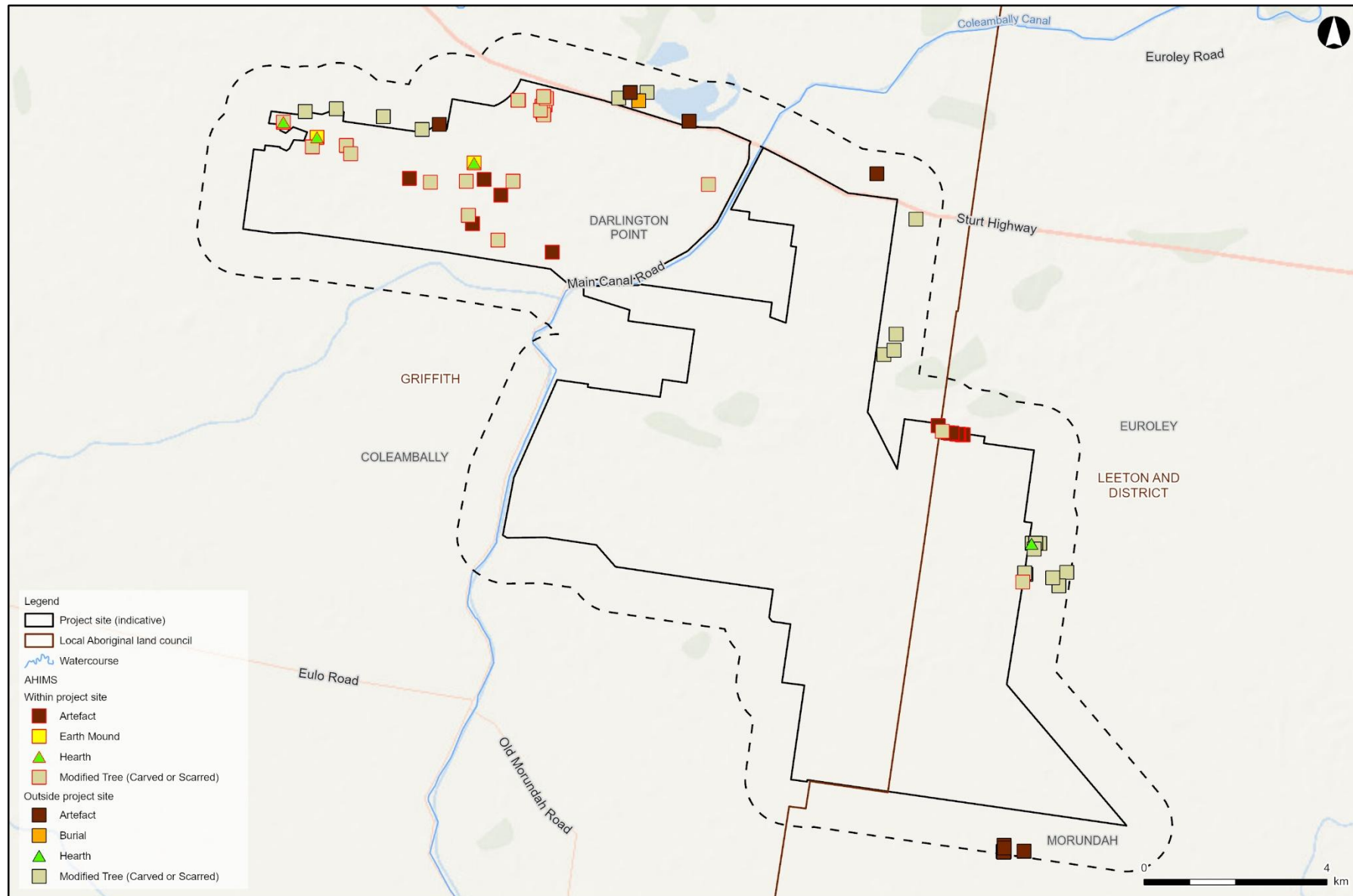


Figure 6-8: Aboriginal heritage

6.6 Traffic and access

6.6.1 Existing environment

An overview of the surrounding road network is shown in Figure 1-1 in Section 1.1.

Preliminary transport route studies have been assessed for potential ports of entry including Port Kembla, Port of Newcastle, Port of Geelong and Port Adelaide. It is anticipated that access to the Project site will be from the Sturt Highway.

Sturt Highway, located along the northern boundary of the Project site, is classified as a State Highway and forms part of the National Highway network, designated as Route A20. The highway runs in a generally east – west direction, aligned along the southern bank of the Murrumbidgee River in NSW. For most of its length in NSW, including near Darlington Point, the Sturt Highway is a two-way sealed road with sealed shoulder/verges (in most of sections), is single carriageway rural highway, with one traffic lane in each direction (Figure 6-9).

There are no bus stops, formal walking or cycling paths in the vicinity of the Project site.

The preferred transport route(s) of the large Project components, such as turbine blades and nacelles to the Project site will be confirmed as part of the EIS and the proponent will consult with the relevant road authorities.



Figure 6-9: Sturt Highway

6.6.2 Potential impacts

Construction

The construction phase of the Project would result in increased traffic movements by both light vehicles and heavy vehicle movements including Oversize Overmass (OSOM) vehicles requiring escort required to transport the WTGs components, blades and other heavy-duty equipment required for construction.

Peak project-related traffic movements are expected to be dominated by light vehicles used by construction workers travelling to, from, and within the Project site. These vehicles will primarily use the existing public road network, including the Sturt Highway, which provides direct access. Heavy vehicles will be required for haulage of materials, delivery of components and equipment, and construction services.

The road network from the selected port to the Project site is anticipated to require road works to facilitate the path of OSOM where turbine specifications differ from projects already first to the region. Transport of the wind farm components from the port terminal to the Project site is the subject of ongoing route analysis and design as part of the EIS.

The Project site is located near the South West REZ, where other existing and proposed renewable energy developments may contribute to cumulative traffic impacts. These cumulative impacts will be investigated further during the EIS phase and are considered a key issue for coordinated infrastructure planning within the adjacent REZ.

Internal roads will be established within the Project site to support construction, operation, repowering and/or decommissioning activities (refer to Figure 3-1). Where practicable, internal roads will follow upgraded existing farm tracks to minimise environmental impacts.

Operation

During operation, vehicle movements are expected to be less frequent and primarily comprising light vehicle movement associated with ongoing access, monitoring and general maintenance of Project infrastructure and land. Heavy vehicles will be required for delivery of components required for maintenance activities, with peak heavy vehicles associated with major maintenance programs as required.

6.6.3 Assessment approach

A Traffic Impact Assessment will be undertaken to determine the potential impacts of additional light and heavy vehicle movements on the local road network during construction and operation. This will include consideration of cumulative traffic impacts with other projects and a route assessment of OSOM vehicles that will be required to transport large Project components. The assessment will identify the requirements for any road upgrades required for the Project.

The Traffic Impact Assessment will be undertaken in accordance with NSW Government guidelines and relevant assessment standards such as *Guide to Traffic Generating Developments* (RTA, 2024), *Guide to Traffic Management* (Austroads, 2020), *Road Design Guide* (Austroads, 2021) and Austroads Standards (where relevant).

6.7 Social and economic

6.7.1 Existing environment

A Social Impact Scoping Report was undertaken by AAP Consulting (2026) (**Appendix H**) in accordance with the *Social Impact Assessment (SIA) Guideline for State Significant Projects* (DPHI, 2025). The scoping report has identified the following:

- The Project's social locality
- The Project's preliminary social baseline data
- Vulnerabilities and opportunities within the Project's social locality
- Potential social impacts associated with the Project, including cumulative impacts.

Social Locality

The social locality for the Project encompasses the Project site and the surrounding communities most likely to experience direct, indirect, or cumulative social impacts. This includes rural localities and towns within the Murrumbidgee and Narrandera LGAs, with functional links to the adjacent Leeton LGA. The primary Suburbs and Localities (SALs) closest to the Project include Darlington Point, Euroley, Morundah, and Coleambally.

This social locality reflects settlement patterns, transport connections, workforce supply pathways, and service catchments, providing a meaningful geographic context for assessing social impacts.

Social Baseline

The social baseline draws on the latest Australian Bureau of Statistics (ABS) 2021 Census data, locally sourced demographic information, and preliminary engagement insights. The social characteristics of the Project's social locality are summarised in Table 6-8. Where relevant, these characteristics are benchmarked against the rest of NSW.

Table 6-8: Social baseline (AAP Consulting, 2026)

Aspect	Number identified
Population	In 2021, total private dwellings across key areas ranged from 31 (Euroley SAL) to 531 (Coleambally SAL). Murrumbidgee and Narrandera LGAs both displayed higher residential stability (59% total population residing 5+ years) compared to the rest of NSW. Aboriginal and/or Torres Strait Islander peoples represented 12.7% of the social locality, compared to 6.6% of the population across the rest of NSW.
Age Profile	At the 2021 Census, the median age of the social locality was 44 years, consistent with the rest of NSW at 43 years.
Health and Wellbeing	In 2021, 12-13% provided unpaid assistance to someone with a disability, with slightly higher rates of physical long-term health conditions than the state levels. This aligned with the LGAs slightly higher median age, suggesting a reliance on local health and support services. Reported mental health conditions were marginally lower across the LGAs, compared to the rest of NSW.
Household type	At the 2021 Census, two-person households accounted for around 44% across the three LGAs, aligning with the reported ageing demographic. Family sizes averaged two children per household, broadly consistent with the state average.
Household size	Average household size ranged from 2.3 (Narrandera) to 2.8 (smaller SAL areas), consistent with state levels. Median rents and rental/mortgage stress and repayments were generally below the rest of the NSW benchmark.

Aspect	Number identified
	Vehicle ownership rates were higher than the rest of NSW (2-3 vehicles per dwelling), reflecting a reliance on private transport and limited public transport.
Income	Median household income ranged from \$1,184 (Narrandera) to \$1,417 (Leeton), lower than the NSW average of \$1,434. The Leeton and Murrumbidgee LGA significantly exceeded the rest of NSW's median personal income, reflecting the region's established agribusiness industry. Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) scores indicate variation in socio-economic position across the LGAs.
Work	Approximately 62% of the residents worked full-time, higher than the state benchmark. Unemployment rates were equal or lower than the rest of NSW. Employment reflects the region's agricultural base, including grain farming, livestock, food processing, education, local government, and health services. All LGAs recorded lower tertiary education attainment than NSW average, suggesting limited local availability for highly specialised technical roles.

Vulnerabilities and Opportunities within the Social Locality

Understanding baseline demographic and socio-economic factors helps identify key aspects of the social locality for impact assessment. This section highlights characteristics that may affect how project-related changes are experienced across the area.

Table 6-9 summarises potential vulnerabilities and opportunities based on comparisons with the Rest of NSW and analysis of SAL and LGA data.

Table 6-9: Potential vulnerabilities and opportunities within the social locality (AAP Consulting, 2026)

Vulnerabilities / Opportunities	Description
Vulnerabilities	
Small population base at SAL level	The immediate host localities (Euroley in particular) have very small populations and limited dwelling numbers. In such contexts, even moderate changes in traffic movements, workforce presence or land use activity may be proportionally noticeable relative to the existing scale of settlement and activity.
Socio-economic variation across LGAs	IRSAD results indicate variation in relative disadvantage across the region, with Narrandera ranking in decile 2 and Leeton in decile 3. This suggests differing levels of socio-economic resilience across the social locality and may influence how economic changes are experienced.
Lower tertiary education attainment	Tertiary education attainment across the LGAs is below the Rest of NSW benchmark. This may influence the extent to which local residents are positioned to access highly specialised technical roles during construction and operations without targeted training or workforce development initiatives.
Transport reliance	High levels of motor vehicle ownership across the SALs and LGAs reflect strong reliance on private transport. This may warrant consideration in relation to potential changes in traffic volumes and road use during construction and may increase sensitivity to changes in traffic volumes, travel times and road conditions during construction.
Limited local rental supply	While median rents are lower than the Rest of NSW benchmark, smaller localities have limited total dwelling stock. Housing market capacity, rather than affordability alone, may require further examination during detailed assessment.

Vulnerabilities / Opportunities	Description
Age profile	Median ages in Narrandera and Murrumbidgee are slightly above the state benchmark, suggesting a mature population profile. Age-related health considerations may be relevant when identifying potential social impact pathways.
Opportunities	
Active regional labour markets	Labour force participation rates are strong in parts of the region, particularly in Murrumbidgee and Leeton. This may present opportunities for local employment during construction, subject to skills alignment.
Established agricultural and processing industries	The prominence of irrigated agriculture, food processing and local government employment suggests existing supply chain networks that may intersect with project-related procurement opportunities.
Community participation	Volunteering rates exceed the Rest of NSW benchmark in Narrandera and Murrumbidgee, indicating established civic participation and organised community structures that may support structured engagement processes.
Regional service centres	Narrandera and Leeton function as regional service hubs with existing infrastructure and accommodation capacity. These centres may play a role in supporting broader project-related economic activity. Griffith, while located further from the Project, represents a larger regional centre that may support workforce accommodation, labour supply and specialised services, depending on workforce sourcing and contractor arrangements.
Alignment with regional renewable energy objectives	The Riverina Murray Regional Plan 2041 identifies renewable energy development as part of the region's economic diversification and infrastructure priorities. The Project is situated within this strategic policy direction, which may support regional investment and industry transition objectives.
Income diversification for host landholders	Agreements with host landholders may contribute to farm income diversification and long-term agricultural enterprise resilience.

6.7.2 Potential impacts

Potential social and economic impacts have been scoped with the consideration of the following and are outlined in Table 6-10:

- The population likely to be affected, including different community subgroups
- The timing of potential social impacts across Project phases (construction, operation, decommissioning)
- The characteristics of each impact (extent, duration, scale, and community sensitivity)
- The likelihood and magnitude of each social impact (unmitigated).

Given the Project's proximity to other proposed renewable developments, potential cumulative social effects have also been identified and will be assessed during the EIS in coordination with relevant technical studies.

Banandra Wind Farm Scoping Report

Table 6-10: Scoped potential social and economic impacts associated with the Project (AAP Consulting, 2026)

ID	Social impact (impact to people)	Social impact categories	Affected people	Project phase	Nature	Indicative impact magnitude (unmitigated)	Potential vulnerabilities or opportunities	Level of assessment in SIA
S01	Increased traffic, delays and changes to local road conditions may disrupt daily travel, reduce perceived safety and affect access to work, services and social activities	Way of life; Accessibility	Local residents, road users, agricultural operators	Construction	Negative	Moderate	Vulnerability: reliance on local road networks, limited alternative routes and high dependence on private vehicles	Detailed
S02	Temporary dust, noise and vibration during construction may reduce comfort, disrupt daily routines and affect people's enjoyment of their homes and surroundings	Health and wellbeing; Surroundings	Nearby residents	Construction	Negative	Moderate	Vulnerability: older residents and families may be more affected by temporary disruptions	Standard
S03	Increased demand for housing and short-term accommodation during construction may reduce availability of short-term and rental accommodation for local residents, workers and visitors	Accessibility; Livelihoods	Local residents, service providers, visitors	Construction	Negative	Moderate	Vulnerability: limited housing supply in smaller rural communities	Detailed
S04	Increased demand for skilled workers may reduce workforce availability for local businesses and services, affecting their ability to operate effectively	Livelihoods	Local businesses, service providers	Construction	Negative	Moderate	Vulnerability: small regional labour markets may experience workforce shortages	Standard
S05	Employment, training and skills development opportunities may improve income, capability and longer-term economic participation for local residents and First Nations communities	Livelihoods	Local workforce, First Nations communities, businesses	Construction / Operation	Positive	Moderate (positive)	Opportunity: pathways to employment and increased economic participation Vulnerability: lower tertiary attainment may limit access to specialised roles without targeted training	Standard
S06	Perceived unequal distribution of project benefits may lead to feelings of unfairness and tension between community members, particularly between host and non-host landholders	Community	Local communities, landholders	Construction / Operation	Negative	Moderate	Vulnerability: small communities with strong social networks	Standard

Banandra Wind Farm Scoping Report

ID	Social impact (impact to people)	Social impact categories	Affected people	Project phase	Nature	Indicative impact magnitude (unmitigated)	Potential vulnerabilities or opportunities	Level of assessment in SIA
S07	Differing views about the project may affect relationships, social cohesion and how people interact within the community	Community	Local communities	Construction / Operation	Negative	Moderate	Vulnerability: existing social divisions may be amplified; strong existing social networks and local identity may increase sensitivity to change	Standard
S08	Ongoing change, uncertainty and cumulative development may contribute to stress, anxiety and a reduced sense of wellbeing, particularly for those with strong attachment to place	Health and wellbeing	Nearby residents, regional communities	Construction / Operation	Negative	Moderate	Vulnerability: long-term residents more prone to social fatigue	Standard
S09	Perceptions of limited influence, transparency or fairness in decision-making may reduce trust in the project and willingness to engage	Decision-making systems	Local communities, community groups	Construction / Operation	Negative	Moderate	Opportunity: meaningful engagement can build trust and participation	Standard
S10	Changes to land use and landscape may affect cultural values, connections to Country and the ability of First Nations people to maintain cultural practices and identity	Culture	First Nations communities	Construction / Operation	Negative	Moderate	Vulnerability: cultural connection to land and Country and the need for culturally appropriate engagement and recognition of Aboriginal community interests	Detailed
S11	Concern or distress about potential impacts on wildlife and ecosystems may affect how people feel about the project and their connection to the local environment	Surroundings; Community	Local communities, interest groups	Construction / Operation	Negative	Moderate	Vulnerability: strong environmental values in rural communities	Standard
S12	Community benefit initiatives, such as funding programs or local investment, may support local projects, services and infrastructure, contributing to wellbeing, cohesion and community capacity	Community; Livelihoods; Decision-making systems	Local communities, community groups	Construction / Operation	Positive	Low to Moderate (positive)	Opportunity: strengthen local initiatives and community resilience depending on design and distribution	Standard
S13	Changes to landscape character and cumulative development may influence how the area is perceived by visitors,	Livelihoods; Community	Local businesses, visitors, tourism operators	Construction / Operation	Negative	Low to Moderate	Vulnerability: tourism and amenity-based businesses more sensitive to perception changes	Standard

Banandra Wind Farm Scoping Report

ID	Social impact (impact to people)	Social impact categories	Affected people	Project phase	Nature	Indicative impact magnitude (unmitigated)	Potential vulnerabilities or opportunities	Level of assessment in SIA
	potentially affecting tourism activity and amenity-based businesses							
S14	Ongoing operational noise may affect sleep, reduce amenity and contribute to stress or reduced wellbeing for nearby residents	Health and wellbeing	Nearby residents	Operation	Negative	Moderate	Vulnerability: sensitivity to noise and rural amenity expectations	Detailed
S15	The scale, height and movement of wind turbines may alter the rural landscape, affecting how people experience, value and identify with their local environment	Surroundings; Community	Nearby residents, rural landholders	Operation	Negative	Moderate	Vulnerability: strong place attachment and long-term residency	Detailed
Cumulative Impact								
S16	Improvements to roads or infrastructure may enhance access, connectivity and emergency response, particularly for people in more isolated areas	Accessibility	Local residents, emergency services	Operation	Positive	Low to Moderate (positive)	Opportunity: improved access to services and emergency response	Standard
S17	The combined presence of multiple renewable energy developments may contribute to a sense of cumulative landscape change, reducing perceived rural character and contributing to visual fatigue	Surroundings; Community	Regional communities	Operation	Negative	Moderate	Vulnerability: cumulative exposure to infrastructure development	Detailed
S18	Ongoing exposure to multiple infrastructure projects may contribute to social fatigue, reduced resilience and a changing sense of regional identity	Community	Regional communities	Construction / Operation	Negative	Moderate	Vulnerability: cumulative development pressures	Standard

6.7.3 Assessment approach

Building on the scoping findings and early community engagement, a comprehensive Social Impact Assessment (SIA) will be undertaken as part of the EIS in accordance with the Social Impact Assessment Guideline for State Significant Projects (DPHI, 2025). The SIA will focus on the following key social themes:

- Community cohesion and participation in decision-making
- Way of life, rural amenity, and lifestyle impacts
- Health and wellbeing of local and neighbouring communities
- Livelihoods and economic participation, including employment and local business opportunities
- Cultural heritage and ongoing engagement with First Nations communities
- Accessibility, transport, and infrastructure impacts
- Surrounding environmental values and their social significance
- Potential cumulative social impacts from concurrent regional developments.

In addition to the SIA, an Economic Impact Assessment (EIA) will be prepared as part of the EIS. The SIA and EIA within the EIS will also:

- Update the social baseline incorporating the latest census data and ongoing engagement findings
- Confirm and refine the social locality boundary based on emerging impact pathways and community feedback
- Employ a mixed-methods approach including targeted interviews, surveys, and focus groups with host landholders, neighbouring residents, local councils, service providers, and First Nations representatives
- Quantify economic impacts such as employment, local procurement, and regional economic flow-on effects
- Integrate cumulative impact considerations, coordinating with technical assessments of traffic, noise, visual amenity, and biodiversity to understand indirect social effects
- Develop and recommend mitigation measures, community benefit-sharing arrangements, and grievance mechanisms tailored to local needs
- Propose monitoring frameworks with indicators and reporting commitments to ensure adaptive management of social impacts throughout construction and operation.

6.8 Land

6.8.1 Existing environment

The Project site is currently used as a cattle and sheep station, with large stands of native vegetation, including woodland and grassland communities.

The Project site is located on privately managed rural land and is not within any national park or nature reserve. Murrumbidgee National Park and South West Woodland Nature Reserve are located adjacent to the eastern boundary of the Project site, forming part of the broader land use and environmental setting.

A review of publicly available geology and land mapping of the Project site is summarised in Table 6-11 Land and soil capability is also shown on Figure 6-10.

Table 6-11: Land and soil characteristics of the Project site

Feature	Description
Geology	The geology of the Project site is primarily mapped as Cenozoic Shepparton Formation, which consists of poorly consolidated clay, silt, sand, and gravel. This formation is widespread throughout the Riverina region, between the Murray and Lachlan Rivers. The riparian corridor along the Murrumbidgee River at the northern boundary of the Project site is mapped as Quaternary alluvial deposits, characterised by current and recent mud, silt, sand, and gravel. Portions of the site are also mapped as Cenozoic undifferentiated sediments/sedimentary rocks, which are unconsolidated mud, silt, sand, and gravel of uncertain age and origin. These sediments, common in western NSW, may include deposits from ancient river systems (palaeochannels), sometimes containing iron-rich fragments known as pisolites. Additionally, small areas of the site are mapped as Quaternary lacustrine deposits, formed when lakes fill with sediment during wet periods. As the water evaporates, mud, silt, and sand remain in the dry lake bed. These deposits are typical of western NSW, especially south of the Darling River and in the Riverina, with notable examples near Tibooburra and Cobham Lake.
Topography	The Project site is generally flat at 130 metres Australian Height Datum (AHD). The overall landform is influenced by the presence of the Murrumbidgee River along the northern boundary of the Project site.
Soil	Soil Stability The Australian Soil Classification maps the soil type for the Project site predominantly as Vertosols. Often called cracking clay soils, Vertosols have a clay texture throughout the profile and display strong cracking when dry and shrink and swell considerably in wet and dry conditions. The Great Soil Group mapping of NSW further identifies the Project site's soils primarily as Grey, Brown, and Red Clays, with minor occurrences of Red-Brown Earths in the northern section. These characterisations correspond with the mapped hydrologic soil group for the area, which describe the soil as having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission. Soil Chemistry Soil Chemistry Available mapping resources do not identify any soil chemistry matters relevant to the Project site. That is, the data provides no indication of salinity, Acid Sulfate Soil or naturally occurring asbestos presence or risk.
Land capability and agricultural value	The following land capability and agricultural value assessment is in accordance with the <i>Land and soil capability assessment scheme</i> (NSW Office of Environment and Heritage, 2012). The Land and Soil Capability (LSC) Mapping of NSW classifies the majority of the Project site as LSC Class 4, indicating moderate capability land. This land has moderate to high limitations for certain uses and requires careful management to prevent soil and land degradation.

Feature	Description
	Low capability land (LSC 6) is mapped across the centre of the site which has very high limitations for high-impact land uses such as grazing, forestry and nature conservation. Careful management of limitations of this LSC is required to prevent severe land and environmental degradation. High capability land (LSC 3) is present adjacent to the Project site and encroaches slightly into the site in the north. This land has moderate limitations and can sustain high-impact land uses. There are no areas within the Project site or its immediate surroundings identified as Biophysical Strategic Agricultural Land (BSAL) under the Strategic Regional Land Use Policy, indicating that the site is not considered of high strategic value for agriculture at the state level.
Contamination	A search of the NSW EPA contaminated land register identified no contaminated sites recorded within or near the Project site.

6.8.2 Potential impacts

Construction

During the construction of the Project there is potential for soil disturbance which may result in:

- Topsoil and subsoil impacts (e.g. degradation and loss of topsoil, compaction of soil through vehicle movement and poor reinstatement and soil inversion or mixing resulting in changes in constraints such as salinity and sodicity within the soil profile)
- Disturbance and form changes affecting natural surface drainage
- Erosion and sedimentation, particularly during clearance and soil exposure activities resulting in on-site impacts (such as erosion of constructed landforms) and off-site impacts (such as eutrophication of downstream waters)
- Increased dust generation.

If not suitably managed or mitigated, these impacts could result in:

- A reduction of soil quality and volume
- Impacts on future agricultural productivity and land use after rehabilitation
- Limiting rehabilitation due to loss or degradation of soil materials needed to reinstate the soils in a suitable condition.

These impacts will be further assessed in the EIS.

Operation

Minimal soil disturbance is anticipated during the operation of the Project and will be managed within the Project site.

Maintenance vehicles would be limited to using the existing permanent access roads and internal project tracks, limiting any new areas of disturbance.

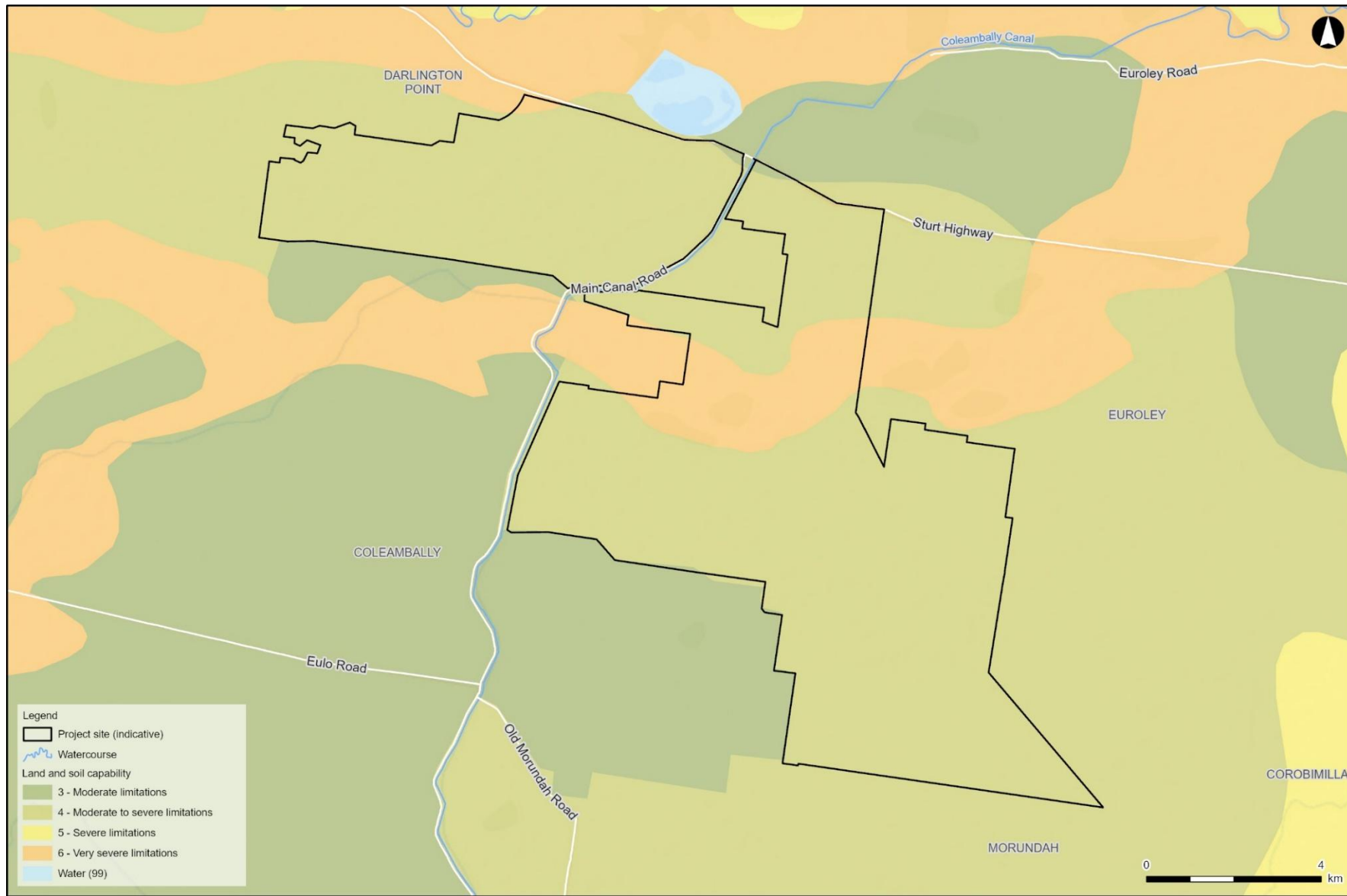


Figure 6-10: Land and soil capability

6.8.3 Assessment approach

An assessment of the suitability of the Project site for a wind farm development and the compatibility of the wind farm on existing land use will be undertaken during the EIS phase.

This will comprise of further desktop assessment of soils, current land use, land capability, agricultural value and contamination. If required, this will be supported by geotechnical investigations and surface and subsurface soil investigations. These investigations will further inform the design of footings, placement of handstands and other site infrastructure, and will also verify the desktop findings regarding soil stability, chemistry and contamination potential.

6.9 Water and hydrology

6.9.1 Existing environment

Hydrology

The Project site is situated within the Murrumbidgee River catchment area. Coleambally Canal is a 9th order Strahler stream that transects through the Project site. It is an artificially constructed canal and a tributary of the Murrumbidgee River and Tombullen storage dam. Several smaller tributaries also run through the Project site including 1st and 2nd order Strahler watercourses.

The Murrumbidgee River is the closest major watercourse, and it located about 2 km north of the site. The streams present within the Project site range from 0 to 9 Strahler stream orders which may support aquatic Groundwater Dependant Ecosystems (GDEs), as illustrated in Figure 6-11.

Flooding

The *Murrumbidgee River at Darlington Point and Environs Flood Study* (Murrumbidgee Council, 2018) provides detailed modelling of flood scenarios. The area of the Project site north of the Coleambally Main Canal, is within the Murrumbidgee Valley Floodplain and is declared to be a floodplain under the Water Management (General) Regulation 2025. The floodplain is 12,300 km² in area and extends downstream from Wagga Wagga in the east to the junction of the Murray and Murrumbidgee rivers in the west. The Project site includes areas divided into Zone A and Zone B management zones (refer to Figure 6-11). These areas would be managed in accordance with the *Floodplain Management Plan for the Murrumbidgee Valley Floodplain Order 2025*.

Assessment of floodplains across the remainder of the site would be verified during the EIS process.

Groundwater

Preliminary searches of the WaterNSW Real-Time Data database identified three groundwater monitoring bores within 5 km of the Project site. These are summarised in Table 6-12 and illustrated in Figure 6-11.

Table 6-12: Groundwater bores

Bore	Location	Purpose	Bore Water Level below measuring Pt (metre)
GW036367	About 2.8 km north of the Project site	Monitoring	110
GW040862	About 2.67 km east of the Project site	Monitoring	110
GW040957	About 5.36 km east of the Project site	Monitoring	110

Water sharing plans

Water sharing plans that apply to the Project are shown in Table 6-13. The EIS will include an assessment of any anticipated groundwater take and consideration of water licensing requirements under relevant Water sharing plans.

Table 6-13: Water sharing plans and water sources

Water type	Water sharing plan	Water source
Surface water	<i>Water Sharing Plan for the Murrumbidgee Unregulated River Water Sources 2012</i>	Murrumbidgee Western Water Source Murrumbidgee (Gogeldrie to Waldaira)
Groundwater	<i>Water Sharing Plan for the Murrumbidgee Alluvial Groundwater Sources</i>	Lower Murrumbidgee Shallow

Groundwater dependent ecosystems (GDE)

The Project site is mapped as containing low potential terrestrial GDE (Figure 6-12).

There is high potential terrestrial GDE north of the site near the Tombullen Storage and the Murrumbidgee River. This data has been sourced from detailed analysis undertaken by various state and regional agencies (BOM, 2025).

Low potential aquatic GDE are present north of the Project site, encroaching slightly into the site boundary, and moderate potential aquatic GDE are present about 1 km north. This data was sourced from a national-scale analysis.

The Project site is also identified as groundwater vulnerable under the Murrumbidgee and Narrandera LEPS.

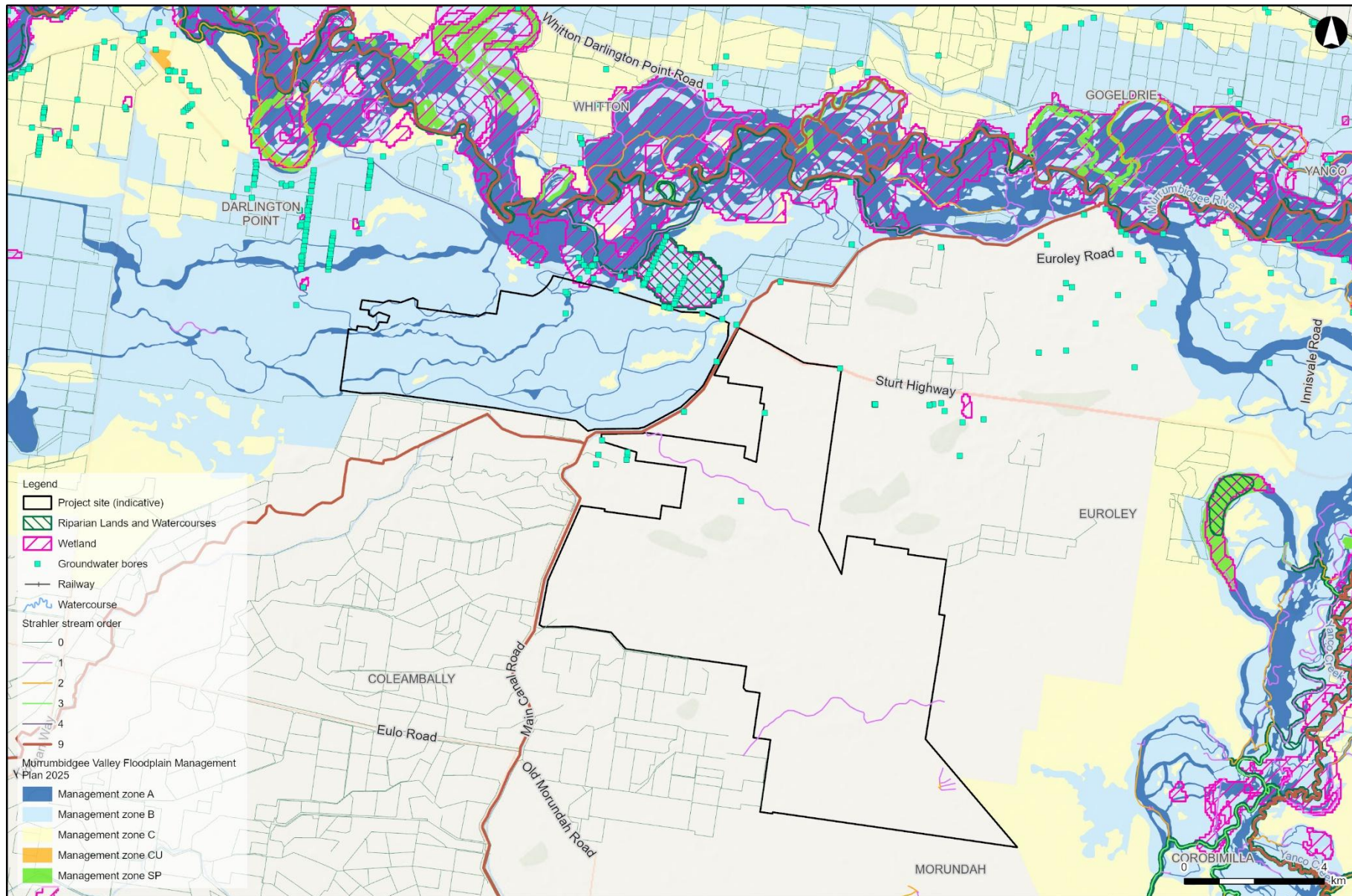


Figure 6-11: Watercourses and groundwater bores

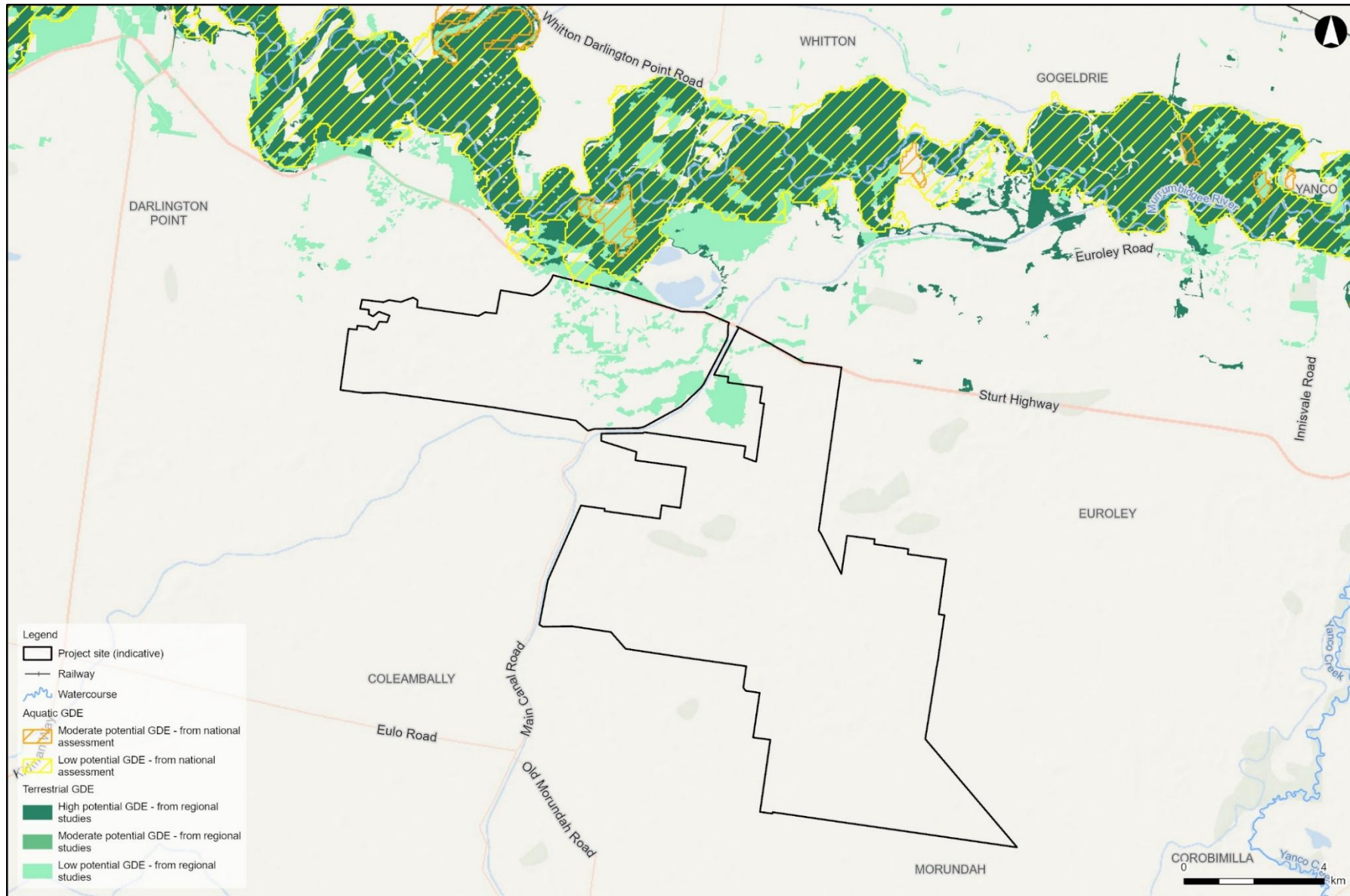


Figure 6-12: Groundwater dependent ecosystems (GDE)

6.9.2 Potential impacts

Construction

Water and hydrology impacts during construction may include:

- Altered surface water runoff (quality, quantity and direction) and associated erosion and sedimentation during earthworks
- Accidental spills or leaks from plant and equipment
- Obstruction of fish passage and impacts to waterfront land and riparian ecology during clearing and construction of water crossings, especially near the Murrumbidgee River and Tombullen Storage, which are classified as Key Fish Habitat
- Potential loss of floodplain storage and changes to flood behaviour (including flow obstruction) due to civil works
- Demands on local water supply for dust suppression and soil management, particularly during drought periods
- Impacts to groundwater quantity, quality and associated GDEs if taking water from this source, clearing GDEs or during excavations/piling.

Operation

Water impacts during operations are generally limited to sealed areas if not draining as per design, lack of track and crossing maintenance, minor earthworks arising from maintenance activities of underground features, or failed rehabilitation resulting in soil loss.

There is the potential for increased surface water runoff due to project operational hardstand areas and overland obstructions.

6.9.3 Assessment approach

The EIS will consider potential impacts on both surface water catchment and groundwater resources. Suitable management and mitigation measures will be identified to minimise these potential impacts.

The assessment of water and hydrology will include:

- Review of relevant existing hydrological conditions such as rainfall and evaporation data, catchment areas, watercourses, water sources (surface and groundwater) and water quality
- Estimates of water demand and water supply arrangements with consultation involving Murrumbidgee and Narrandera Councils, landholders and suppliers to identify water sources and licencing requirements for the Project
- Identification of impacts on waterfront land, water quality and water quantity of surface water and groundwater resources
- Assessment of the potential impacts of the Project on flood behaviour
- Identifying setbacks for impact avoidance and identifying water-related mitigation and management measures to be implemented to ensure that all potential water and hydrology impacts are minimised.

The guidelines listed in **Appendix B** will be considered, where required, as part of the assessment.

6.10 Hazards and risk

6.10.1 Existing environment

Aviation

A preliminary desktop review has identified two aviation facilities within approximately 50 km of the Project site:

- Narrandera Airport – located approximately 48 km east of the Project
- Leeton Airport – located approximately 48 km northeast of the Project.

In addition to these public facilities, private and unlicensed airstrips may exist within the broader locality, particularly given the rural and agricultural nature of the region.

Bushfire

The Project site is situated in a rural landscape with varying bushfire risk levels. According to NSW bushfire mapping:

- The eastern side of the Project site is mapped as **Category 3** bushfire prone land. Category 3 vegetation is medium bushfire risk vegetation and is typical of grasslands, freshwater wetlands, semi-arid woodlands, alpine complex and arid shrublands (NSW Rural Fire Service (2015)). This category requires a 30-metre buffer.
- **Category 2** bushfire prone land is located north of the Project site and encroaches into the Project site. This vegetation zone is a lower bushfire risk than Category 1 and Category 3 as it is characteristic of lower combustibility vegetation. The vegetation also requires a 30-metre buffer.
- **Category 1** bushfire prone land is mapped about 250 metres north-east of the Project site. Category 1 vegetation is the highest risk for bushfire and requires a 100-metre buffer. This vegetation comprises areas of forest, woodlands, heaths, forested wetlands and timber plantations.

It is noted that the NSW bushfire mapping for the project area is limited, with data gaps across part of the Project site. Vegetation mapping prepared by project ecologists (refer to Section 6.4) and *NSW Rural Fire Service Guide for Bush Fire Prone Land Mapping (2015)* has therefore been considered to infer the bushfire risk levels of these areas. Areas mapped as grassland habitat across the Project site, have been assumed to be consistent with Category 3 bushfire prone land and have medium bushfire risk. Areas mapped as woodland habitat have been assumed to be Category 1 bushfire prone land.

Refer to Figure 6-13 for mapped bushfire-prone land classifications across the Project site.

Electromagnetic fields

Electric and magnetic fields (EMFs) are associated with a range of sources and occur both naturally and as a result of human activity. Sources of EMF include power lines, electrical wiring and electrical appliances. As such, people are constantly exposed to EMFs in their home and work environments.

EMF would relate to the 330 kV Transmission Line Darlington Point to Wagga Wagga, which crosses the Project site.

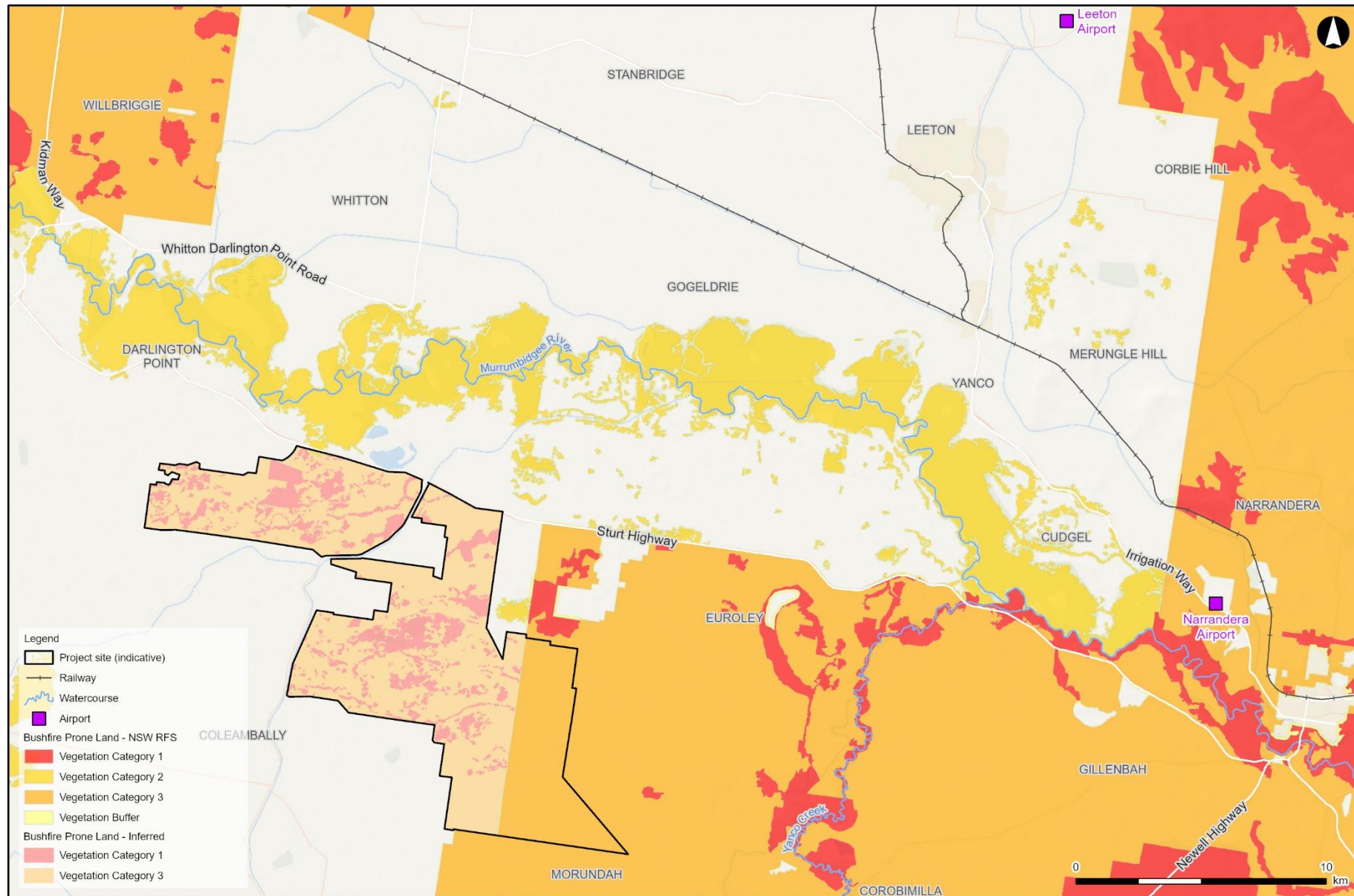


Figure 6-13: Bushfire vegetation mapping

6.10.2 Potential impacts

Construction

The following hazards and risks have the potential to occur during construction phase of the Project:

- Accidental release of chemicals, fuels and hazardous materials associated with their onsite storage, use and transport, and the resultant impacts on construction workers and the environment. To manage this risk, all hazardous substances that may be required would be stored and managed in accordance with the *Work Health and Safety Act 2011* and the *Storage and Handling of Dangerous Goods Code of Practice* (WorkCover NSW, 2005).
- Disturbance of contaminated soil and existing structures containing contaminated materials.
- Construction activities (such as hot works) that exacerbate combustion or ignition risks resulting in a bushfire and external bushfires that can impact construction personnel and infrastructure.

Operation

The following hazards and risks have the potential to occur during operation of the Project:

- Infrastructure components that exacerbate combustion or ignition risks (such as transmission lines, other electrical components) and external bushfires that can impact operational personnel and infrastructure.
- Telecommunications and radar services can be impacted by WTGs through electromagnetic interference (EMI).
- Parts of the blade detaching and being thrown into the surrounding area (referred to as blade throw).
- Health risks associated with EMF relating to electric current flows, associated with overhead and underground transmission lines, substations and electrical appliances.

6.10.3 Assessment approach

The *State Environmental Planning Policy (Resilience and Hazards) 2021* (R&H SEPP) applies to any projects that fall under the policy's definition of 'potentially hazardous industry' or 'potentially offensive industry'.

The assessment approach for each matter to be considered in the hazards and risks assessment is summarised in Table 6-14.

Table 6-14: Hazard and risk assessment approach

Matter	Assessment approach
Aviation	Potential aviation impacts associated with the Project, including requirements of air safety regulations, guidelines and procedures, would be assessed in an Aviation Impact Assessment. The assessment will identify the locations of certified airports and landing strips within proximity to the Project, assess obstacle limitation surfaces and aerial firefighting requirements and will identify appropriate aviation risk mitigation strategies, as required. This assessment will be undertaken in accordance with the <i>National Airports Safeguarding Framework Guideline D: Managing Wind Turbine Risk to Aircraft</i> (DIRDC, 2012) and Section 5.3 and Appendix A of the <i>Wind Energy Guideline</i> (DPHI, 2022a).
Bushfire	An assessment will be prepared to demonstrate that the Project can be designed, constructed and operated to minimise ignition risks and provide for asset protection consistent with the <i>Planning for Bushfire Protection 2019</i> .
Blade throw	An assessment will be undertaken to assess blade throw risks.
Telecommunications	An assessment will be undertaken to identify possible effects on telecommunications systems, including, but not limited to, mobile phone links, emergency services communications and trigonometrical stations etc. The assessment will also include an analysis of suitable options to avoid

Matter	Assessment approach
	potential disruptions to radio communication services. The measures may include the installation and maintenance of alternative sites and will be determined in consultation with the relevant impacted service provider.
Electromagnetic fields	Consideration and documentation of any health issues having regard to the latest advice of the National Health and Medical Research Council will be undertaken, and potential hazards and risks associated with EMF will be identified. The assessment will demonstrate the application of the principles of prudent avoidance, including an assessment against the <i>International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields</i> and Section 6 of the <i>Wind Energy Guideline (DPHI, 2024a)</i> .
Dangerous goods	A preliminary risk screening will be completed for the Project in accordance with the R&H SEPP and the <i>Applying SEPP 33</i> guideline (DPHI, 2011). If the project is identified as 'potentially' hazardous', a Preliminary Hazard Assessment (PHA) will be prepared in accordance with the <i>Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis' and Multi-level Risk Assessment</i> (DoP, 2011a).

6.11 Cumulative

6.11.1 Existing environment

As discussed in Section 2.1, the Project is located approximately 55 km from Dinawan Substation, which marks the eastern boundary of the South West REZ. This REZ is a strategic focus area for large scale renewable energy development in NSW and its proximity to the Project site increases the likelihood of cumulative interactions with other energy infrastructure.

Table 6-16 identifies 18 renewable energy projects within a 50 km radius of the Project site. These projects are at various stages of development—operational, approved, or in planning—and include solar farms, BESS, and wind farms. It is anticipated that additional renewable energy projects may emerge in the future, which are not publicly known at the time of preparing this report.

6.11.2 Potential impacts

A preliminary cumulative impact assessment has been undertaken in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPIE, 2022) (Table 6-15). Cumulative impacts on environmental matters will be considered separately for construction and operational phases due to the different levels of impacts. For example, traffic impacts will primarily apply to the construction phase of project development, while noise and visual are impacts that are likely to be ongoing during operation. It is important to note that potential impacts may also be positive, such as the social and economic benefits that may be reflected in employment and economic development in the region.

6.11.3 Assessment approach

Cumulative impacts identified within the cumulative impacts scoping assessment were assigned one of three categories of assessment (Table 6-15), which will be assessed at the EIS stage.

The cumulative impacts scoping assessment categories are provided in Table 6-15.

Table 6-15: Cumulative impact assessment categories

Category of assessment key	
Detailed assessment proposed	The Project may result in significant impacts on the matter, including cumulative impacts. Detailed assessment is characterised by: • Potential overlap in impacts between a future project (e.g., Project A) and the Project. • Potential for significant cumulative impacts because of the overlap, requiring detailed technical studies to assess the impacts. • Sufficient data is available on the future project to allow a detailed assessment of cumulative impacts with the proposed Project for the relevant matter. • Uncertainties exist with respect to data, mitigation, assessment methods and criteria.
Standard assessment proposed	The Project is unlikely to result in significant impacts on the matter, including cumulative impacts. Standard assessments are characterised by: • Impacts are well understood. • Impacts are relatively easy to predict using standard methods. • Impacts are capable of being mitigated to comply with relevant standards or performance measures. • the assessment is unlikely to involve any significant uncertainties or require any detailed cumulative impact assessment.
No further assessment proposed	No potential overlap in impacts between a future project and the Project that would warrant any consideration in the cumulative impact assessment.

Table 6-16: Cumulative impacts scoping assessment of projects up to 50 km

Project Name and Key Features	Distance to project (km)	Project Status	Potential overlap between impacts of Project and impact of another project				
			Traffic and Transport	Visual and landscape	Biodiversity	Noise and vibration	Social and economic
Darlington Point Solar Farm (SSD-8392) Mod 1 and Mod 2 Development of a 275 MW solar farm and ancillary infrastructure including 100 MWh BESS. Mod 1 and Mod 2 seeking approval for increased BESS capacity and changes to BESS connection and laydown area design.	1	Approved	Construction unlikely to overlap.	Cumulative visual impacts possible at nearby sensitive receptors.	Potentially impacting same PCTs, TECs and threatened species habitat.	Cumulative noise and vibration impacts possible at nearby sensitive receptors.	Construction unlikely to overlap.
Delvins Bridge Wind Farm (SSD-76610458) Development of a wind farm comprising 94 WTG, associated electrical infrastructure and proposed generation capacity of 680 MW. Connecting into NEM via existing Transgrid 330 kV Darlington Point to Wagga Wagga transmission line.	1	Preparing EIS	Potential construction overlap. At this stage of design, likely that both projects would be accessed from Sturt Highway therefore potential overlap in haulage routes.	Cumulative visual impacts possible at nearby sensitive receptors.	Potentially impacting same PCTs, TECs and threatened species habitat. Cumulative prescribed impacts such as bird and bat WTG strike.	Cumulative noise and vibration impacts possible at nearby sensitive receptors.	Cumulative social impacts anticipated in the surrounding community and region as both sites are likely to be serviced by the townships of Leeton and Narrandera.
Yarrabee Solar Farm (SSD-9237) Development of a 900 MW solar farm with energy storage and associated infrastructure	1	Approved	Construction unlikely to overlap.	Cumulative visual impacts possible at nearby sensitive receptors.	Potentially impacting same PCTs, TECs and threatened species habitat.	Cumulative noise and vibration impacts possible at nearby sensitive receptors. Construction noise and vibration unlikely to overlap.	Construction unlikely to overlap.

Project Name and Key Features	Distance to project (km)	Project Status	Potential overlap between impacts of Project and impact of another project				
			Traffic and Transport	Visual and landscape	Biodiversity	Noise and vibration	Social and economic
Woodland BESS (SSD-30526266) Development of a 200MW/800MWh BESS with associated infrastructure.	4	Approved	Construction unlikely to overlap.	Cumulative visual impacts possible at nearby sensitive receptors.	Potentially impacting same PCTs, TECs and threatened species habitat.	Cumulative noise and vibration impacts possible at nearby sensitive receptors.	Construction unlikely to overlap.
Boags Creek Solar Farm (SSD-74997474) Development of a 300 MW solar farm, 330 MW integrated BESS, and associated infrastructure.	5	Preparing EIS	Potential construction overlap. Likely overlap in haulage routes along Sturt Highway.	Cumulative visual impacts possible at nearby sensitive receptors.	Potentially impacting same PCTs, TECs and threatened species habitat.	Cumulative noise and vibration impacts possible at nearby sensitive receptors.	Cumulative social impacts anticipated in the surrounding community and region as both sites are likely to be serviced by nearby townships.
Coleambally Solar Farm (SSD-8208) Mod 1 Development of a 150 MW solar farm and associated infrastructure. Modification approved to change construction ancillary area design.	15	Operational	Construction unlikely to overlap.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.
Coleambally BESS (SSD-23368211) Development of a 100 MW / 400 MWh BESS and associated infrastructure.	19	Approved	Construction unlikely to overlap.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.

Project Name and Key Features	Distance to project (km)	Project Status	Potential overlap between impacts of Project and impact of another project				
			Traffic and Transport	Visual and landscape	Biodiversity	Noise and vibration	Social and economic
Comet Park BESS (SSD-76008209) Development of a 150 MW / 600 MWh battery storage system and associated infrastructure including grid connection.	19	Preparing EIS	Potential construction overlap. Likely overlap in haulage routes along Sturt Highway.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Cumulative social impacts anticipated in the surrounding community and region as both sites are likely to be serviced by the townships of Leeton and Narrandera.
Yanco BESS (SSD-67478479) Development of a 250 MW / 1100 MWh BESS and associated infrastructure and connection works.	20	Approved	Construction unlikely to overlap.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.
Yanco Solar Farm (SSD-9515) Development of 60 MW solar farm with energy storage and associated infrastructure.	20	Approved	Construction unlikely to overlap.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.
Narrandera Solar Farm and BESS (SSD-102673712) Development of a solar and energy storage system with a capacity of approximately 200 MW AC / 260 MW DC solar farm and a 400 MW AC BESS at the point of connection.	29	Planning	Potential construction overlap. Likely overlap in haulage routes along Sturt Highway.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Cumulative social impacts anticipated in the surrounding community and region as both sites are likely to be serviced by the township of Narrandera.

Project Name and Key Features	Distance to project (km)	Project Status	Potential overlap between impacts of Project and impact of another project				
			Traffic and Transport	Visual and landscape	Biodiversity	Noise and vibration	Social and economic
Avonlie Solar Farm and BESS (SSD-9031) Development of a utility-scale solar farm (up to 200 MW) with associated infrastructure.	33	Operational	Construction unlikely to overlap.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.
Griffith BESS (SSD-85372970) Development of a BESS with a capacity of up to 100 MW power supply into the NEM for up to 10 hours capacity	37	Planning	Potential construction overlap. Likely overlap in haulage routes along Sturt Highway.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.
Griffith Solar Farm (SSD-6604) Development of a 60 MW solar farm and associated infrastructure	38	Operational	Construction unlikely to overlap.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.
Riverina Solar Farm (SSD-7482) Development of a 30 MW solar farm and associated infrastructure to feed into the National Electricity Market (NEM).	39	Operational	Construction unlikely to overlap.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.
Dinawan Wind Farm (SSD-50725708) 250 WTGs, with a generation capacity of 1.5 GW, battery energy storage (300MW/1200MWh), electrical collection system, substation and control room, electricity transmission line infrastructure, and other ancillary facilities.	45	Planning	Sufficient separation, construction unlikely to overlap.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat. Cumulative prescribed impacts such as bird and bat WTG strike.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.
Sandigo Solar Farm and BESS	48	Approved					

Project Name and Key Features	Distance to project (km)	Project Status	Potential overlap between impacts of Project and impact of another project				
			Traffic and Transport	Visual and landscape	Biodiversity	Noise and vibration	Social and economic
(SSD-8872) Development of two solar farms and associated infrastructure, generating up to a combined total of 300 MW (AC)			Construction unlikely to overlap.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.
Dinawan Solar Farm and BESS (SSD-50725959) Development of 1000 MW solar farm, associated infrastructure and 300 MW/1.2 GWh BESS	49	Planning	Sufficient separation, construction unlikely to overlap.	Low risk of cumulative visual impacts due to distance between proposed developments.	Potentially impacting same PCTs, TECs and threatened species habitat.	Low risk of cumulative noise impacts due to distance between proposed developments.	Construction unlikely to overlap.

6.12 Other

The EIS will also address other issues summarised in Table 6-17. Detailed assessments are not proposed as these issues can be readily defined, assessed and mitigated using well recognised approaches. These matters will be appropriately assessed in the EIS.

Table 6-17: Other issues to be assessed

Issue	Comment
Air quality	A qualitative assessment will be undertaken for construction activities and will include relevant construction phase air quality controls. The assessment will be in accordance with relevant NSW guidelines, including the <i>Approved Methods and Guidelines for the Modelling and Assessment of Air Pollutants in NSW</i> (NSW EPA, 2022). Air quality issues relating to operation would be minimal and likely only relate to the operation of maintenance vehicles, site staff light vehicles and the occasional heavy vehicles required for deliveries. This will also be considered in the qualitative assessment.
Climate change	Climate change projections for the operational phase of the Project show the potential for an increase in operational risks, associated mostly with flooding and extreme weather events. These issues will be considered as part of the design development for the Project. Direct climate risks may include increased frequency and severity of extreme rainfall events, increased average temperatures and frequency of heatwaves and increased severity and frequency of bushfires.
Waste	The EIS will describe the likely waste streams to be generated during construction and operation and describe measures to manage, reuse, recycle and dispose of this waste in accordance with relevant guidelines.

6.13 Matters requiring no further assessment

Matters requiring no further assessment and the associated justification are identified in Table 6-18. These matters have been identified in accordance with the SSD Guidelines.

Table 6-18: Matter requiring no further assessment in the EIS

Matter	Justification
Access – Port, airport and rail facilities	The Project does not involve the development of, or affect access to port, airport or rail facilities. The Project does not propose to utilise any rail facilities.
Air – Gases (greenhouse)	The emissions resulting from the Project will be nullified by the avoidance of emissions that result from traditional energy generation technology. Greenhouse gas emissions will be addressed in the justification for the Project as part of the EIS. Scope 1 – 3 greenhouse gas emissions generated from construction and operation of the Project will be assessed as part of the EIS.

Matter	Justification
Amenity – Odour	The Project would not produce odorous emissions based on the nature of the development.
Hazards and risk – Coastal hazards, Land movement, Dam safety	The Project does not propose to construct, maintain or decommission a dam.
	The Project does not generate risk of land movement.
	The Project is not located within a coastal setting.
Social – Decision making systems	The Project would have no impact on decision making systems but would be undertaken in accordance with those systems.

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APPENDIX A SCOPING REPORT COMPLIANCE CHECKLIST

SSD guidelines –preparing a scoping report	Where addressed
Introduction	
Applicant's details, including ABN and address	Section 1.3
Simple but accurate description of the project including: - a statement of the objectives of the development - site information including address and lot details - a map of the site in its regional setting.	Section 1.1 Section 1.2 Table 1-1 Figure 1-1 Figure1-1
Background to the project - any relevant history - key strategies that will be adopted to avoid, minimise or offset the impacts of the project to the extent known at the scoping stage.	Section 1.5
Description of any related development, including any existing or approved development (including any existing use rights or continuing use rights) that would be: - incorporated into the project, allowing some or all of the existing development consents or rights for this development to be surrendered if the SSD project is approved and the approved project to operate under a single SSD development - operated in conjunction with the project under a separate development consent or approval. - development that is required for the project but would be subject to a separate assessment (e.g. upgrades to ancillary infrastructure, approvals for subsequent stages of the project).	Section 1.4
Strategic context	
This section should identify at a high level the key strategic issues that are likely to be relevant to the justification and evaluation of the project and that will be investigated in more detail in the EIS. Key strategic issues may include: the justification of the project, including whether any government strategies, policies or plans (such as environmental planning instruments) provide strategic support for the project.	Section 2.1 Section 2.5
relevant plans that establish a regional or local land use planning context for the project, including if the project is linked to a planning process that has already addressed environmental impacts relevant to the project	Section 2.1
key features of the site or surrounds that could affect or be affected by the project, including: - the local and regional community, having regard to land ownership and uses in the area and the proximity of any population centres or residences to the site - important natural or built features, such as National Parks, scenic landscapes, conservation areas, culturally important landscapes, and major infrastructure (e.g. roads, railway lines, airports, ports, pipelines, transmission lines and water storage and treatment) - key risks or hazards for the project, such as flooding, bushfire prone land, contaminated land, steep slopes and potential landslips, mine subsidence prone land, coastal hazards and climate change.	Section 2.2
whether the project is likely to generate cumulative impacts with other relevant future projects in the area (see the Department's Cumulative Impact Assessment Guidelines for State Significant Projects)	Section 2.3
identifying whether the applicant has entered into any agreements with other parties to mitigate or offset the impacts of the project, such as: voluntary planning	Section 2.4

SSD guidelines –preparing a scoping report	Where addressed
- negotiated agreements with landowners, including any terms of these agreements that are relevant to the assessment of the impacts of the project (see the Department’s Voluntary Land Acquisition and Mitigation Policy) - any benefit-sharing schemes	
Project	
This overview should provide further detail on the following key aspects of the project:	
the project area, including the area likely to be physically disturbed by the project	Section 3.2
the conceptual physical layout and design of the project, including any mitigation measures that will be built into the design of the project (e.g. a noise barrier) to the extent that these are known at the scoping stage	Section 3.1
the main uses and activities that would be carried out on site as well as the materials and products that would be transported to and from the site	Section 3.4
the likely timing of the delivery of the project, including: - any stages of the project - the phases of the project (e.g. site preparation, construction, operations, and where relevant, decommissioning and rehabilitation) - the sequencing of any stages and phases of the project over time, identifying the periods when the greatest impacts are likely to occur	Section 3.3
The overview in this section should also clearly identify: where relevant or known at the scoping stage, and depending on the type of development, those aspects of the project where some flexibility may need to be incorporated into the design of the project to allow the final design of the project to be refined or changed over time within any strict limits set by the project description in the EIS, and without further approval	Section 3.2
where known, any restrictions or covenants that apply to the land	Section 3.2
This section should also include a high-level analysis of feasible alternatives considered having regard to the objectives of the development, including the consequences of not carrying out the development. The analysis of alternatives should explain how the project has ended up in its current form. It should summarise the key alternatives that have been considered and rejected (e.g. alternative ways of achieving the objectives of the development and / or alternative siting, designs, and mitigation measures) and the reasons why they were rejected. Where features of the project such as the site location and layout have been finalised through a masterplan or Concept Development Application, these should not be analysed further in the consideration of alternatives.	Section 3.7
Statutory context	
This section should provide a simple overview of the key statutory requirements for the project, having regard to: - the EP&A Act and EP&A Regulation - other relevant legislation - relevant environmental planning instruments, planning agreements and coastal management programs under the Coastal Management Act 2016 - relevant approvals (e.g. concept plan approvals, staged DA consents) These statutory requirements should be grouped into the categories listed in Table 1 and summarised in a table (see examples in the Department’s State Significant Development Guidelines – Preparing an Environmental Impact Statement).	Chapter 4

SSD guidelines –preparing a scoping report	Where addressed
Community engagement	
Identify what engagement has already been carried out that is relevant to setting the SEARs, this may include: - community engagement that has been carried out by other parties that is relevant to the project - any actions taken by the applicant to identify and engage with key groups or individuals within the community that may have an interest in the project - any actions taken by the applicant to inform, consult or engage with the community during the development of the project or preparation of the scoping report Engagement should also be undertaken having regard to the community participation objectives in the Department's Undertaking Engagement Guidelines for State Significant Projects.	Section 5.3
Summarise the key findings of any community engagement carried out and give an early indication of community views on the project using suitable maps, graphics and tables.	Section 5.3
Identify the likely level of community interest in the project and the geographic extent of this interest (e.g. local: < 5 km from the site; regional: 5-100 km from the site or state: > 100 km from the site).	Section 5.2
Group the community views on the project into one of the following categories: - Strategic context (e.g. key natural/built features that could be impacted, and the potential cumulative impacts) - Alternatives that may be considered - Statutory issues - Community engagement during the preparation of the EIS - Key matters to be assessed during the EIS - Issues beyond the scope of the project or not relevant	Section 5.3
Summarise the community engagement that will be carried out during the preparation of the EIS, having regard to the findings of any community engagement carried out during scoping and the community participation objectives in the Department's Undertaking Engagement Guidelines for State Significant Projects including: - identify the key stakeholders (councils, government agencies, special interest groups, people living close to the site) for further engagement, to the extent that this will be known at the scoping stage - describe what actions will be taken to identify and engage with other interested stakeholders during the preparation of the EIS - describe the key actions that will be carried out to: - keep the community informed about the project - obtain feedback from the community on the project - engage with certain stakeholders on the detailed assessment of key matters - demonstrate that these actions are consistent with the community participation objectives in the Undertaking Engagement Guidelines for State Significant Projects - describe how the effectiveness of this engagement will be monitored, reviewed and adapted over time to encourage community participation in the project	Section 5.4
Proposed assessment of impact	
Matters that should be considered by the project: access (e.g. traffic and transport), air quality, amenity (e.g. noise, visual), biodiversity, built environment, economic, hazards and risk (e.g. bushfire, flooding, waste), heritage (Aboriginal and non-Aboriginal), land, social, water. These specific matters can be divided further into different components of the specific matter, where relevant	Chapter 6

SSD guidelines –preparing a scoping report	Where addressed
Key factors that should be considered for each matter: - the scale and nature of the likely impacts of the project and the sensitivity of the receiving environment - whether the project is likely to generate cumulative impacts with other relevant future projects in the area - the ability to avoid, minimise and/or offset the impacts of the project, to the extent known at the scoping stage - the complexity of the technical assessment of the project It is important to note that the applicant is not required to carry out a detailed assessment of each factor and document this assessment in the scoping report. This should be done in the detailed assessment of the project in the EIS	Chapter 6
Appendix – Scoping summary table	
Include a scoping summary table which groups the matters requiring further assessment in the EIS by the level of assessment required, and identify: - whether any cumulative impact assessment is required, and the likely level of this assessment (e.g. standard or detailed) - whether any specific community engagement will be carried out on the matter during the preparation of the EIS - the relevant government plans, policies and guidelines that will be considered during the assessment of the impacts of the project on the matter - the relevant section of the scoping report where the assessment of the impacts on the matter are discussed in more detail.	Appendix B
Document the matters requiring no further assessment in the EIS in a table in the scoping report. This table should identify each matter and explain why no further assessment is necessary	Section 6.1

APPENDIX B SCOPING SUMMARY TABLE

As required by the DPE *State significant development guidelines – preparing a scoping report* (DPE, 2022), a scoping summary table for the Project is include as Table B - 1. The table groups the matters requiring further assessment in the EIS by the level of assessment required.

Definitions for levels of assessment are summarised below:

Detailed: The Project may result in significant impacts on the matter, including cumulative impacts. The assessment of the impacts of the Project on the matter will require detailed studies and investigations to be carried out by technical specialists.

Standard: The Project is unlikely to result in significant impacts on the matter, including cumulative impacts. While the assessment of the impacts of the project on the matter will involve technical specialists, these impacts are likely to be well understood, relatively easy to predict using standard methods and capable of being mitigated to comply with relevant standards or performance measures.

Matters requiring no further assessment in the EIS: The project will have no impact on the matter, or the impacts of the project on the matter will be so small that they are not worth considering.

Table B - 1: Scoping summary table

Level of assessment	Matter	Cumulative assessment (Y/N)	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Detailed	Landscape and visual	Yes	Specific	• <i>Draft Wind Energy Guideline – Technical Supplement for Landscape and Visual Impact Assessment</i> (DPHI, 2024) • <i>Guideline for Landscape Character and Visual Impact Assessment, Environmental impact assessment practice note EIA-N04</i> (TfNSW 2020)	Section 6.2
Detailed	Noise and vibration	Yes	Specific	• <i>Draft Wind Energy Guideline – Technical Supplement for Noise Assessment</i> (DPHI, 2024) • <i>NSW Noise Policy for Industry</i> (NSW EPA, 2017) • <i>Draft Construction Noise Guideline</i> (NSW EPA, 2020) • <i>NSW Road Noise Policy</i> (DECCW, 2011) • <i>Assessing Vibration: A Technical Guideline</i> (DECC, 2006) • <i>Approved Methods for the Measurement and Analysis of Environmental Noise in NSW</i> (EPA, 2022)	Section 6.3
Detailed	Biodiversity	Yes	Specific	• <i>Biodiversity Assessment Method (BAM)</i> (DPIE, 2020) • <i>Guidance for the Biodiversity Development Assessment Report Template</i> (NSW DPE, 2022) • <i>Commonwealth EPBC 1.1 Significant Impact Guidelines – Matters of National Environmental Significance</i> (Commonwealth of Australia, 2013) • <i>Commonwealth Department of the Environment – Survey Guidelines for Nationally Threatened Species</i> (DCCEEW, various) • <i>Policy and Guidelines for Fish Habitat Conservation and Management</i> (DPI, 2013) • <i>Guidelines for Fish Friendly Water Crossings</i> (DPI, unknown)	Section 6.4

Level of assessment	Matter	Cumulative assessment (Y/N)	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Detailed	Aboriginal heritage	No	Specific	• <i>Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW</i> (OEH, 2011) • <i>Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW, 2010) • <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i> (DECCW, 2010) • <i>Guidelines for the Management of Human Skeletal Remains under the Heritage Act 1977</i> (NSW Heritage Office, 1998)	Section 6.5
Standard	Historic heritage	No	General	• <i>Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999 - Matters of National Environmental Significance</i> (Commonwealth of Australia, 2013) • <i>Guidelines for Preparing a Statement of Heritage Impact</i> (DPE, 2023) • <i>NSW Heritage Manual</i> (NSW Heritage Office and Department of Urban Affairs and Planning, 1996) • <i>Assessing Significance for Historical Archaeological Sites and Relics</i> (NSW Heritage Branch, Department of Planning, 2009) • <i>The Interim Engaging with First Nations People and Communities on Assessments and Approvals under Environment Protection and Biodiversity Conservation Act 1999 (interim guidance)</i> (DCCEEW, 2023)	Section 6.5
Detailed	Traffic and access	Yes	Specific	• <i>Guide to Transport Impact Assessment</i> (TfNSW, 2025, TS00085 v1.1) • <i>Guide to Traffic Management</i> (Austroads, 2020) • <i>Guide to Road Design</i> (Austroads, 2021) • <i>Strategic Design Requirements for DAs – Factsheet</i> (TfNSW, 2024)	Section 6.6

Level of assessment	Matter	Cumulative assessment (Y/N)	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Detailed	Hazards and risk	No	Specific	• <i>National Airports Safeguarding Framework (NASF) Guideline D: Managing Wind Turbine Risk to Aircraft</i> (DITRDCA, 2019) • <i>NSW Wind Energy Guideline for State Significant Wind Energy Development (DPHI, 2024) Advisory Circular AC 139.E-05v1.0, Obstacles (including wind farms) outside the vicinity of a CASA certified aerodrome</i> (CASA, May 2021) (Draft) • <i>Best Practice Charter for Renewable Energy Projects</i> (Clean Energy Council, 2021) • <i>Multi-Level Risk Assessment</i> (DPI, 2011) • <i>Hazardous and Offensive Development Application Guidelines: Applying SEPP 33</i> (DoP, 2011) • <i>Hazardous Industry Planning Advisory Paper No.6 – Hazard Analysis</i> (DPI, 2011) • <i>Planning for Bushfire Protection 2019</i> (NSW Rural Fire Service, 2019) • <i>Fire safety guideline – Emergency services information package and tactical fire plans</i> (FRNSW, 2023) • <i>Health Impact Assessment Guidelines</i> (enHealth, 2017) • <i>Australian Standard AS 3959:2018 Construction of buildings in bushfire prone areas</i> • <i>Relevant international studies and standards for design of wind turbine components and blade throw</i> • <i>Commission on Non-Ionizing Radiation Protection Guidelines for limiting exposure to Time-varying Electric, Magnetic and Electromagnetic Fields</i> (1998)	Section 0.0.0

Level of assessment	Matter	Cumulative assessment (Y/N)	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Detailed	Water and hydrology	No	General	- Managing Urban Stormwater; Soils and Construction (Landcom, 2004) - Guidelines for Groundwater Documentation for SSD/SSI Projects. Technical guideline (DPE, 2022) - Controlled Activities on Waterfront Land - Guidelines for riparian corridors on waterfront land (DPI, 2018) - Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (DPI 2003) - Policy and Guidelines for Fish Habitat Conservation and Management' (DPI, 2013) - Water Sharing Plan for the Murrumbidgee Alluvial Groundwater Sources Order 2020 - Water Sharing Plan for the Murrumbidgee Unregulated River Water Sources 2012 - Guidelines for Watercourse Crossings on Waterfront Land (DPI Water, 2012) - Floodplain Risk Management Guidelines (DECC, 2016) - Planning circular – PS 21-006 - Considering flooding in land use planning: guidance and statutory requirements (DPIE, 2021) - Floodplain Development Manual: The management of flood liable land (NSW Government, 2005)	Section 6.9

Level of assessment	Matter	Cumulative assessment (Y/N)	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Standard	Land	No	General	• <i>Soil and Landscape Issues in Environmental Impact Assessment (OEH, 2000)</i> • <i>Land Use Conflict Risk Assessment Guide (DPI, 2011)</i> • <i>Landslide Risk Management Guidelines (AGS, undated)</i> • <i>Site Investigations for Urban Salinity (OEH, 2002)</i> • <i>Guidelines for surveying Soil and Land Resources (NJ McKenzie, 2008)</i> • <i>The Australian Soil Classification (Isbell N. C., 2016)</i> • <i>Australian Soil and Land Survey Field Handbook' (NCST, 2009)</i> • <i>The land and soil capability assessment scheme (OEH, 2012)</i> • <i>Interpreting Soil Test Results – What do all the numbers mean?' (Hazelton, 2007)</i> • <i>Managing Urban Stormwater: Soils and Construction (Landcom, 2004)</i>	Section 6.8
Detailed	Social and economic	Yes	Specific	• <i>Social Impact Assessment Guideline for State Significant Projects (DPIE, 2023)</i> • <i>Technical Supplement (DPIE, 2023)</i> • <i>Undertaking Engagement Guidelines for State Significant Projects' (DPIE, 2022)</i>	Section 6.7
Standard	Air quality	No	General	• <i>NSW Climate Change Policy Framework (OEH, 2016)</i> • <i>Approved Methods and Guidelines for the Modelling and Assessment of Air Pollutants in NSW (NSW EPA, 2022)</i>	Section 6.13
Standard	Waste management	No	General	• <i>Waste Classification Guidelines – Part 1: classifying waste (NSW EPA, 2014) and Addendum (NSW EPA, 2016)</i> • <i>Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (NSW EPA, 2012)</i> • <i>NSW Waste Avoidance and Resource Recovery Strategy 2014-21 (NSW EPA, 2014)</i>	Section 6.13
Standard	Cumulative impacts	Yes	Specific	• <i>Cumulative Impact Assessment (CIA) Guidelines for State Significant Projects 2022 (DPE, 2022)</i>	Section 0

Level of assessment	Matter	Cumulative assessment (Y/N)	Engagement	Relevant government plans, policies and guidelines	Scoping report reference
Standard	Climate change	No	General	- AS/NZS 31000:2018 Risk Management – Principles and Guidelines (Standards Australia/Standards New Zealand Standard Committee, 2018) - AS 5334-2013 Climate change adaptation for settlements and infrastructure – A risk-based approach (Standards Australia, 2013) - Climate Change Impacts and Risk Management – A Guide for Business and Government (Department of the Environment and Heritage, 2006)	Section 6.13
Matter requiring no further assessment	Port, airport and rail facilities	No	N/A	N/A	Section 6.14
Matter requiring no further assessment	Air – Gases (greenhouse)	No	N/A	N/A	Section 6.14
Matter requiring no further assessment	Amenity -Odour	No	N/A	N/A	Section 6.14
Matter requiring no further assessment	Opportunity cost	No	N/A	N/A	Section 6.14
Matter requiring no further assessment	Coastal hazards, land movement and dam safety	No	N/A	N/A	Section 6.14

APPENDIX C WIND TURBINE GENERATOR COORDINATES AND RECEIVERS

Wind turbine generator coordinates

Wind turbine generator ID	Easting	Northing	Wind turbine generator ID	Easting	Northing
1	421172.2909	6164409.818	55	427341.6555	6156002.407
2	421348.0357	6163070.721	56	420225.3903	6155885.558
3	423082.4231	6163978.868	57	425794.443	6155953.138
4	421948.2938	6164146.648	58	424339.2526	6155600.424
5	414454.8507	6163932.685	59	428077.4807	6151572.305
6	416362.531	6163251.512	60	427881.7769	6155545.254
7	415276.7565	6163566.102	61	426573.8144	6155390.63
8	419760.7058	6163198.716	62	421494.9774	6155318.897
9	418260.1826	6163176.782	63	422198.3848	6155183.875
10	413463.3765	6162936.361	64	425060.7113	6155152.762
11	429784.4596	6150116.08	65	423511.9887	6154988.3
12	422159.9341	6163085.027	66	428682.522	6154988.793
13	417241.1841	6163096.997	67	422875.3985	6155075.534
14	426452.0681	6162535.729	68	420918.5352	6156765.396
15	415280.991	6162629.012	69	425704.4196	6154591.444
16	414269.1035	6162857.642	71	424412.4497	6154469.978
18	424856.7583	6162277.728	72	427780.2219	6154378.037
19	425465.6047	6161956.557	73	426203.1195	6154182.144
20	426298.8871	6161464.422	74	429042.6966	6154286.353
21	425617.5437	6161116.435	75	424897.7817	6153954.292
22	424760.9121	6160880.299	76	427120.802	6153283.668
24	425869.0076	6160353.753	77	428595.9869	6152929.371
25	424595.3835	6157447.535	78	426256.3269	6153261.88

Wind turbine generator ID	Easting	Northing	Wind turbine generator ID	Easting	Northing
26	424725.0419	6159886.746	79	427945.0759	6153154.843
28	425458.2308	6159276.437	80	424646.9806	6152849.598
30	424699.2915	6158565.615	81	425527.4368	6152589.67
31	423872.1452	6158860.561	82	426410.3675	6152388.817
32	425382.9458	6158285.965	83	428957.1775	6152243.391
34	426166.3833	6157903.621	84	430455.1265	6150087.831
35	427283.2245	6157735.578	85	424953.3786	6151481.996
36	422395.2755	6157698.071	86	425783.1143	6151503.605
37	423965.0435	6160241.246	87	426627.9532	6151460.861
39	425460.6463	6157393.94	88	427358.6555	6151485.517
40	424051.8859	6157986.037	89	429463.3244	6151616.979
41	422663.4679	6156952.789	90	431060.6491	6149850.852
42	427905.7768	6156952.486	91	428442.3036	6150235.337
43	426319.5397	6156851.226	92	423030.3554	6158374.14
44	428649.8164	6151258.981	93	425173.8844	6150698.594
45	419730.8536	6156964.325	94	426072.0675	6150568.114
46	425390.136	6153537.765	95	426944.1376	6150455.051
47	426799.3252	6156397.804	96	427717.7209	6150345.281
48	421493.0206	6156498.642	97	427130.6782	6154460.653
49	425134.893	6156189.426	98	429107.1754	6150184.265
50	422029.4685	6156151.051	99	418936.2746	6163182.161
51	423745.6217	6156335.334	100	429934.1022	6151154.814
53	419154.6651	6156139.556	101	420894.4115	6155621.27
54	423074.1012	6156308.586			

Receivers

The following tasks occurred to establish the receivers list that has been adopted for this Scoping Report:

- Initial categorisation of potential dwellings by Squadron Energy provided to Arcadis
- Establishment of an ArcGIS workspace for an 8 km buffer around the Project site
- Establishment of a grid system within the GIS workspace and utilisation of the most recent publicly available aerial photography for the 8 km buffer area to verify the initial categorisation
- Ground truthing by Squadron Energy
- Establishment of unique ID.

The quantity and status of receivers in proximity of the Project may change as further ground truthing occurs during the EIS phase of the Project, as community and stakeholder engagement continues, and access to private lands is progressively agreed.

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
RwR024	Shed	1	1120420	HwR007	Shed	71	751696
RwR023	Shed	1	1120420	LfR002	House	2	1076927
RwR017	Shed	1	1120420	LfR008	Shed	4901	1201736
RwR019	Shed	1	1120420	YgR001	House	103	751696
RwR020	Shed	1	1120420	YgR002	Shed	103	751696
RwR021	Shed	1	1120420	YgR005	Shed	102	751696
RwR022	Shed	1	1120420	YgR004	Shed	104	751696
RwR018	Shed	1	1120420	YgR003	Shed	102	751696
RwR016	Shed	1	1120420	RaR002	Shed	3	1227836
RwR003	House	1	1120420	RaR001	Shed	102	751696
RwR002	House	1	1120420	WDP019	House	99	751696
RwR015	Shed	1	1120420	WDP033	Shed	4	785724
RwR14	Shed	1	1120420	StR001	House	2	1227836
RwR013	Shed	1	1120420	StR002	Shed	2	1227836
RwR001	House	1	1120420	HwR001	House	14	751696
RwR012	Business	1	1120420	HwR004	Shed	14	751696

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
RwR011	Shed	1	1120420	HwR005	Shed	14	751696
RwR010	Shed	1	1120420	GdR001	House	66	751696
KW007	House	74	750908	GdR004	Shed	66	751696
KW018	Shed	74	750908	WtR008	Shed	7307	1154327
KW006	House	42	750908	BwR009	Shed	166	751703
KW017	Shed	41	750908	BwR010	Shed	166	751703
KW009	House	84	750908	KuR003	House	2	1035931
BoR004	Shed	45	750904	KuR001	House	1	1035931
BoR005	Shed	45	750904	WtR001	House	99	751703
KW016	Shed	39	750908	WtR002	House	99	751703
SH067	Shed	3	1221813	WtR003	House	103	751732
SH068	Shed	4	1221813	WtR004	House	86	751732
SH033	House	3	1221813	WtR005	House	1	844676
SH034	House	3	1221813	WtR006	House	2	844676
SH032	House	1	750898	LfR007	Shed	13	751696
SH066	Shed	1	750898	LfR001	House	13	751696
SH030	House	1	1221813	WtR009	Shed	104	751732
SH031	House	1	750898	HgR002	House	448	1202772
WaR002	House	97	750883	HgR003	Shed	11	751696
WaR006	Shed	98	750883	TOWN		10	1202165
WaR001	House	97	750883	WDP015	House	54	751708
WaR003	Shed	97	750883	WDP028	Shed	54	751708
AsR003	Shed	43	750874	WDP029	Shed	74	751708

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
AsR001	House	43	750874	WDP014	House	54	751708
AsR004	Shed	50	750899	WDP016	House	57	751708
AsR002	House	50	750899	WDP013	House	78	751708
AsR005	Shed	50	750899	WDP012	House	56	751708
CIR018	Shed	104	750883	WDP027	Shed	56	751708
CIR007	House	104	750883	WDP011	House	78	751708
CIR014	Shed	86	750885	WDP026	Shed	59	751708
CIR006	House	86	750885	WDP010	House	55	751708
CIR005	House	93	750885	WDP009	House	55	751708
CIR012	Shed	93	750885	WDP025	Shed	55	751708
CIR011	Shed	103	750883	KW005	House	37	750908
CIR013	Shed	86	750885	KW014	Shed	37	750908
CIR004	House	103	750883	KW015	Shed	37	750908
CIR010	Shed	103	750883	JCR003	Shed	1	1009959
CIR008	Shed	95	750885	JCR001	House	1	1009959
CIR003	House	95	750885	JCR002	House	1	191799
CIR009	Shed	102	750883	JCR004	Shed	1	191799
CIR002	House	102	750883	JCR005	Shed	2	1088274
CIR001	Shouse	96	750885	JCR006	Shed	2	1088274
MCR020	Shed	1	750885	KW003	Shed	174	750908
BYR009	Shed	5	750889	KW010	House	144	750908
BYR007	Shed	6	750889	SH043	Shed	3	1156216
BYR010	Shed	1	750889	SH044	Shed	1	1156216

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
BYR008	Shed	5	750889	SH003	House	3	1156216
BYR003	House	1	750889	SH002	House	1	1156216
BYR012	Shed	1	750889	SH001	House	2	873401
BYR002	House	1	750889	SH042	Shed	2	873401
BYR013	Shed	1	750889	KW011	Shed	172	750908
BMR005	House	7320	1166290	KW001	House	172	750908
BYR011	Shed	1	750889	KW012	Shed	172	750908
BMR012	Shed	1	181528	KW013	Shed	25	750908
BMR004	House	31	181529	SH010	House	4	811094
BMR011	Shed	31	181529	SH009	House	3	811094
BMR013	Shed	1	181528	SH008	House	2	1253831
BMR015	Shed	39	754546	SH048	Business	8	759030
BMR014	Shed	1	181528	SH006	House	5	759030
BMR010	Shed	35	754548	SH049	Shed	1	1253831
BMR003	House	114	726651	SH047	Shed	2	759030
BYR004	Shed	60	750906	SH005	House	153	750908
BYR001	House	59	750906	SH046	Shed	153	750908
BYR005	Shed	60	750906	SH045	Shed	151	750908
BYR006	Shed	59	750906	SH012	House	146	750908
BMR017	Shed	1	232540	SH050	Shed	275	750908
BYR014	Shed	59	750906	WDP020	Business	1	1264736
DBR011	Shed	4	754548	HgR001	House	3	601654
BMR016	Shed	1	754548	KuR004	House	170	751703

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
DBR010	Shed	10	47205	KuR005	Shed	170	751703
DBR005	House	4	754548	BwR007	House	166	751703
DBR006	Shed	42	750906	BwR006	House	1	1184635
DBR001	House	42	750906	BwR005	House	2	879973
CdR003	Shed	28	750898	RvR004	House	75	650590
DBR007	Shed	77	750906	RvR005	Business	2	1184875
CdR005	House	27	750898	KW002	House	173	750908
CdR004	Shed	27	750898	KW004	Shouse	175	750908
CdR001	House	76	750898	KW023	Shed	173	750908
CdR002	Shed	28	750898	Wtr007	Shed	99	751703
SH035	House	4	1221813	SH011	House	5	811094
SH036	House	4	1221813	WDP008	House	5	751693
FrR004	House	69	750883	WDP007	House	1	751693
FrR002	Shed	70	750883	WDP006	House	1	751693
FrR001	House	70	750883	WDP005	House	1	751693
DRD072	House	112	750903	WDP004	House	1	751693
FrR003	Shed	71	750883	WDP003	House	1	751693
DRD024	House	68	750883	WDP023	Shed	1	751693
DRD049	Shed	77	750883	WDP022	Shed	1	751693
DRD023	House	67	750883	WDP002	Shouse	1	751693
DRD059	Shed	68	750883	WDP021	Shed	1	751693
DRD056	Shed	67	750883	WDP024	Shed	45	751693
DRD057	Shed	67	750883	WDP001	House	54	751688

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
DRD029	House	83	750883	SH054	Shed	2	867699
DRD071	Shed	83	750883	EuR004	House	5	719628
DRD068	Shed	84	750883	EuR018	Shed	5	719628
DRD067	Shed	83	750883	PiL003	Shed	148	750903
DRD070	Shed	84	750883	PiL004	House	110	750903
DRD069	Shed	84	750883	DRD018	House	151	750903
MCR024	Shed	87	750883	DRD045	Shed	150	750903
MCR005	House	87	750883	DRD017	House	94	750908
MCR006	House	88	750883	DRD016	Business	94	750908
MCR025	Shed	87	750883	DRD044	Shed	94	750908
MCR015	Shed	89	750883	RwR027	Shed	94	750908
MCR014	Shed	88	750883	RwR008	House	94	750908
OMR002	House	1	1177368	RwR007	House	94	750908
MCR007	House	89	750883	DRD043	Shed	94	750908
OMR004	Shed	2	1185251	DRD015	House	94	750908
OMR001	House	1	1177368	DRD013	House	94	750908
MCR016	Shed	100	750883	DRD014	Business	94	750908
MCR008	House	100	750883	DRD042	Shed	94	750908
MCR009	House	101	750883	RwR029	Shed	94	750908
MCR017	Shed	100	750883	RwR009	House	94	750908
MCR018	Shed	101	750883	RwR028	Shed	94	750908
MCR019	Shed	101	750883	RwR025	Shed	94	750908
MCR011	House	99	750885	RwR005	House	2	1120420

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
MCR022	Shed	99	750885	RwR006	House	94	750908
MCR023	Shed	97	750885	DRD012	House	66	750908
MCR021	Shed	99	750885	DRD038	Shed	66	750908
CNR002	Shed	132	750885	DRD046	Business	66	750908
CNR004	Shed	132	750885	DRD011	House	66	750908
CNR003	Shed	132	750885	DRD010	House	66	750908
CNR001	House	132	750885	DRD037	Shed	65	750908
CNR006	Shed	119	750885	DRD036	Shed	65	750908
CNR005	Shed	119	750885	DRD009	House	161	821551
CNR007	Shed	119	750885	DRD008	House	65	750908
CNR008	Shed	119	750885	DRD007	House	65	750908
GtR007	Shed	134	750885	DRD035	Shed	58	750908
GtR006	Shed	134	750885	DRD006	House	58	750908
GtR002	House	134	750885	DRD033	Shed	58	750908
GtR005	Shed	134	750885	DRD034	Shed	58	750908
WaR014	House	90	750883	DRD005	House	57	750908
WaR015	Shed	90	750883	DRD004	House	57	750908
WaR013	House	90	750883	DRD032	Shed	57	750908
WaR011	Shed	91	750883	DRD030	Business	2	1249830
WaR010	House	91	750883	DRD003	House	56	750908
WaR007	House	99	750883	DRD002	House	56	750908
WaR012	Shed	91	750883	DRD031	Shed	56	750908
WaR009	Shed	99	750883	DRD026	House	47	750908

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
WaR008	Shed	99	750883	DRD028	Shed	48	750908
WaR005	Shed	98	750883	SH015	Business	1	867699
WaR004	House	98	750883	SH016	House	2	867699
MIR002	House	337	750908	RwR014	Shed	63	750908
MIR005	Shed	337	750908	DRD019	House	147	750903
MIR006	Shed	337	750908	DRD055	Shed	112	750903
MIR004	House	79	750883	DRD054	Shed	112	750903
MIR009	Shed	79	750883	RwR026	Shed	94	750908
MIR008	Shed	79	750883	MCR012	Shed	127	750903
MIR007	Shed	105	750883	PiL002	Shed	126	750903
MIR003	House	105	750883	MCR013	Shed	116	750903
MIR001	House	337	750908	MCR004	House	116	750903
DRD039	Shed	77	750883	CiR001	House	134	750903
DRD040	Shed	77	750883	CiR002	House	4	1150786
DRD020	House	77	750883	CiR003	House	131	750903
MtR001	House	74	750883	CiR004	House	133	750903
MtR003	Shed	74	750883	CiR005	House	132	750903
MtR002	Shed	74	750883	MCR026	House	66	750883
EIR002	House	35	729559	WIR001	House	115	750903
EIR003	House	35	729559	WIR002	House	114	750903
EIR014	Shed	35	729559	DRD021	House	135	750903
EIR013	Shed	35	729559	DRD022	House	135	750903
FsR003	House	41	750874	DBR012	House	79	750906

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
FsR008	Shed	41	750874	DRD047	Shed	135	750903
FsR007	Shed	41	750874	DRD050	Shed	135	750903
FsR006	Shed	41	750874	DRD048	Shed	135	750903
FsR002	House	42	750874	DRD041	Shed	77	750883
FsR005	Shed	42	750874	SH022	House	2	1151699
FsR001	House	36	750874	SH059	Shed	2	1151699
EIR005	House	95	750883	SH058	Shed	2	60242
EIR017	Shed	95	750883	SH018	House	1	60242
EIR004	House	82	750883	SH056	Shed	1	60242
EIR015	Shed	82	750883	SH057	Shed	1	60242
EIR012	Shed	82	750883	SH055	Shed	1	60242
EIR001	House	81	750883	SH019	House	2	60242
EIR009	Shed	81	750883	SH020	House	2	60242
EIR010	Shed	81	750883	SH021	House	2	60242
EIR011	Shed	81	750883	BoR001	House	46	750904
FsR004	House	37	750874	BoR003	Shed	1	529999
FsR009	Shed	37	750874	BoR002	Shed	1	529999
FsR010	Shed	37	750874	SH017	House	2	867699
FsR011	Shed	37	750874	SH053	Shed	2	867699
KW019	Shed	1	503618	MCR010	House	97	750885
EIR008	Shed	1	1011108	OMR003	Shed	2	519450
EIR007	Shed	1	1011108	SH028	House	1	1221813
KW020	Shed	303	750908	SH027	House	1	1221813

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
KW008	House	352	729568	MdR001	House	10	1049654
KW021	Shed	352	729568	SH026	House	2	1157058
KW022	Shed	352	729568	SH025	House	2	1157058
MtR005	Shed	80	750883	SH023	House	2	1157058
MtR004	Shed	80	750883	SH024	House	2	1157058
DRD027	House	73	750883	SH037	House	41	750876
DRD025	House	72	750883	SH038	House	38	750876
EIR016	Shed	82	750883	SH039	House	37	750876
SH040	House	37	750906	MLR001	House	39	750906
SH041	House	37	750906	MLR008	Shed	2	1060441
EuR020	Shed	10	750876	MLR007	Shed	2	1060441
EuR019	Shed	11	750876	EgR004	House	122	750903
EuR025	Shed	1	1243766	EgR005	House	158	729550
EuR026	Shed	22	1041735	EgR006	Shed	2	1001727
EuR005	House	22	1041735	EgR002	House	119	750903
EuR006	House	21	1041735	EgR003	House	1	821584
EuR021	Shed	21	1041735	SH065	Shed	2	1221813
EuR022	Shed	3	819107	SH064	Shed	1	1221813
EuR007	House	3	819107	SH070	Shed	1	1221813
EuR008	House	3	819107	MdR002	Shed	11	1049654
EuR023	Shed	3	819107	SH062	Shed	2	1157058
EuR009	House	2	719628	SH063	Shed	50	750898
EuR010	House	1	719628	SH061	Shed	2	1157058

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
EuR024	Shed	1	719628	SH069	Shed	41	750876
EuR014	Shed	1	1104116	SH073	Shed	38	750876
EuR003	House	1	512343	SH075	Shed	38	750876
EuR002	House	1	512343	SH072	Shed	39	750876
EuR015	Shed	1	512343	SH074	Shed	39	750876
EuR017	Shed	1	512343	SH071	Shed	39	750876
EuR016	Shed	1	512343	MLR003	Shed	39	750906
EuR011	Shed	4	1101798	MLR002	Shed	39	750906
EuR001	House	4	1101798	MLR004	Shed	2	1060441
EuR012	Shed	4	1101798	MLR005	Shed	3	1060441
EuR013	Shed	6	1101798	MLR006	Shed	2	1060441
BdR002	Shed	4	750890	MLR008	Shed	2	1060441
BdR001	House	4	750890	SH060	Shed	1	1157058
RvR008	Shed	7003	1021278	DBR004	Shed	49	750906
RvR001	House	66	751708	DBR002	House	7317	1166312
RvR006	Shed	66	751708	DBR003	House	84	754572
RvR009	Shed	7311	1156073	DBR009	Shed	1	32453
RvR003	House	1	1172315	DBR008	Shed	7315	1166350
RvR002	House	1	1172315	PiL001	House	126	750903
RvR007	Office	1	1172315	MCR002	House	129	750903
WDP030	Shed	1	1172315	MCR001	House	127	750903
WDP017	House	2	1264736	EgR001	House	1	1001727
WDP034	Shed	2	1264736	SH013	House	182	750908

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
WDP032	Shed	1	1264736	SH014	House	2	866642
WDP031	Shed	1	1172315	DRD001	House	1	609991
WDP018	House	1	1264736	SH029	House	2	1221813
LfR006	House	3	1227836	BMR008	Shed	38	754548
LfR013	Shed	2800	1195532	BMR007	Shed	38	754548
LfR005	House	64	751696	BMR006	Shed	38	754548
LfR011	Shed	64	751696	BMR002	House	38	754548
LfR012	Shed	64	751696	BMR001	House	38	754548
LfR004	House	57	751696	BMR009	Shed	114	726651
LfR003	House	57	751696	DRD051	House	86	750883
LfR010	Shed	57	751696	EIR019	Shed	93	750883
LfR009	Shed	2800	1195532	EIR018	House	92	750883
HwR009	Shed	77	751696	EIR020	Shed	47	729560
HwR003	House	77	751696	KW024	House	NA	NA
HwR008	Shed	77	751696	DRD053	Shed	151	750903
BwR012	Shed	3	855464	DRD073	Shed	75	750883
BwR011	House	3	855464	DRD052	Shed	86	750883
GdR003	House	2	855464	DRD058	Shed	151	750903
GdR002	House	1	855464	MCR003	Shed	116	750903
BwR002	House	73	751696	RwR004	House	1	1120420
BwR004	House	74	751696	SH004	House	5	869939
BwR003	House	2	879973	SH007	House	1	811094
BwR008	RFS	95	751696	SH051	Shed	182	750908

Identifier	Receiver type	Lot	DP	Identifier	Receiver type	Lot	DP
BwR001	House	69	751696	SH052	Shed	45	750908
HwR002	House	71	751696	DBR013	Shed	78	750906
HwR006	Shed	71	751696				

APPENDIX D VISUAL SCOPING REPORT



Banandra Wind Farm

Visual Scoping Report



We at Moir Studio acknowledge the traditional custodians of the lands and waters of Australia - most notably the Awabakal Nation in which our office resides and the Wiradjuri, on whose traditional land this Project resides. As a practice, we recognise First Nations' ongoing contribution to Country and deep spiritual connection to Place. We pay our respects to Elders both past and present.

Banandra Wind Farm

Visual Scoping Report

Prepared for
Arcadis Australia Pacific Pty Limited

Project Number
2790

Revision	Date	Author	Checked	Comment
A	13/02/2026	AW	AR	For Review
B	20/02/2026	AR	-	Update with Arcadis Comments
C	23/02/2026	CC	AR	Updates with Dwelling Information
D	10/03/2026	AR	-	Remove BESS
E	04/05/2026	AR	-	For Review
F	30/06/2026	AR	-	For Submission

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Professional Qualifications: BLArch

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1.0 Introduction

1.1 Introduction

Moir Landscape Architecture Pty Ltd (Moir Studio) have been engaged by Arcadis Australia Pacific Pty Ltd (Arcadis) to conduct a Visual Scoping Report (VSR) to support the Scoping Report for the proposed Banandra Wind Farm (the Project).

Squadron Renewable Energy Developments Pty Ltd (the Proponent) is seeking development consent for the construction, operation, maintenance and decommissioning of a large-scale wind energy project. The Project includes the installation, operation, maintenance and decommissioning of up to 93 wind turbine generators (WTGs), a substation (including a switching substation) and associated ancillary and temporary infrastructure. The Project will have a capacity to generate approximately 588 MW of electricity.

The Visual Scoping Report applies to the Project Area as shown in **Figure 01**. The Project is located between Darlington Point and Narrandera, approximately 12 km from Darlington Point and 28 km from Narrandera. The Project is located within the Riverina bioregion of New South Wales (NSW), the majority of the project is within the Murrumbidgee LGA with a small portion extending into the Narrandera LGA.

1.2 Professional Experience

The Technical Supplement states: 'professional assessment skills are critical to an effective visual impact assessment. The applicant is expected to engage relevant professionals (for example, landscape architects, architects, environmental planners, geographers, or other visual assessment specialists) with demonstrated experience and capabilities' (DPHI, 2024b).

Moir Studio is a professional design practice and consultancy specialising in Landscape Architecture, Urban Design and Landscape and Visual Impact Assessment. Our team has extensive experience undertaking Landscape and Visual Impact Assessments for large-scale infrastructure and renewable energy projects. In the context of our knowledge and with guidance from the Guideline and the Technical Supplement, we have developed methodologies to ensure a comprehensive and qualitative assessment of the Project.

Recent experience includes the preparation of LCVIAs for the following wind farm projects of similar scale:

- Burrendong Wind Farm
- Spicers Creek Wind Farm
- Uungula Wind Farm
- Kerrs Creek Wind Farm
- Thunderbolt Wind Farm
- Valley of the Winds Wind Farm



Figure 01 Regional Context
Basemap Source: ESRI 2026



1.3 Existing Landscape Character

The Project is situated within the Riverina bioregion of southwest New South Wales (NSW), a broad alluvial plain formed by the historic deposition of sediments from the Murray, Murrumbidgee and Lachlan Rivers west of the Great Dividing Range. The surrounding landscape is characterised by low-relief floodplains, river channels, and gently undulating plains, with expansive areas of agricultural land and mixed grasslands and woodlands typical of the Riverina. The climate in the bioregion is generally dry and semi-arid, with hot summers and cool winters, and rainfall is relatively low and variable. Native vegetation within the region includes river red gum (*Eucalyptus camaldulensis*) along major waterways, black box woodlands and chenopod shrublands and grasslands on the plains.

Key features within the Study Area include the Murrumbidgee River and associated riparian vegetation corridors, and the wide alluvial plains that typify the Riverina landscape.

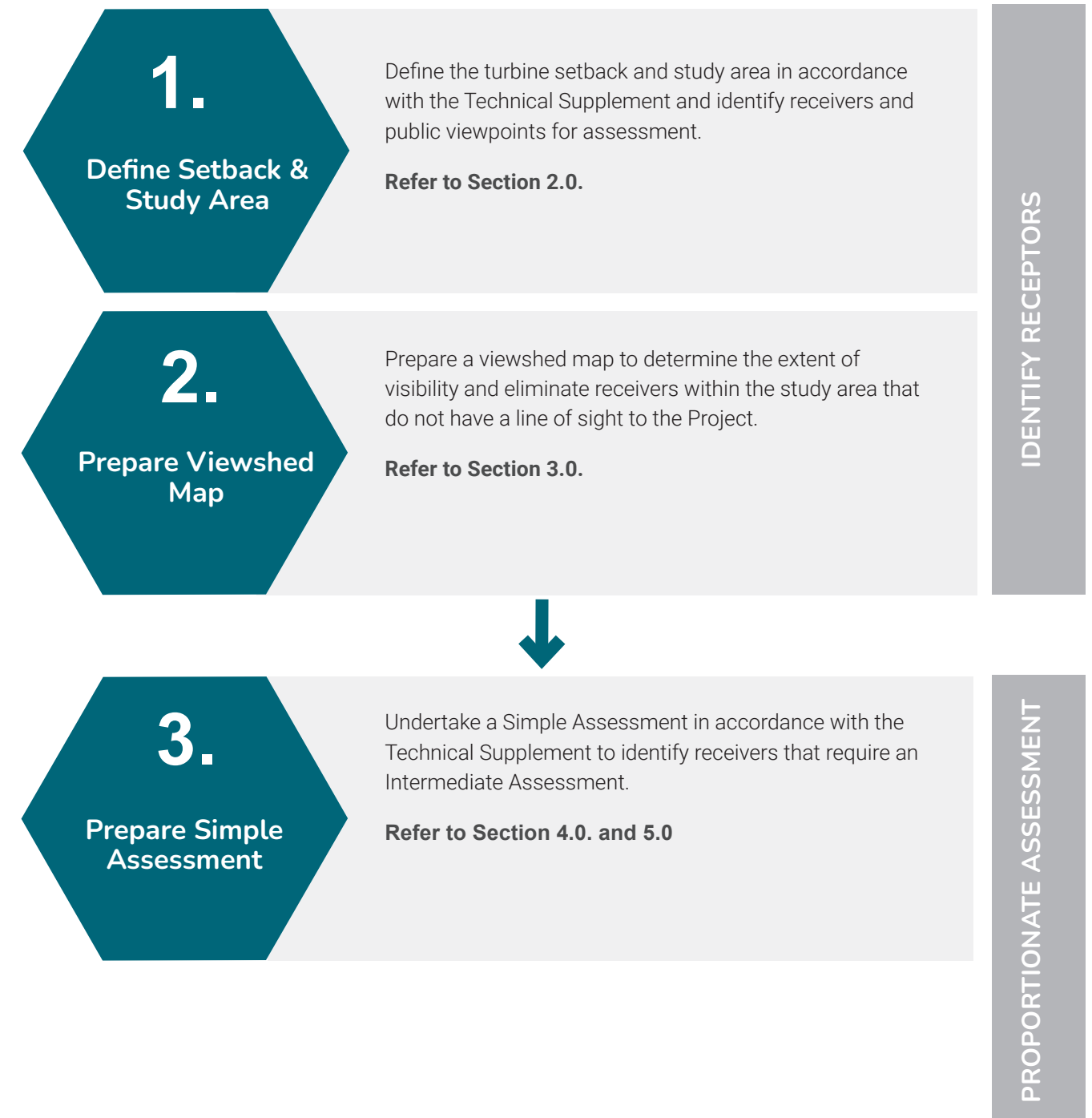
1.4 Overview of Study Method

The study method for determining the visual impact of a project is in accordance with the *Wind Energy Guideline: Technical Supplement for Landscape Character and Visual Impact Assessment* (DPHI, 2024) referred to hereafter as the 'Technical Supplement'.

The first step of the assessment is to identify receivers that will require consideration in the assessment process. This process involves defining study areas through distance thresholds and application of viewshed mapping.

Once the receivers have been identified, further refinement is undertaken through proportionate assessment process to ensure the assessments are focused on the dwellings with potential impacts.

An overview of the structure is shown adjacent.



2.0 Setback and Study Area

2.1 Overview

In accordance with the Technical Supplement, the Applicant is to identify the Turbine Setback and Study Area for the Project relative to the maximum turbine height (tip height). For this Project, the maximum proposed turbine height (at tip height) is **270m**.

2.2 Turbine Setback

The Turbine Setback is equivalent to 9° of a person's vertical field of view. As outlined in the Technical Supplement: *If a sensitive dwelling is located within the setback distance it will trigger a high visual impact unless the turbine(s) would be largely screened by topography or vegetation (as outlined in setback exemptions). Applicants should generally avoid siting turbines within the setback unless there would be significant mitigating factors, or there is a private agreement with the affected landowner.*

- The Turbine Setback for the Project is **1,705m** (based on 9° vertical field of view)
- **No** non-associated receivers were identified within the Turbine Setback.

Refer to Figure 02.

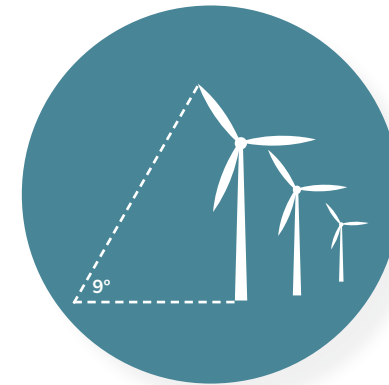
2.3 Study Area

Since the magnitude of wind turbines decreases over distance, there is a point at which they become inconsequential to the overall visual impact and become difficult to discern against the background. Consequently, any turbine that would be less than 2° in vertical field of view should not be counted when calculating magnitude.

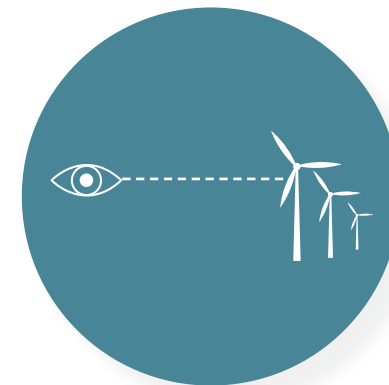
As outlined in the Technical Supplement the Study Area differs between public viewpoints and private dwellings to recognise different values the community places on these locations and the reasons for their use.

- The Study Area for this Project is **7,732m** for Private Dwellings and Other Public Viewpoints (based on 2° vertical field of view)
- **116** sensitive receivers were identified within the Study Area.

Refer to Figure 03.



**Turbine Setback =
1,705 m**



**Study Area =
7,732 m Private Dwellings & Public Viewpoints**

Turbine Setback

Refer to 2.2

LEGEND

- Project Boundary
- Study Area (7,732m from nearest WTG)
- Set Back (1,705m from nearest WTG)
- Proposed Turbines
- Sensitive Receiver
- Associated Receivers
- Road
- Railway
- Watercourse
- Contour

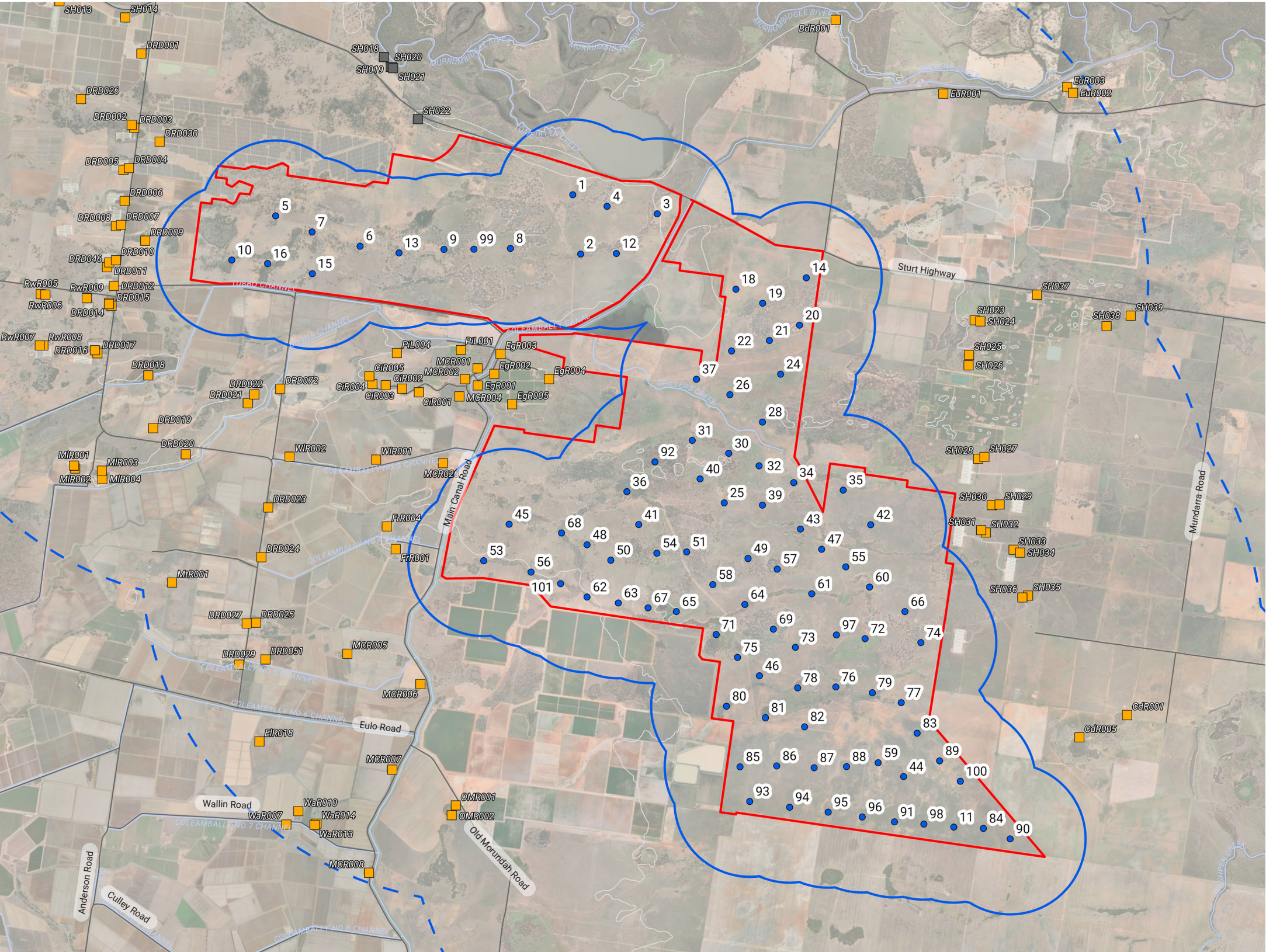


Figure 02 Turbine Setback
Basemap Source - ESRI 2026



Study Area

Refer to 2.3

LEGEND

Project Boundary

Local Government Area

Study Area (7,732m from nearest WTG)

Set Back (1,705m from nearest WTG)

Proposed Turbines

Associated Receivers

Sensitive Receiver

Watercourse

Road

Railway

Existing transmission line

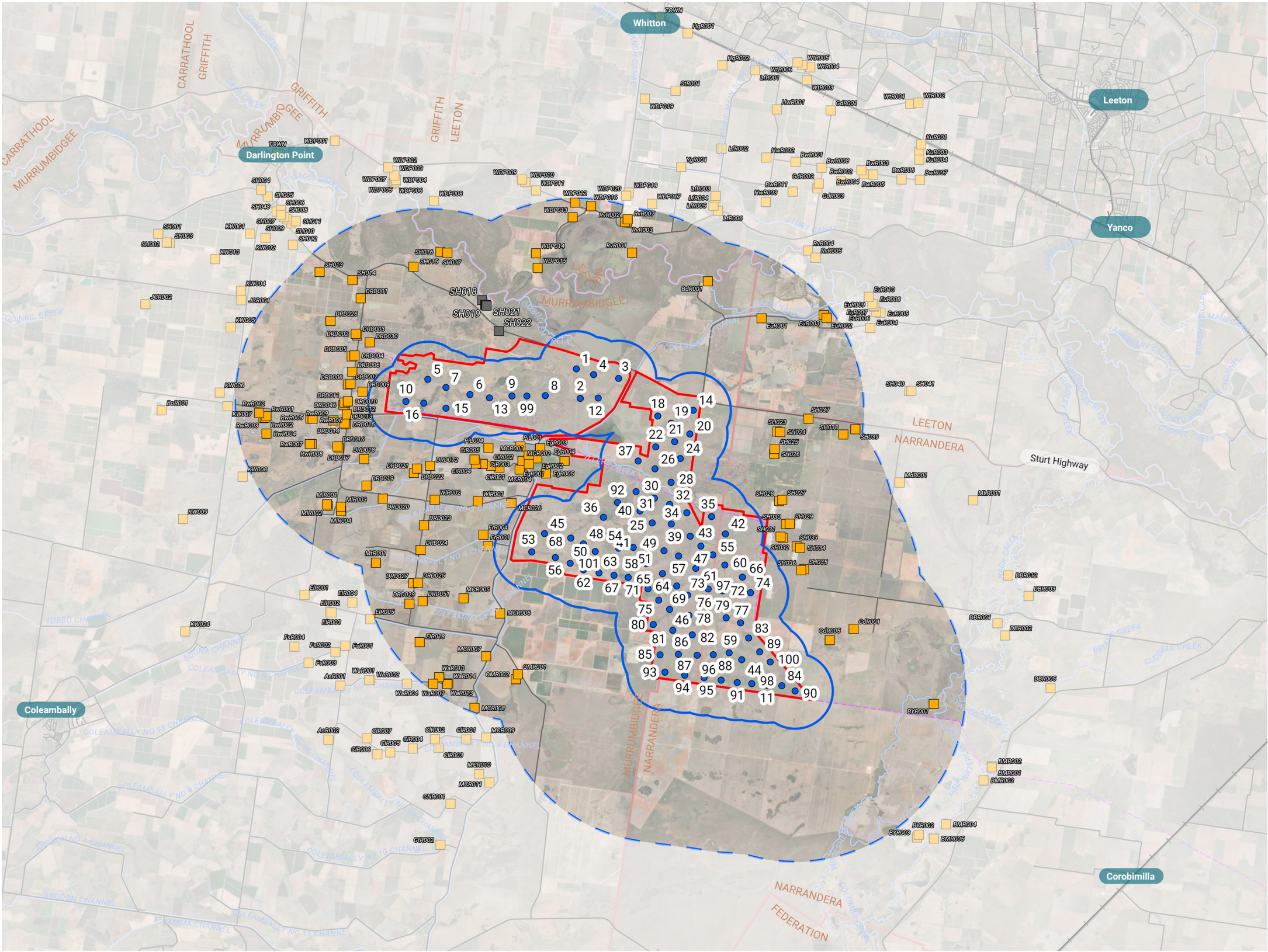


Figure 03 Study Area
Basemap Source - ESRI 2026

3.0 Viewshed Mapping

3.1 Viewshed Mapping

Moir have undertaken Viewshed Mapping (VSM) to determine the areas with potential visibility of the Project. The VSM has been prepared for the Project to illustrate the theoretical visibility based on topography alone. **Figure 04** presents the viewshed for the wind turbines based on the tip height of **270m**.

The VSM represents the area over which a development can theoretically be seen, and is based on a Digital Terrain Model (DTM). It presents a bare ground scenario - ie. a landscape without screening, structures or vegetation, and is usually presented on a base map (Scottish Natural Heritage, 2017). Private receivers that do not have a line of sight to the project (due to topography) are excluded from the assessment.

3.2 Viewshed Mapping Results

- Due to the flat to gently undulating topography of the Banandra area, views are generally open, and, as identified in the VSM, are likely available across the entire Study Area.
- 116 of the 116 sensitive receivers identified within 7,732 m of the nearest turbine, all were found to have a theoretical line of sight to the Project.

It is important to restate a preliminary VSM is based on a worst case scenario where the assessment does not consider vegetation or structures. Ground truthing during field work will ascertain potential visibility from receivers taking into account structures and vegetation.

Refer to Figure 04.

Viewshed Mapping

Refer to 3.0

LEGEND

- Project Boundary
- Study Area (7,732m from nearest WTG)
- Set Back (1,705m from nearest WTG)
- Proposed Turbines
- Associated Receivers
- Sensitive Receiver
- Road
- Railway
- Existing transmission line
- Viewing Corridor
- State Heritage Register

Viewshed - 270m

- 1 - 18 Turbines Visible
- 18 - 37 Turbines Visible
- 37 - 56 Turbines Visible
- 56 - 74 Turbines Visible
- 74 - 93 Turbines Visible

Receptors

- 1 Sturt Highway
- 2 Newell Highway
- 3 Murrumbidgee Valley National Park - Cuba
- 4 Altina Wildlife Park
- 5 Murrumbidgee Valley National Park Mia III
- 6 Macca's Beach
- 7 Murrumbidgee Valley National Park - Jurumbula
- 8 Murrumbidgee Red Gums Important Bird Area
- 9 Jones Beach
- 10 Murrumbidgee Valley National Park - Banandra
- 11 South West Woodland Nature Reserve - Banandra

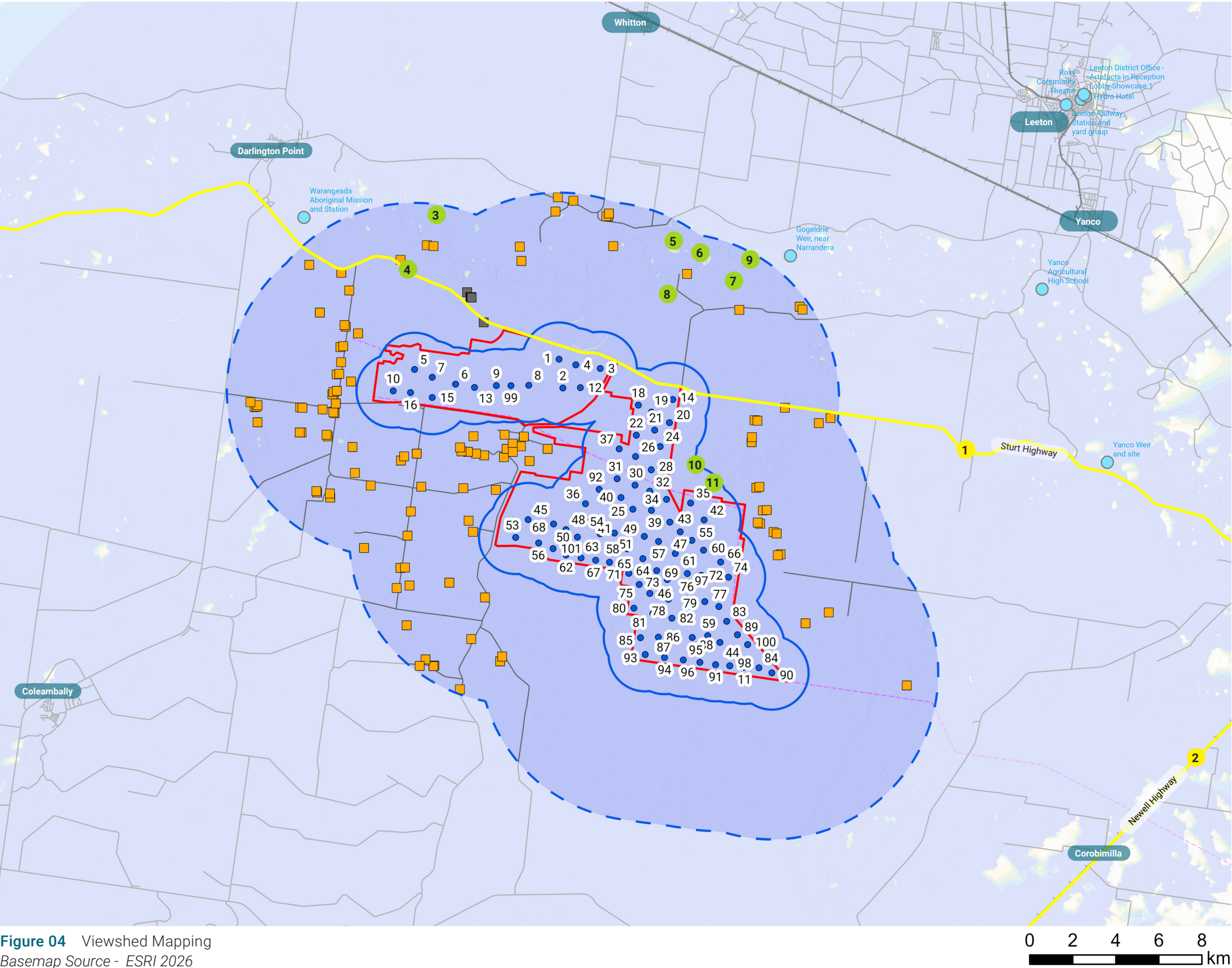


Figure 04 Viewshed Mapping
Basemap Source - ESRI 2026

4.0 Visual Impact Assessment Process

4.1 Overview of Proportionate Assessment Process

A visual impact assessment must be undertaken for all sensitive receivers identified as being within the Study Area and having a line of sight to the Project.

The level of assessment required should be proportionate to the likely impacts. Applicants can begin by carrying out a simple assessment based on desktop data and high-level assumptions. Further assessment should then be undertaken if impacts are likely to be moderate or higher.

Simple Assessment

Conduct a basic assessment using worst-case assumptions about the likely magnitude and visual sensitivity.



Low or Very Low =
No further action



Moderate or High =
Proceed to Intermediate Assessment

Intermediate Assessment

Produce wire frame diagrams to determine the magnitude rating. Proceed to undertake a detailed assessment if impacts continue to be moderate or higher.



Low or Very Low =
No further action



Moderate or High =
Proceed to Detailed Assessment

Detailed Assessment

Undertake field visits and prepare photomontages to accurately assess scenic quality, and determine the effectiveness of existing or proposed screening.



Low or Very Low =
No further action

Moderate or High =
Consider mitigation / layout changes /
Neighbour agreement

4.2 Overview of Simple Assessment Process

In the simple assessment, the overall visual impact rating of each sensitive receiver must be determined for each assessable viewpoint by combining the visual magnitude and visual sensitivity using the matrix shown in **Figure 05**.



Step 1 - Determine Visual Sensitivity

The visual sensitivity is determined by identifying the sensitivity of each viewpoint and receiver and categorising the scenic quality of the area in view. At this stage, the characterisation of viewpoint sensitivity and scenic quality have been informed by conservative assumptions. All dwellings assessed have a 'moderate' sensitivity as per the Technical Supplement for Landscape and Visual Impact Assessment.



Step 2 - Determine Visual Magnitude

Visual magnitude is determined by analysing the volume of the field of view that a project would occupy. This can be determined by splitting the wire frame diagram into a grid comprising cells 1 degree high and 10 degrees wide and counting the number of cells that would be occupied by a project.



Step 3 - Determine Visual Impact Rating

The overall visual impact rating of each viewpoint must be determined for each assessable viewpoint by combining the visual magnitude and visual sensitivity using the matrix below. Any dwellings with a moderate or high visual impact (demonstrated by white circles in **Figure 05**) will require an intermediate assessment including a site visit.

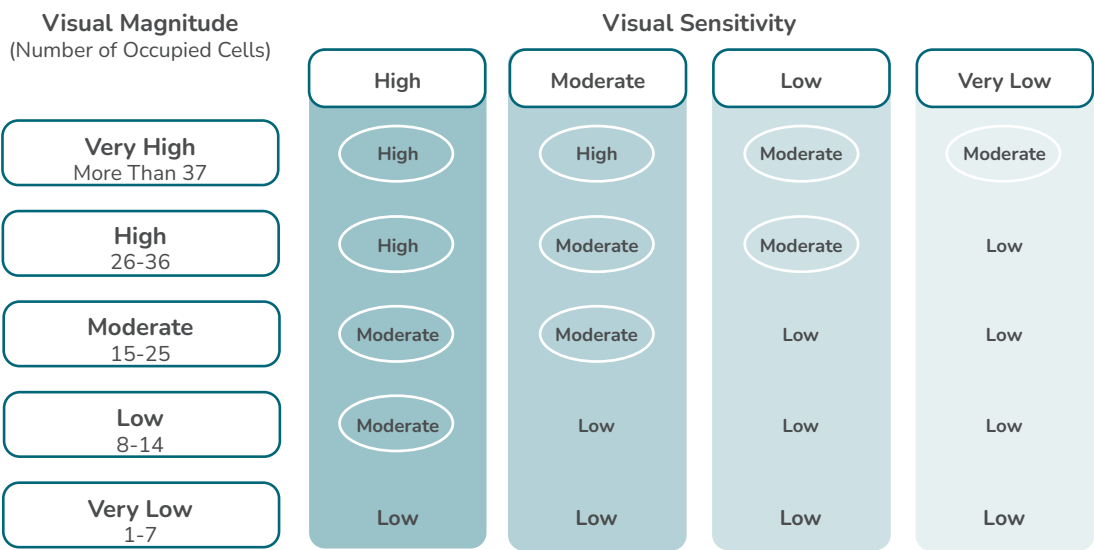


Figure 05 Visual Impact Rating Matrix

5.0 Simple Assessment

5.1 Results Summary

The Simple Assessment is a basic assessment undertaken through desktop analysis using worst-case assumptions about the likely magnitude and visual sensitivity. This is undertaken through a calculation of the theoretical extent of visibility of the Project from each sensitive receiver. This is calculated based on the vertical and horizontal field of view and only considers turbines within **7,732m** from each private receiver.

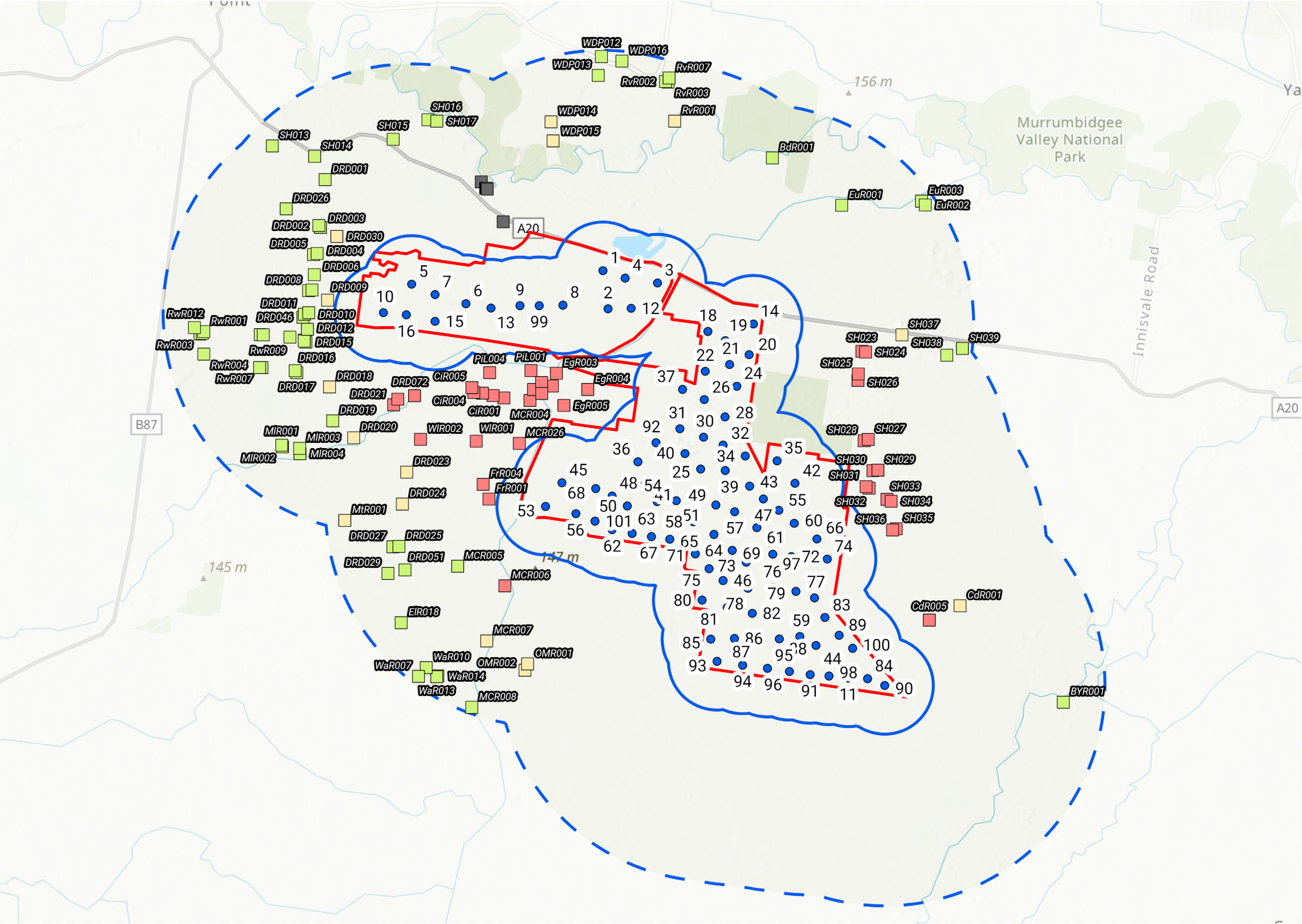
116 sensitive receivers were identified within 7,732m of the nearest turbine with a theoretical line of sight to the Project (based on the VSM). In accordance with the Technical Supplement, a Simple Assessment was undertaken for all these receivers.

As per the Simple Assessment:

- 62 sensitive receivers were identified as having a **low** visual impact rating and no further action is required.
- 15 sensitive receivers were identified as having a **moderate** visual impact rating and an intermediate assessment is required.
- 39 sensitive receivers were identified as having a **high** visual impact rating and an intermediate assessment is required.

A total of **54** sensitive receivers have been identified as requiring an Intermediate Assessment (refer to **Figure 06** and **Table 01**). The identification of sensitive receivers will be confirmed during the EIS phase of the Project. The Intermediate Assessments, along with any subsequent Detailed Assessments, will be undertaken as part of the EIS phase.

Simple Assessment Results



LEGEND

- Project Boundary
- Study Area (7,732m from nearest WTG)
- Set Back (1,705m from nearest WTG)
- Proposed Turbines
- Associated Receivers

Simple Assessment Results:

- Sensitive Receiver Visual Impact Rating
- Low - No further assessment required
 - High - Intermediate assessment required
 - Moderate - Intermediate assessment required

Figure 06 Simple Assessment Results
Basemap Source - ESRI 2026



Results of Simple Assessment

Receiver ID	ZVI Percentage	Receiver Elevation (m)	Distance to Nearest Turbine (m)	Overall Visual Sensitivity	Vertical Field of View (degree)	Horizontal Field of View (degree)	Horizontal Cells	Occupied Cells	Visual Magnitude	Visual Impact Rating	Intermediate Assessment Required?
RwR003	81%-100%	126	6483	Moderate	2	8	1	2	Very Low	Low	No Further Assessment Required
RwR002	81%-100%	125	6399	Moderate	2	8	1	2	Very Low	Low	No Further Assessment Required
RwR001	81%-100%	130	6341	Moderate	2	8	1	2	Very Low	Low	No Further Assessment Required
RwR012	81%-100%	131	6655	Moderate	2	1	0	1	Very Low	Low	No Further Assessment Required
SH033	81%-100%	135	2825	Moderate	5	136	14	75	Very High	High	Intermediate Assessment Required
SH034	81%-100%	136	2925	Moderate	5	134	13	71	Very High	High	Intermediate Assessment Required
SH032	81%-100%	134	2557	Moderate	6	149	15	91	Very High	High	Intermediate Assessment Required
SH030	81%-100%	134	2776	Moderate	6	144	14	80	Very High	High	Intermediate Assessment Required
SH031	81%-100%	134	2502	Moderate	6	151	15	93	Very High	High	Intermediate Assessment Required
BYR001	81%-100%	137	6296	Moderate	2	9	1	3	Very Low	Low	No Further Assessment Required
CdR005	81%-100%	135	2780	Moderate	6	101	10	57	Very High	High	Intermediate Assessment Required
CdR001	81%-100%	136	3853	Moderate	4	83	8	34	High	Moderate	Intermediate Assessment Required
SH035	81%-100%	134	2647	Moderate	6	128	13	75	Very High	High	Intermediate Assessment Required
SH036	81%-100%	134	2512	Moderate	6	130	13	80	Very High	High	Intermediate Assessment Required
FrR004	81%-100%	130	2322	Moderate	7	140	14	93	Very High	High	Intermediate Assessment Required
FrR001	81%-100%	129	2003	Moderate	8	134	13	104	Very High	High	Intermediate Assessment Required
DRD072	81%-100%	130	2706	Moderate	6	151	15	86	Very High	High	Intermediate Assessment Required
DRD024	81%-100%	132	5026	Moderate	3	103	10	32	High	Moderate	Intermediate Assessment Required
DRD023	81%-100%	128	5017	Moderate	3	114	11	36	High	Moderate	Intermediate Assessment Required
DRD029	81%-100%	128	6010	Moderate	3	13	1	4	Very Low	Low	No Further Assessment Required
MCR005	81%-100%	128	3732	Moderate	4	31	3	13	Low	Low	No Further Assessment Required
MCR006	81%-100%	132	3135	Moderate	5	77	8	39	Very High	High	Intermediate Assessment Required
OMR002	81%-100%	129	5785	Moderate	3	81	8	22	Moderate	Moderate	Intermediate Assessment Required
MCR007	81%-100%	130	5156	Moderate	3	56	6	17	Moderate	Moderate	Intermediate Assessment Required
OMR001	81%-100%	130	5545	Moderate	3	84	8	24	Moderate	Moderate	Intermediate Assessment Required
MCR008	81%-100%	128	7516	Moderate	2	8	1	2	Very Low	Low	No Further Assessment Required
WaR014	81%-100%	127	7047	Moderate	2	8	1	2	Very Low	Low	No Further Assessment Required
WaR013	81%-100%	127	7091	Moderate	2	8	1	2	Very Low	Low	No Further Assessment Required
WaR010	81%-100%	127	7044	Moderate	2	8	1	2	Very Low	Low	No Further Assessment Required
WaR007	81%-100%	131	7449	Moderate	2	0	0	0	Very Low	Low	No Further Assessment Required
MIR002	81%-100%	133	5898	Moderate	3	14	1	4	Very Low	Low	No Further Assessment Required
MIR004	81%-100%	129	5754	Moderate	3	15	2	5	Very Low	Low	No Further Assessment Required
MIR003	81%-100%	129	5598	Moderate	3	15	2	5	Very Low	Low	No Further Assessment Required
MIR001	81%-100%	129	5861	Moderate	3	14	1	4	Very Low	Low	No Further Assessment Required
DRD020	81%-100%	131	4515	Moderate	3	96	10	33	High	Moderate	Intermediate Assessment Required
MtR001	81%-100%	129	7064	Moderate	2	75	8	17	Moderate	Moderate	Intermediate Assessment Required
DRD027	81%-100%	128	5542	Moderate	3	16	2	5	Very Low	Low	No Further Assessment Required
DRD025	81%-100%	129	5334	Moderate	3	17	2	5	Very Low	Low	No Further Assessment Required
EuR003	81%-100%	134	7309	Moderate	2	0	0	0	Very Low	Low	No Further Assessment Required
EuR002	81%-100%	143	7339	Moderate	2	0	0	0	Very Low	Low	No Further Assessment Required
EuR001	81%-100%	134	5188	Moderate	3	37	4	12	Low	Low	No Further Assessment Required
BdR001	81%-100%	134	5868	Moderate	3	50	5	14	Low	Low	No Further Assessment Required

Receiver ID	ZVI Percentage	Receiver Elevation (m)	Distance to Nearest Turbine (m)	Overall Visual Sensitivity	Vertical Field of View (degree)	Horizontal Field of View (degree)	Horizontal Cells	Occupied Cells	Visual Magnitude	Visual Impact Rating	Intermediate Assessment Required?
RvR001	81%-100%	132	5708	Moderate	3	53	5	15	Moderate	Moderate	Intermediate Assessment Required
RvR003	81%-100%	131	7004	Moderate	2	16	2	4	Very Low	Low	No Further Assessment Required
RvR002	81%-100%	132	6989	Moderate	2	16	2	4	Very Low	Low	No Further Assessment Required
RvR007	81%-100%	133	7145	Moderate	2	16	2	4	Very Low	Low	No Further Assessment Required
WDP015	81%-100%	132	4881	Moderate	3	81	8	26	High	Moderate	Intermediate Assessment Required
WDP014	81%-100%	132	5531	Moderate	3	74	7	21	Moderate	Moderate	Intermediate Assessment Required
WDP016	81%-100%	131	7383	Moderate	2	6	1	2	Very Low	Low	No Further Assessment Required
WDP013	81%-100%	131	6855	Moderate	2	15	1	4	Very Low	Low	No Further Assessment Required
WDP012	81%-100%	131	7514	Moderate	2	0	0	0	Very Low	Low	No Further Assessment Required
PiL004	81%-100%	128	2267	Moderate	7	218	22	149	Very High	High	Intermediate Assessment Required
DRD018	81%-100%	125	3223	Moderate	5	31	3	15	Moderate	Moderate	Intermediate Assessment Required
DRD017	81%-100%	127	3703	Moderate	4	19	2	9	Low	Low	No Further Assessment Required
DRD016	81%-100%	127	3709	Moderate	4	19	2	8	Low	Low	No Further Assessment Required
RwR008	81%-100%	125	4680	Moderate	3	14	1	5	Very Low	Low	No Further Assessment Required
RwR007	81%-100%	127	4754	Moderate	3	14	1	5	Very Low	Low	No Further Assessment Required
DRD015	81%-100%	127	2911	Moderate	5	20	2	11	Low	Low	No Further Assessment Required
DRD013	81%-100%	131	2939	Moderate	5	19	2	11	Low	Low	No Further Assessment Required
DRD014	81%-100%	130	2952	Moderate	5	19	2	11	Low	Low	No Further Assessment Required
RwR009	81%-100%	130	3392	Moderate	5	17	2	8	Low	Low	No Further Assessment Required
RwR005	81%-100%	127	4390	Moderate	4	14	1	5	Very Low	Low	No Further Assessment Required
RwR006	81%-100%	128	4289	Moderate	4	14	1	6	Very Low	Low	No Further Assessment Required
DRD012	81%-100%	127	2730	Moderate	6	20	2	12	Low	Low	No Further Assessment Required
DRD046	81%-100%	126	2828	Moderate	5	19	2	11	Low	Low	No Further Assessment Required
DRD011	81%-100%	129	2774	Moderate	6	19	2	11	Low	Low	No Further Assessment Required
DRD010	81%-100%	127	2621	Moderate	6	19	2	12	Low	Low	No Further Assessment Required
DRD009	81%-100%	127	2007	Moderate	8	23	2	18	Moderate	Moderate	Intermediate Assessment Required
DRD008	81%-100%	129	2734	Moderate	6	20	2	12	Low	Low	No Further Assessment Required
DRD007	81%-100%	128	2628	Moderate	6	21	2	13	Low	Low	No Further Assessment Required
DRD006	81%-100%	129	2767	Moderate	6	23	2	13	Low	Low	No Further Assessment Required
DRD005	81%-100%	127	3187	Moderate	5	26	3	13	Low	Low	No Further Assessment Required
DRD004	81%-100%	127	3119	Moderate	5	27	3	14	Low	Low	No Further Assessment Required
DRD030	81%-100%	127	3114	Moderate	5	40	4	20	Moderate	Moderate	Intermediate Assessment Required
DRD003	81%-100%	127	3715	Moderate	4	32	3	14	Low	Low	No Further Assessment Required
DRD002	81%-100%	130	3803	Moderate	4	32	3	13	Low	Low	No Further Assessment Required
DRD026	81%-100%	129	4988	Moderate	3	19	2	6	Very Low	Low	No Further Assessment Required
SH015	81%-100%	128	5125	Moderate	3	41	4	13	Low	Low	No Further Assessment Required
SH016	81%-100%	131	5796	Moderate	3	44	4	12	Low	Low	No Further Assessment Required
DRD019	81%-100%	127	4197	Moderate	4	33	3	13	Low	Low	No Further Assessment Required
MCR004	81%-100%	132	3100	Moderate	5	231	23	115	Very High	High	Intermediate Assessment Required
CiR001	81%-100%	132	3186	Moderate	5	214	21	104	Very High	High	Intermediate Assessment Required
CiR002	81%-100%	132	3074	Moderate	5	207	21	105	Very High	High	Intermediate Assessment Required
CiR003	81%-100%	130	3007	Moderate	5	202	20	104	Very High	High	Intermediate Assessment Required

Receiver ID	ZVI Percentage	Receiver Elevation (m)	Distance to Nearest Turbine (m)	Overall Visual Sensitivity	Vertical Field of View (degree)	Horizontal Field of View (degree)	Horizontal Cells	Occupied Cells	Visual Magnitude	Visual Impact Rating	Intermediate Assessment Required?
CiR004	81%-100%	128	2844	Moderate	5	196	20	107	Very High	High	Intermediate Assessment Required
CiR005	81%-100%	131	2657	Moderate	6	198	20	115	Very High	High	Intermediate Assessment Required
MCR026	81%-100%	132	2038	Moderate	8	203	20	154	Very High	High	Intermediate Assessment Required
WIR001	81%-100%	130	3337	Moderate	5	169	17	79	Very High	High	Intermediate Assessment Required
WIR002	81%-100%	129	4171	Moderate	4	135	13	50	Very High	High	Intermediate Assessment Required
DRD021	81%-100%	129	3191	Moderate	5	130	13	63	Very High	High	Intermediate Assessment Required
DRD022	81%-100%	131	2978	Moderate	5	135	14	71	Very High	High	Intermediate Assessment Required
SH017	81%-100%	132	5790	Moderate	3	45	4	12	Low	Low	No Further Assessment Required
SH028	81%-100%	134	2853	Moderate	5	133	13	73	Very High	High	Intermediate Assessment Required
SH027	81%-100%	135	2997	Moderate	5	131	13	68	Very High	High	Intermediate Assessment Required
SH026	81%-100%	137	3929	Moderate	4	109	11	43	Very High	High	Intermediate Assessment Required
SH025	81%-100%	136	3894	Moderate	4	106	11	43	Very High	High	Intermediate Assessment Required
SH023	81%-100%	135	3925	Moderate	4	99	10	39	Very High	High	Intermediate Assessment Required
SH024	81%-100%	136	4059	Moderate	4	98	10	38	Very High	High	Intermediate Assessment Required
SH037	81%-100%	141	5230	Moderate	3	64	6	20	Moderate	Moderate	Intermediate Assessment Required
SH038	81%-100%	138	6877	Moderate	2	49	5	12	Low	Low	No Further Assessment Required
SH039	81%-100%	137	7386	Moderate	2	45	5	10	Low	Low	No Further Assessment Required
EgR004	81%-100%	136	2917	Moderate	5	269	27	143	Very High	High	Intermediate Assessment Required
EgR005	81%-100%	135	2715	Moderate	6	253	25	144	Very High	High	Intermediate Assessment Required
EgR002	81%-100%	135	2859	Moderate	5	250	25	135	Very High	High	Intermediate Assessment Required
EgR003	81%-100%	131	2398	Moderate	6	255	26	165	Very High	High	Intermediate Assessment Required
PiL001	81%-100%	132	2301	Moderate	7	242	24	163	Very High	High	Intermediate Assessment Required
MCR002	81%-100%	131	2948	Moderate	5	237	24	125	Very High	High	Intermediate Assessment Required
MCR001	81%-100%	135	2698	Moderate	6	244	24	140	Very High	High	Intermediate Assessment Required
EgR001	81%-100%	132	3086	Moderate	5	241	24	121	Very High	High	Intermediate Assessment Required
SH013	81%-100%	131	6891	Moderate	2	12	1	3	Very Low	Low	No Further Assessment Required
SH014	81%-100%	128	5631	Moderate	3	22	2	7	Very Low	Low	No Further Assessment Required
DRD001	81%-100%	128	4763	Moderate	3	29	3	10	Low	Low	No Further Assessment Required
SH029	61%-80%	137	2952	Moderate	5	141	14	74	Very High	High	Intermediate Assessment Required
DRD051	81%-100%	128	5415	Moderate	3	18	2	6	Very Low	Low	No Further Assessment Required
EIR018	81%-100%	128	6510	Moderate	2	13	1	4	Very Low	Low	No Further Assessment Required
RwR004	81%-100%	127	6471	Moderate	2	8	1	2	Very Low	Low	No Further Assessment Required

APPENDIX E NOISE SCOPING REPORT



MARSHALL DAY
Acoustics 

BANANDRA WIND FARM
SCOPING REPORT - NOISE
Rp 001 r04 20250496 | 1 July 2026

Project: **BANANDRA WIND FARM**

Prepared for: **Arcadis Australia Pacific
Level 16, 580 George Street
Sydney NSW 2000**

Attention: **Glyn Diwell**

Report No.: **Rp 001 r04 20250496**

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Document Control

Status:	Rev:	Comments	Date:	Author:	Reviewer:
Superseded	-	For client information	24 Feb 2026	O Chahoud	A Stoker
Superseded	01	Correction to Figure 4	4 Mar 2026	O Chahoud	A Stoker
Superseded	02	Removed references to BESS	6 Mar 2026	O Chahoud	A Stoker
Superseded	03	Non-residential receivers clarified	1 May 2026	O Chahoud A Stoker	A Stoker
Issued	04	Added author qualifications	1 Jul 2026	O Chahoud A Stoker	A Stoker O Wesley-Smith

SUMMARY

Banandra Wind Farm (project) is proposed to be developed by Squadron Energy (applicant) and comprises the construction, operation and decommissioning of a wind farm. The project is located approximately 29 km east of Narrandera, and within the Riverina Region, and Murrumbidgee Council and Narrandera Shire Council local government areas.

Marshall Day Acoustics (Australia) Pty Ltd (MDA) has been commissioned by Arcadis Australia Pacific (Arcadis) on behalf of the applicant to undertake a scoping assessment of operational noise associated with the project.

Basis of assessment

The purpose of the preliminary noise assessment is to identify and describe noise scoping assessment matters to be accommodated into the scoping report for the project and to inform potential layout changes to satisfy the applicable noise limits (as part of future design) and target consultation and land agreements. The scoping report will be submitted as part of a request for project-specific Planning Secretary's environmental assessment requirements (SEARs) for a future state significant development application (SSDA).

The project is proposed to have an installed capacity of up to 588 MW of renewable energy generated from up to 93 wind turbines, switching yard, substations and associated ancillary infrastructure including an underground reticulation network and internal overhead transmission line.

This report documents a preliminary assessment of operational noise for the proposed project, that has been conducted in accordance with the Technical Supplement for Noise.¹

The Technical Supplement for Noise refers to the SA Guidelines as the underlying noise assessment method for wind energy projects, subject to a set of supplementary procedures that are specific to NSW.²

The noise assessment has been carried out based on a candidate wind turbine model, as nominated by the applicant, with a generation capacity of 6.0 MW. The candidate wind turbine is representative of the type of wind turbine being considered for the project. Noise emission data for the candidate wind turbine model has been reviewed and is consistent with the range of values expected for comparable types of multi megawatt wind turbine models.

The noise emission data has been used with international standard ISO 9613-2:2024 to develop a 3D noise model allowing the prediction of the level of noise expected to occur at neighbouring receivers, under reasonably worst-case noise propagation conditions.³

The ISO 9613-2:2024 standard has been applied based on well-established input choices and adjustments, based on research and international guidance that is specific to wind farm noise assessments. The prediction method is consistent with the guidance provided by the SA Guidelines (referenced in the Technical Supplement for Noise) and has been shown to provide a reliable method of predicting the typical levels of noise expected to occur in practice.

¹ NSW Department of Planning, Housing and Infrastructure *Wind Energy Guideline: Technical Supplement for Noise Assessment* (Technical Supplement for Noise), November 2024

² SA Environmental Protection Authority *Wind farms environmental noise guidelines* (SA Guidelines), published in 2009; updated in 2021

³ International Organisation for Standardisation, *ISO 9613-2:2024 Acoustics – Attenuation of sound during propagation outdoors Part 2: Engineering method for the prediction of sound pressure levels outdoors* (ISO 9613-2:2024)

Assessment outcomes

The predicted noise levels for the proposed wind turbine layout are below the noise limits determined in accordance with the Technical Supplement for Noise at all assessed receivers.

The predictions rely upon on an indicative, preliminary project layout and candidate wind turbine.

The applicant will need to consider compliance with the applicable noise limits as part of the ongoing development for the project. This is expected to include detailed design and evaluation of potential noise mitigation strategies where required (including private agreements), to be conducted following the completion of background noise monitoring and the derivation of wind-speed based noise limits.

With regards to cumulative noise, review of currently available public information indicates that wind turbines associated with Devlins Bridge Wind Farm are located within 10 km of wind turbines associated with the project.

A detailed numerical assessment of cumulative noise will be necessary as part of the project environmental impact statement (EIS).

Next steps

Once the SEARs are issued for the project, further detailed noise assessment will be undertaken to support the project EIS which will be lodged as part of the SSDA. The detailed assessment would demonstrate how compliance would be achieved for the specific noise matters defined by the SEARs.

This would include background noise monitoring at key receivers around the project, a revised operational wind turbine noise modelling assessment and other noise considerations, including cumulative wind turbine noise, special noise characteristics, construction, and ancillary infrastructure.

Assessment of non-residential receivers would also be updated pending the completion of appropriate ground truthing.

AUTHOR QUALIFICATIONS

Alex Stoker is an Associate with Marshall Day Acoustics' (MDA) Sydney office and the Renewable Energy Sector Lead for Australia. He specialises in environmental planning assessments, noise and vibration monitoring, and construction noise and vibration modelling and assessment across all sectors including renewable energy generation, heavy industry, port terminal services and underwater acoustics.

Alex has 15 years' experience working across a variety of acoustic disciplines having worked as a field engineer in the oil and gas industry as well as various consulting roles. He has extensive experience in environmental acoustics including 3D noise modelling, impact assessment, industrial noise control, construction noise and vibration assessment, and planning assessments.

Alex's experience includes heavy industry and energy sector projects, across renewable and fossil fuel infrastructure, including mines, oil and gas facilities, wind farms, solar farms, and battery energy storage systems (BESS). He has been involved in a majority of MDA's BESS projects carried out to date.

As Renewable Energy Sector Lead, Alex is responsible for co-ordinating MDA's work in the renewable energy sector including wind farms, solar farms, BESS, pumped hydro, green gas, and novel/prototype industry solutions.

He has provided consulting expertise to industry peak bodies and policy makers at local and state levels.

- Bachelor of Science Acoustics, Salford University (B.Sc Acoustics, Hons)
- MAAS - Australian Acoustical Society - Member

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1.0 INTRODUCTION

Banandra Wind Farm (project) is proposed to be developed by Squadron Energy (applicant) and comprises the construction, operation and decommissioning of a wind farm. The project is located approximately 29 km east of Narrandera, and within the Riverina Region, and Murrumbidgee Council and Narrandera Shire Council local government areas.

Marshall Day Acoustics (Australia) Pty Ltd (MDA) has been commissioned by Arcadis Australia Pacific (Arcadis) on behalf of the applicant to undertake a scoping assessment of operational noise associated with the project.

The purpose of the preliminary noise assessment is to identify and describe noise related assessment matters to be accommodated into the scoping report for the project and to inform potential layout changes required to satisfy applicable noise limits. The scoping report will be submitted as part of a request for project-specific Planning Secretary's environmental assessment requirements (SEARs) for a future state significant development application (SSDA).

The primary noise related matter associated with the project is noise from the operation of wind turbines. On this basis, a preliminary assessment of noise has been conducted to provide a robust evaluation of potential noise impacts related to this matter under conservative conditions.

Other secondary noise related matters associated with the project include a switching yard, substations and other ancillary infrastructure, as well as construction noise and vibration, including construction traffic. These secondary matters have not been numerically evaluated but are identified as being matters requiring detailed assessment as part of the environmental impact statement (EIS) for the project.

The noise scoping assessment has been prepared in accordance with the Technical Supplement for Noise and is based on:⁴

- The minimum (base) operational noise limit determined in accordance the Technical Supplement for Noise and supplementary noise limits for non-residential receivers.
- Preliminary noise modelling for the project based on the current project design comprising of up to 93 multi-megawatt wind turbines and a candidate wind turbine model representative of the size and type of wind turbine being considered for the project.
- A comparison of the predicted noise levels at nearby receivers with the established noise limits.

A review of currently available public information indicates that wind turbines associated with Devlins Bridge Wind Farm are located within 10 km of wind turbines associated with the project.

Cumulative wind turbine noise is considered qualitatively in this assessment but would be addressed in more detail as part of the EIS.

Acoustic terminology used in this report is presented in Appendix A.

⁴ NSW Department of Planning, Housing and Infrastructure *Wind Energy Guideline: Technical Supplement for Noise Assessment* (Technical Supplement for Noise), November 2024

2.0 PROJECT DESCRIPTION

2.1 Overview

The project is located approximately 29 km east of Narrandera, and within the Riverina Region, and Murrumbidgee Council and Narrandera Shire Council local government areas.

The key components of the proposed project include:

- up to 93 wind turbines
- permanent electrical infrastructure including switching yard, substations, underground reticulation network and internal overhead transmission line.

The coordinates of the wind turbines are presented in tabular format in Appendix B.

2.2 Receivers

The Technical Supplement for Noise defines receivers as:

The noise-sensitive location from which people can hear noise from a wind energy development

Receivers are sub-categorised into:

- *associated receivers* i.e. host properties or receivers where a private impact agreement specifically addressing noise is in place between the landowners and the applicant
- *non-associated receivers* which comprise the remaining receivers without a private agreement with the applicant.

Residential receivers are primarily considered; however, the Technical Supplement for Noise also requires the potential for noise impact to be assessed at non-residential receivers.

Reference is made to Table 2.2 of the NPfI for guidance on the acceptability of noise impacts to non-residential receivers, which provides various categorisations including temporary residential, educational, religious, commercial and industrial land uses.⁵

The applicant has identified a number of residential and non-residential receivers within 5 km of the project.

The specific use of each non-residential receiver is not known at this stage but would be determined as part of ground truthing to be carried out between the scoping and EIS stages.

A high-level review of aerial imagery indicates that most of the non-residential receivers are sheds, small warehouse or other structures of a commercial or industrial nature. On this basis the non-associated non-residential receivers have been classed as commercial premises for the purposes of noise assessment. This is expected to be an appropriately conservative approach resulting in lower noise limits than if classed as industrial.

It is important to note that the results of the ground truthing may mean the classification for some non-residential receivers may change or they may be removed from assessment entirely, once the use is definitively known. The approach adopted herein provides an assessment suitable for determining the risk for noise impact to non-residential uses, as is appropriate at scoping stage.

⁵ NSW Environment Protection Authority, *Noise Policy for Industry*, October 2017 (NPfI)

Based on information provided by the applicant, a total of 139 receivers are located within 5 km from a proposed wind turbine location. 5 km is a nominal distance selected as being greater than the distance typically required to achieve compliance with the base noise limit set by the Technical Supplement for Noise.

10 receivers are classified as being associated with the project. The remaining receivers are non-associated, including 63 non-residential receivers.

The coordinates of the receivers are tabulated in Appendix C.

A site layout plan illustrating the wind turbine layout and receivers is provided in Appendix D.

2.3 Candidate wind turbine model

The wind turbine model to be assessed in detail as part of the EIS will be determined from ongoing project design development. Further, if the project is approved, the final wind turbine model would only be selected after a tender process to procure the supply of wind turbines. The final selection would be made based on a range of design requirements, including achieving compliance with relevant noise limits at surrounding noise sensitive receivers.

Accordingly, to assess the proposed development at this stage of the project, it is necessary to use a representative candidate wind turbine model for the type of wind turbines being considered. The purpose of using a candidate wind turbine in this assessment is to inform a preliminary assessment of operational noise, accounting for the base noise limit and noise emission levels that are typical of the capacity of wind turbines being considered for the project.

For this assessment, the applicant has nominated a candidate wind turbine model and provided corresponding manufacturer specifications.

This model is a variable speed wind turbine, with the speed of rotation and the amount of power generated by the wind turbines being regulated by control systems which vary the pitch of the wind turbine blades (the angular orientation of the blade relative to its axis).

This assessment has been based on the wind turbines operating in an unconstrained mode of generation (i.e. without noise reduced operating modes) and with blade serrations.

Details of the assessed candidate wind turbine are provided in Table 1.

Table 1: Selected candidate wind turbine model

Item	Detail
Rated power, MW	6.0
Rotor diameter, m	164
Operating mode	Standard
Modelled hub height, m	185
Blade serrations	Yes
Cut-in wind speed (hub height), m/s	3
Cut-out wind speed (hub height), m/s	25

3.0 OPERATIONAL WIND FARM NOISE LIMITS

3.1 Non-associated receivers

The Technical Supplement for Noise provides guidance on how noise impacts are to be assessed for large-scale wind energy development projects that are classed as State significant development.

The Technical Supplement for Noise states that the SA Guidelines, are to be used as the relevant assessment standard, subject to a set of variations that apply to the assessment of NSW projects.⁶ The variations are defined for:

- noise limits (and the receiver types they apply to)
- special noise characteristics
- noise monitoring.

In relation to noise limits, the variation defined in the Technical Supplement for Noise sets the base noise limit at a value of 35 dB L_{Aeq} for all projects, in lieu of the 35 to 40 dB L_{Aeq} base criterion range defined in the SA Guidelines. It is noted that the Technical Supplement for Noise uses the terms 'level', 'limits' and 'criteria' interchangeably, but primarily refers to noise limits. The term noise limit is therefore adopted throughout this report.

3.1.1 Noise limits for residences

The noise limits for residences in the Technical Supplement for Noise are defined as:

The predicted equivalent noise level, ($L_{Aeq, 10}$),¹ adjusted for tonality and low-frequency noise, should not exceed 35 dB(A) or the background noise ($L_{A90, 10}$) by more than 5 dB(A), whichever is greater, at all relevant receivers for wind speed from cut-in to rated power of the wind turbine generator and each integer wind speed in between.

¹ Determined in accordance with section 4 of the SA Guidelines.

3.1.2 Noise limits for other land uses

The Technical Supplement for Noise also sets out that the potential for noise impact must be assessed at other non-residential receivers, and specifically references prescriptive noise limits for National Parks, and refers to the NPfI for other non-residential land uses.

While non-residential land uses are not definitively known at this stage most structures appear to be sheds, small warehouse or other buildings of a commercial or industrial nature.

Taking a conservative approach, all non-residential land uses have been classed as *commercial premises* per the receiver categorisation set out in Table 2.2 of the NPfI (subject to lower noise limits than if classed as industrial).

The recommended amenity noise level for commercial premises, and therefore the noise limit adopted for assessment of the non-residential receivers, is 65 dB L_{Aeq} .

Ground truthing to be conducted between the scoping and EIS stages will confirm specific land uses. This may result in changes to non-residential receiver classifications, or removal entirely from assessment.

⁶ SA Environmental Protection Authority *Wind farms environmental noise guidelines* (SA Guidelines), published in 2009; updated in 2021

3.1.3 Special noise characteristics

Variations are also defined in the Technical Supplement for Noise for the assessment of special noise characteristics. These procedures would be referenced in subsequent detailed assessment phases for the project.

The Technical Supplement for Noise notes the following in relation to the types of receivers where the noise limits apply:

Setting noise level objectives for wind turbines aims to retain noise levels that are compatible with surrounding land uses and ensure that noise levels do not significantly affect the lifestyle of people living in the area.

Applicants commonly negotiate agreements with private landholders to manage impacts where projects may not achieve noise limits. This means that landholders may enter into an agreement with applicants to accept noise levels above the prescribed noise limits. Where such an agreement is in place, these receivers do not require an assessment of noise impacts. Where known, these receivers should be identified in the scoping report and environmental impact statement, including on any relevant maps.

3.2 Associated receivers

The Technical Supplement for Noise indicates that assessment of noise impact is not required for associated receivers i.e. host properties or receivers where a private impact agreement specifically addressing noise is in place between the landowner and the applicant.

Noise levels at these locations would ultimately need to be managed in accordance with the private agreement.

Predicted noise levels at associated receivers are provided in this report for informative context only.

4.0 NOISE PREDICTION METHOD

Operational wind turbine noise levels are predicted using:

- Noise emission data for the candidate wind turbines.
- A 3D digital model of the project and the surrounding environment.
- International standards used for the calculation of environmental sound propagation.

The method selected to predict noise levels is ISO 9613-2:2024.⁷ The prediction method is consistent with the guidance provided by the SA Guidelines (referenced in the Technical Supplement for Noise) and has been shown to provide a reliable method of predicting the typical levels of noise expected to occur in practice.

The ISO 9613-2:2024 method is used in conjunction with a set of input choices and procedural modifications that are specific to wind farm noise assessment, based on international research and guidance.

Table 2: Downwind prediction method

Detail	Description
Software	Proprietary noise modelling software SoundPLANnoise v9.1
Method	ISO 9613-2:2024, with adjustments to the method applied on the basis of Annex D of the standard. The adjustments are applied within the SoundPLANnoise modelling software and relate to the influence of terrain screening and ground effects on sound propagation. Specific details of adjustments are noted below and are discussed Appendix E.
Source characterisation	Each source of operational noise is modelled as a point source of sound. The total sound of the component of the project being modelled, i.e. the wind turbines or the ancillary infrastructure, is then calculated on the basis of simultaneous operation of all elements within that component, e.g. the sum of all wind turbine noise contributions at each receiver, or the sum of all ancillary infrastructure noise contributions at each receiver. To model the operational wind turbine noise associated with the project, the following specific procedures are noted: • Calculations of wind turbine to receiver distances and average sound propagation heights are made on the basis of the point source being located at the position of the hub of the wind turbine. • Each wind turbine is modelled as a point source of sound. • The total wind turbine noise associated with the operation of the project is then calculated on the basis of simultaneous operation of all wind turbines and summing the contribution from each. • Calculations of terrain related screening are made on the basis of the point source being located at the maximum tip height of each wind turbine. Further discussion of terrain screening effects is provided below.

⁷ International Organisation for Standardisation, ISO 9613-2:2024 *Acoustics – Attenuation of sound during propagation outdoors Part 2: Engineering method for the prediction of sound pressure levels outdoors* (ISO 9613-2:2024)

Detail	Description
Terrain data	Digital elevation map with a cell size of 5 m throughout the project and surrounds, sourced from ELVIS. ⁸
Terrain effects (wind turbine-specific procedures)	Adjustments for the effect of terrain are determined and applied on the basis of the ISO 9613-2:2024 Annex D per Appendix E. <i>Valley effects:</i> +3 dB is applied to the calculated noise level of a wind turbine when a significant valley exists between the wind turbine and calculation point. A significant valley is determined to exist when the actual mean sound propagation height between the wind turbine and calculation point is 50% greater than would occur if the ground were flat. <i>Terrain screening effects:</i> only calculated if the terrain blocks line of sight between the maximum tip height of the wind turbine and the calculation point. The value of the screening effect is limited to a maximum value of -2 dB. For reference purposes, the ground elevations at the wind turbine and receiver positions are tabulated in Appendix B and Appendix C, respectively. The topography of the project area and surrounds is depicted in the elevation map provided in Appendix F.
Ground conditions	Ground factor of $G = 0.5$ based on the recommendations of ISO 9613-2:2024 Annex D.
Atmospheric conditions	Temperature 10°C and relative humidity 80% as specified in the SA Guidelines. These represent conditions which result in relatively low levels of atmospheric sound absorption. The calculations are based on sound speed profiles which increase the propagation of sound from each wind turbine to each receiver, whether as a result of thermal inversions or wind directed toward each calculation point.⁹ The primary consideration for wind farm noise assessment is wind speed and direction. The noise level at each calculation point is assessed on the basis of being simultaneously downwind of every wind turbine at the project. Other wind directions in which part or the entire wind farm is upwind of the receiver will result in lower noise levels. In some cases, it is not physically possible for a receiver to be simultaneously downwind of each wind turbine and the approach is therefore conservative in these instances.
Receiver heights	4 m above ground level, based on the recommendations of ISO 9613-2:2024 Annex D.

⁸ *Elvis - Elevation and Depth* - Foundation Spatial Data - <https://elevation.fsd.org.au/>

⁹ The sound speed profile defines the rate of change in the speed of sound with increasing height above ground.

5.0 WIND TURBINE NOISE ASSESSMENT

5.1 Wind turbine noise emissions

The noise emissions of the wind turbines are described in terms of the sound power level for different wind speeds. The sound *power* level is a measure of the total sound energy produced by each wind turbine and is distinct from the sound *pressure* level which depends on a range of factors such as the distance from the wind turbine at which it is measured or predicted.

Sound power level data for the candidate wind turbine model, including sound frequency characteristics, has been sourced from the GE Renewable Energy document *Technical Documentation Wind Turbine Generator Systems Cypress 6.0-164-50Hz Product Acoustic Specifications According to IEC 61400-11 (Rev. 02 – EN)*, dated 16 March 2021.

Based on the data sourced from the manufacturer's documentation, the noise modelling undertaken for this assessment involved conversion of third octave band levels to octave band levels (where applicable), and adjustment by addition of +0.8 dB at each wind speed to provide a margin for typical values of test uncertainty.

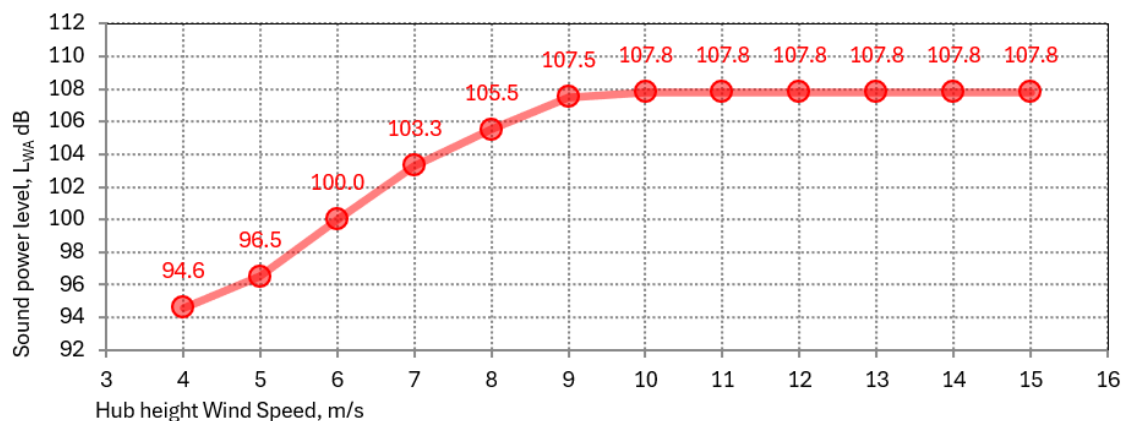
The overall A-weighted sound power levels (including the +0.8 dB addition) as a function of hub height wind speed are presented in Table 3 and Figure 1. These represent the total noise emissions of the wind turbine, including the secondary contribution of ancillary plant associated with each wind turbine (e.g. cooling fans and internal transformer).

Table 3: Wind turbine sound power levels versus hub height wind speed (inc. + 0.8 dB uncertainty), dB L_{WA}

Hub height wind speed, m/s						
4	5	6	7	8	9	≥10 ^a
94.6	96.5	100.0	103.3	105.5	107.5	107.8

a Overall sound power levels in the manufacturer provided noise datasheet for wind speeds between 10 – 15 m/s are equal to 107.8 dB L_{WA}.

Figure 1: Wind turbine sound power levels versus hub height wind speed (inc. + 0.8 dB uncertainty), dB L_{WA}



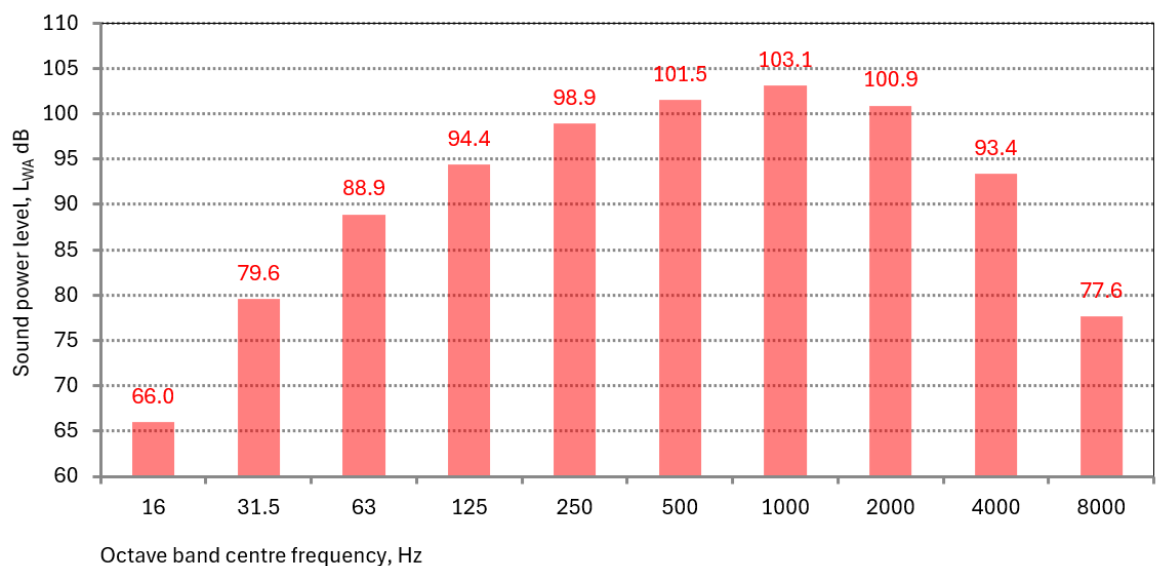
The sound power levels in Figure 1 are considered typical of the range of noise emissions associated with comparable multi-megawatt wind turbines. The data is therefore considered appropriate to reference in this scoping assessment as a representation of the apparent sound power levels of the wind turbine if it were to be tested and rated in accordance with IEC 61400-11.¹⁰

The sound frequency characteristics of the wind turbine have been sourced from the manufacturer's specification document. The reference spectrum used as the basis for this assessment is presented in Table 4.

Table 4: Wind turbine octave band sound power levels (at 10 m/s – incl. +0.8 dB uncertainty), dB L_{WA}

Octave band centre frequency, Hz									
31.5	63	125	250	500	1000	2000	4000	8000	Total
79.6	88.9	94.4	98.9	101.5	103.1	100.9	93.4	77.6	107.8

Figure 2: Wind turbine octave band sound power levels (at 10 m/s inc. +0.8 dB uncertainty), dB L_{WA}



Industry research conducted with reference to sound power data for a range of wind turbine models has shown that there is not a clear relationship between wind turbine size, or power output, and the noise emission characteristics of a given wind turbine model.¹¹ In practice, the overall noise emissions of a wind turbine are dependent on a range of factors, including the wind turbine size, power output, blade design and rotational speed of the wind turbine.

While wind turbine sizes and power ratings of contemporary wind turbines have increased, the noise emissions of the wind turbines are comparable to, or lower than, previous generations of wind turbines. This is a result of design improvements, notably, measures to reduce the speed of rotation of the wind turbines, and enhanced blade design features such as serrations for noise control.

¹⁰ International Electrotechnical Commission, IEC 61400-11:2012 *Wind turbines - Part 11: Acoustic noise measurement techniques*

¹¹ F Van den Berg, E Koppen, J Boon and M Ekelschot-Smink, *Sound power of onshore wind turbines and its spectral distribution*, Sound & Vibration 59, 2025

5.1.1 Tonality

The manufacturer specification for the candidate wind turbine model does not provide information about tonality.

The occurrence of tonality in the noise of contemporary multi-megawatt wind turbine designs is generally limited. This is supported by evidence of operational wind farms in Australia which indicates that the occurrence of tonality at receivers is atypical. On this basis, adjustments for tonality have not been applied to the predicted noise levels presented in this scoping assessment.

Notwithstanding this, the subject of tonality would be addressed in subsequent assessment stages for the project. As part of this, further information will need to be obtained from the manufacturer concerning tonality.

5.1.2 Low frequency noise

The other special noise characteristic which is assessable in accordance with the Technical Supplement for Noise is low frequency noise. While there is a prescribed criterion for the application of low frequency noise penalty adjustments in the Technical Supplement for Noise (based on C-weighted noise levels), there is no established or verified engineering prediction method of C-weighted noise levels associated with the operation of wind turbines.

For the purposes of this report, a risk assessment approach has been adopted using a simplified prediction method to estimate the C-weighted noise levels. Details of the study are provided in Appendix G.

5.2 Preliminary predicted noise levels

This section of the report presents the preliminary predicted A-weighted noise levels of the project at surrounding non-associated receivers, and an assessment of compliance with the base noise limit. Predicted noise levels at associated receivers have also been included for information only.

Sound levels in environmental assessments are typically reported to the nearest integer to reflect the practical use of measurement and prediction data. However, in the case of wind farm layout design, significant layout modifications may only give rise to fractional changes in the predicted noise level. This is a result of the relatively large number of sources influencing the total predicted noise level, as well as the typical separating distances between the wind turbine locations and surrounding assessment positions. It is therefore necessary to consider the predicted noise levels at a finer resolution than can be perceived or measured in practice. It is for this reason that the levels presented in this section are reported to one decimal place.

The predicted noise levels are for conditions when the noise emissions of the candidate wind turbine have reached their highest level (corresponding to a hub height wind speed of 10 m/s), and the wind is directed from each wind turbine to each receiver. The predicted noise levels presented include the +0.8 dB allowance to account for wind turbine sound power level measurement uncertainty, as described in Section 5.1.

5.2.1 Non-associated receivers

Residential receivers

Table 5 lists the predicted noise levels for non-associated residential receivers within 5 km of the project for which the predicted noise level exceeds 30 dB $L_{Aeq, 10 \text{ min}}$.

The base noise limit applicable to the wind farm at non-associated residential receivers is 35 dB $L_{Aeq, 10 \text{ min}}$ in the absence of background noise monitoring - which is yet to be undertaken.

Predicted noise levels for all identified non-associated residential receivers within 5 km of the Project are set out in Appendix H1.

Table 5: Predicted noise levels at non-associated residential receivers within 5 km greater than 30 dB (inc. +0.8 dB uncertainty), dB $L_{Aeq, 10 \text{ min}}$

Receiver	Distance to nearest wind turbine, m	Predicted noise level
CdR005	2,779	31.8
CiR001	3,185	31.4
CiR002	3,073	31.2
CiR003	3,006	31.2
CiR004	2,843	31.2
CiR005	2,656	31.5
DRD009	2,007	30.2
DRD072	2,705	30.1
EgR001	3,085	32.4
EgR002	2,858	32.9
EgR003	2,397	33.5
EgR004	2,916	34.0
EgR005	2,714	33.3
FrR001	2,002	31.8
FrR004	2,322	31.0
MCR001	2,697	32.8
MCR002	2,947	32.3
MCR004	3,099	32.0
MCR026	2,037	32.9
PiL001	2,301	33.4
PiL004	2,266	32.9
SH027	2,996	31.3
SH028	2,852	31.7
SH029	2,951	31.8
SH030	2,775	32.2

Receiver	Distance to nearest wind turbine, m	Predicted noise level
SH031	2,502	33.5
SH032	2,556	33.3
SH033	2,824	32.1
SH034	2,924	31.8
SH035	2,647	32.2
SH036	2,511	32.6

Predicted noise levels for each integer wind speed are tabulated in Appendix I for all receivers within 5 km of a wind turbine. Predicted noise contours are provided in Figure 3.

It can be seen from Table 5 that the predicted noise levels for the project are below the base noise limit of 35 dB $L_{Aeq, 10 \text{ min}}$ at all non-associated residential receivers by a minimum margin of 1 dB.

As the project layout and candidate wind turbine are subject to change, more detailed assessment is required to determine if modifications to the project design and/or mitigation strategies will be required during EIS stage.

Such works will occur when background noise monitoring is completed and wind-speed based noise limits are established, considering further changes to the layout as design development progresses.

Non-residential receivers

Table 6 presents the predicted noise levels at non-residential receivers within 5 km of the project with a predicted noise level greater than 30 dB $L_{Aeq, 10 \text{ min}}$.

The predicted noise levels at all non-residential receivers are set out in Appendix H2.

Per Section 3.1.2 the NPfI noise limit for commercial receivers has been conservatively adopted for assessment.

The land use and assessment status of non-residential receivers may change as ground truthing is carried out.

Table 6: Predicted noise levels at non-residential receivers greater than 30 dB (inc. +0.8 dB uncertainty), dB $L_{Aeq, 10 \text{ min}}$

Receiver	Distance to nearest wind turbine, m	Predicted noise level
<i>Receiver – non-residential</i>		
CdR002	2,946	30.9
CdR003	2,892	31.2
CdR004	2,769	31.7
DRD054	2,689	30.2
DRD055	2,695	30.2
EgR006	2,985	33.0
FrR002	1,973	31.9
FrR003	2,349	30.7
MCR003	3,164	32.0

Receiver	Distance to nearest wind turbine, m	Predicted noise level
MCR012	2,811	32.5
MCR013	3,208	32.0
PiL002	2,350	33.3
PiL003	1,931	34.4
SH064	2,616	32.3
SH065	3,178	31.2
SH066	2,221	34.6
SH067	2,390	33.3
SH068	1,037	38.7

Table 6 shows the predicted noise levels for the project are below the commercial receiver noise limit of 65 dB $L_{Aeq, 10 \text{ min}}$ at all non-residential receivers by a minimum margin of 26.3 dB.

5.2.2 Associated receivers

Table 7 presents the predicted noise levels for all associated receivers with a predicted noise level greater than 30 dB $L_{Aeq, 10 \text{ min}}$ for informative purposes only.

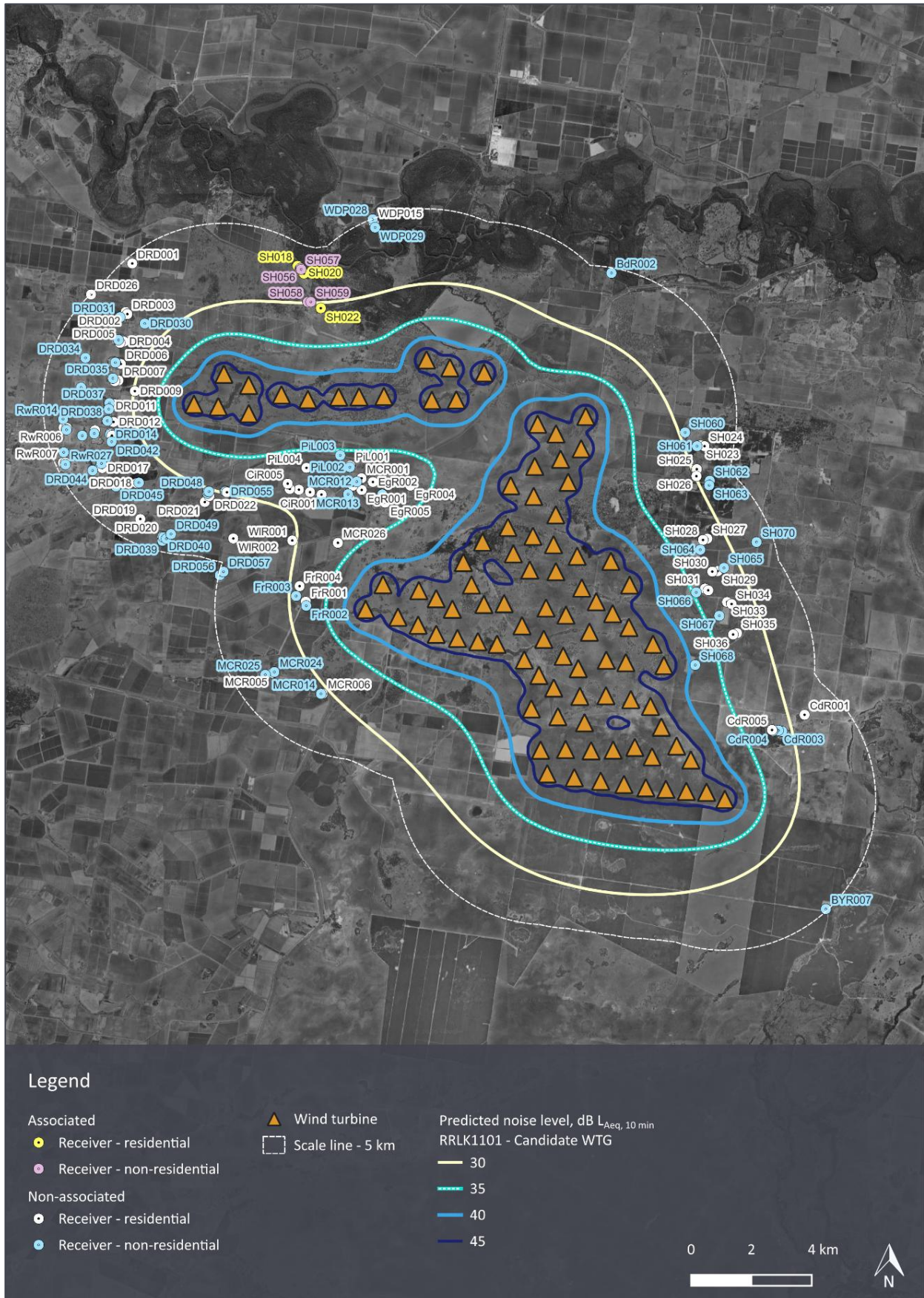
Predicted noise levels for all associated receivers are set out in Appendix H3.

Table 7: Predicted noise levels at associated receivers greater than 30 dB (inc. +0.8 dB uncertainty), dB $L_{Aeq, 10 \text{ min}}$

Receiver	Distance to nearest wind turbine, m	Predicted noise level
<i>Receiver – residential</i>		
SH022	3,002	30.5

Noise levels at associated receivers will be managed in accordance with the private agreements established between the applicant and the landowners.

Figure 3: Predicted noise levels (corresponding to hub height wind speeds of 10 m/s)



5.3 Cumulative noise review

The Technical Supplement for Noise does not address or provide guidance on the matter of cumulative noise assessment. However, the Wind Energy Guideline describes cumulative impacts as being a matter that must be given careful consideration and assessment and refers to the Cumulative Impact Assessment Guidelines (as referred to in the Wind Energy Guideline).¹²

The Cumulative Impact Assessment Guidelines indicates:

The cumulative impact assessment of State significant projects should be integrated with the standard assessment of these projects under the EP&A Act.... The results of the cumulative impact assessment are to be included in the main report of the EIS ... as well as in any relevant technical reports.

On this basis, a qualitative review of cumulative noise from the project and other nearby projects has been included to provide a risk assessment of potential cumulative impacts at scoping stage. Cumulative noise would be assessed in more detail as part of the EIS.

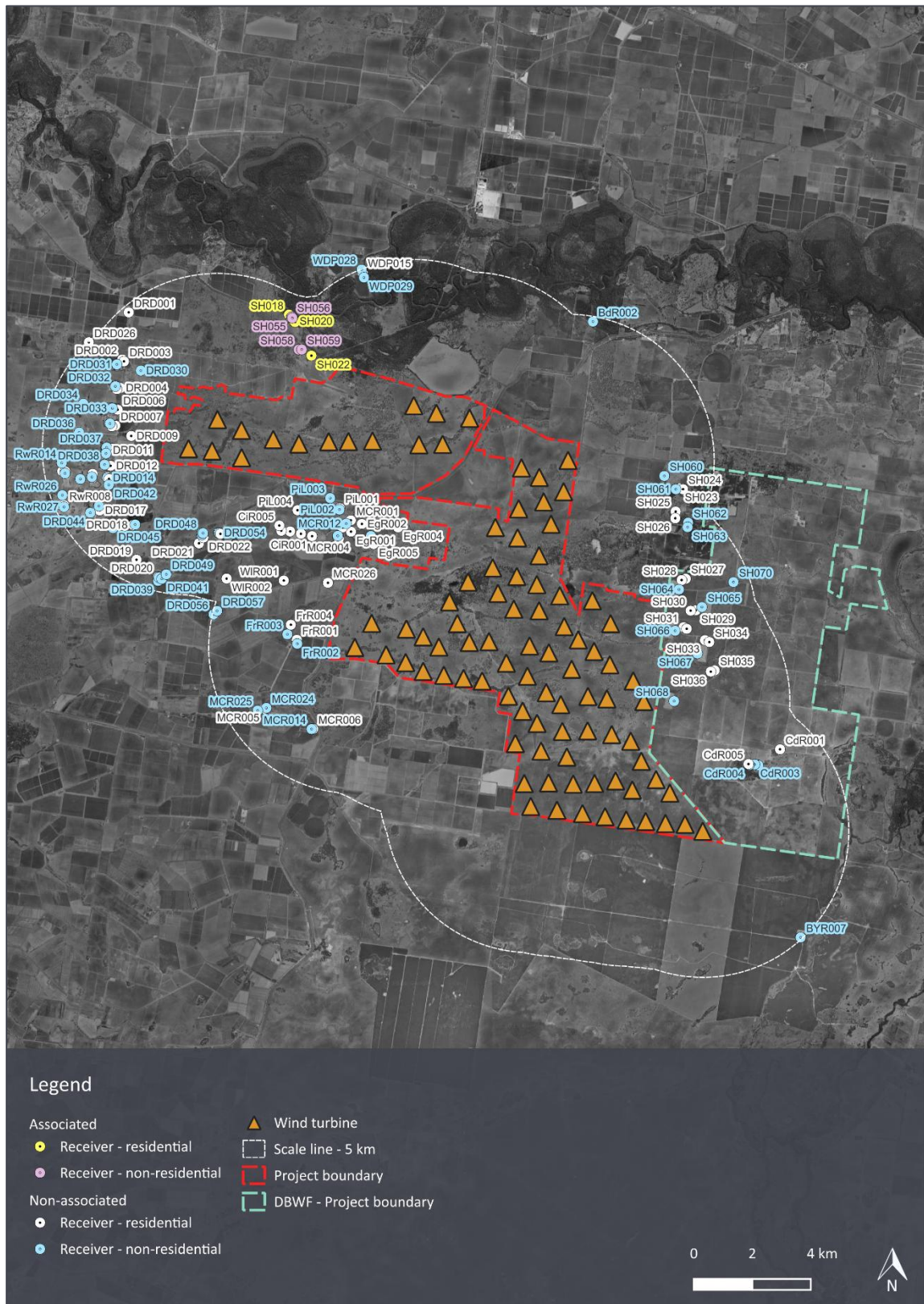
Based on information currently available within the public domain, it is known that the proposed Devlins Bridge Wind Farm (DBWF) adjoins the project boundary to the east and has proposed wind turbines within 10 km of the project wind turbines.

Indicative project boundaries for DBWF are shown in relation to the project in Figure 4.

Based on the above it is expected that cumulative noise will be a relevant assessment matter for the project and will need to be considered in detail as part of the EIS assessment. It is expected that this would involve numerical assessment of the cumulative noise impacts with reference to the predicted noise levels in the most recent noise assessments available at the time for the other projects.

¹² NSW Department of Planning, Housing and Infrastructure *Cumulative Impact Assessment Guidelines for State Significant Projects*, dated October 2022

Figure 4: Other projects



6.0 DETAILED ASSESSMENT PHASE

A detailed assessment of a wind farm development in NSW involves addressing several environmental noise considerations detailed in project-specific SEARs. Whilst SEARs specific to the project are yet to be issued, typical requirements include assessment of:

- operational wind turbine noise – in accordance with the Technical Supplement for Noise
- ancillary infrastructure noise, including the switching yard and substations – in accordance with the NPfI
- construction noise – in accordance with the ICNG¹³
- construction traffic noise – in accordance with the RNP¹⁴
- construction vibration – in accordance with the AVTG¹⁵
- detailed numerical consideration of cumulative impacts with other nearby wind farm projects.

These assessments will be addressed as part of detailed noise assessment to support the EIS, based on the developed project design.

Further detailed assessment work may involve background noise monitoring at key receivers to determine the applicable background adjusted noise limits in accordance with the Technical Supplement for Noise. The results of any background noise monitoring would be documented in a format suitable for submission alongside the project EIS report.

Assessment of non-residential receivers would also be updated pending the completion of appropriate ground truthing.

¹³ NSW Department of Environment and Climate Change, *Interim Construction Noise Guideline* dated July 2009 (ICNG)

¹⁴ NSW Department of Environment, Climate Change and Water, *Road Noise Policy* dated March 2011 (RNP)

¹⁵ NSW Department of Environment and Conservation, *Assessing Vibration: A Technical Guideline* dated February 2006 (AVTG)

APPENDIX A GLOSSARY OF TERMINOLOGY

The basic quantities used within this document to describe noise adopt the conventions outlined in ISO 1996-1:2016.¹⁶

Accordingly, all frequency weighted sound pressure levels are expressed as decibels (dB) in this report.

For example, sound pressure levels measured using an “A” frequency weighting are expressed as L_A dB. Alternative ways of expressing A-weighted decibels such as dBA or dB(A) are therefore not used within this report, except as part of a direct quote of third-party information.

Term	Definition	Abbreviation
A-weighting	A method of adjusting sound levels to reflect the human ear’s varied sensitivity to different frequencies of sound.	See discussion above this table.
A-weighted 90 th centile	The A-weighted pressure level that is exceeded for 90 % of a defined measurement period. It is used to describe the underlying background sound level in the absence of a source of sound that is being investigated, as well as the sound level of steady, or semi steady, sound sources.	L_{A90}
A-weighted equivalent level	The A-weighted equivalent continuous pressure level.	L_{Aeq}
C- weighting	A method of adjusting sound levels to account for non-linear frequency response of the human ear at high noise levels (typically greater than 100 decibels).	-
C-weighted equivalent level	The C-weighted equivalent continuous pressure level.	L_{Ceq}
Decibel	The unit of sound level.	dB
Hertz	The unit for describing the frequency of a sound in terms of the number of cycles per second.	Hz
Low frequency	A sound with perceptible content in the audible frequency range typically below 200 Hz	-
Octave Band	A range of frequencies. Octave bands are referred to by their logarithmic centre frequencies, these being 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, and 16 kHz for the audible range of sound.	-
Sound power level	A measure of the total sound energy emitted by a source, expressed in decibels.	L_w
Sound pressure level	A measure of the level of sound expressed in decibels.	L_p
Special characteristics	A term used by the Technical Supplement for Noise to define sound characteristics that increase the likelihood of adverse reaction to the sound. The characteristics are tonality and low frequency.	-
Tonality	A characteristic to describe sounds which are composed of distinct and narrow groups of audible sound frequencies (e.g. whistling or humming sounds).	-

¹⁶ ISO 1996-1:2016 Acoustics - Description measurement and assessment of environmental noise – Basic quantities and assessment procedures (ISO 1996-1:2016)

APPENDIX B WIND TURBINE COORDINATES

The following table sets out the coordinates of the current proposed wind turbine layout supplied by the applicant on 28 January 2026.

Table 8: Wind turbine coordinates – GDA2020 MGA zone 55

Wind turbine ID	Easting, m	Northing, m	Terrain elevation, m
1	421,172	6,164,410	130
2	421,348	6,163,071	130
3	423,082	6,163,979	131
4	421,948	6,164,147	130
5	414,455	6,163,933	128
6	416,363	6,163,252	128
7	415,277	6,163,566	128
8	419,761	6,163,199	130
9	418,260	6,163,177	129
10	413,463	6,162,936	127
11	429,784	6,150,116	132
12	422,160	6,163,085	130
13	417,241	6,163,097	129
14	426,452	6,162,536	131
15	415,281	6,162,629	128
16	414,269	6,162,858	128
18	424,857	6,162,278	131
19	425,466	6,161,957	131
20	426,299	6,161,464	132
21	425,618	6,161,116	131
22	424,761	6,160,880	132
24	425,869	6,160,354	133
25	424,595	6,157,448	131
26	424,725	6,159,887	134
28	425,458	6,159,276	130
30	424,699	6,158,566	135
31	423,872	6,158,861	132
32	425,383	6,158,286	132
34	426,166	6,157,904	133
35	427,283	6,157,736	133

Wind turbine ID	Easting, m	Northing, m	Terrain elevation, m
36	422,395	6,157,698	130
37	423,965	6,160,241	131
39	425,461	6,157,394	132
40	424,052	6,157,986	134
41	422,663	6,156,953	131
42	427,906	6,156,952	133
43	426,320	6,156,851	132
44	428,650	6,151,259	132
45	419,731	6,156,964	130
46	425,390	6,153,538	131
47	426,799	6,156,398	132
48	421,493	6,156,499	130
49	425,135	6,156,189	131
50	422,029	6,156,151	130
51	423,746	6,156,335	131
53	419,155	6,156,140	129
54	423,074	6,156,309	131
55	427,342	6,156,002	132
56	420,225	6,155,886	129
57	425,794	6,155,953	131
58	424,339	6,155,600	131
59	428,077	6,151,572	132
60	427,882	6,155,545	133
61	426,574	6,155,391	131
62	421,495	6,155,319	130
63	422,198	6,155,184	131
64	425,061	6,155,153	131
65	423,512	6,154,988	129
66	428,683	6,154,989	133
67	422,875	6,155,076	131
68	420,919	6,156,765	130
69	425,704	6,154,591	131
71	424,412	6,154,470	131

Wind turbine ID	Easting, m	Northing, m	Terrain elevation, m
72	427,780	6,154,378	133
73	426,203	6,154,182	132
74	429,043	6,154,286	133
75	424,898	6,153,954	131
76	427,121	6,153,284	132
77	428,596	6,152,929	133
78	426,256	6,153,262	132
79	427,945	6,153,155	133
80	424,647	6,152,850	130
81	425,527	6,152,590	131
82	426,410	6,152,389	132
83	428,957	6,152,243	132
84	430,455	6,150,088	133
85	424,953	6,151,482	130
86	425,783	6,151,504	131
87	426,628	6,151,461	132
88	427,359	6,151,486	132
89	429,463	6,151,617	133
90	431,061	6,149,851	134
91	428,442	6,150,235	132
92	423,030	6,158,374	134
93	425,174	6,150,699	131
94	426,072	6,150,568	131
95	426,944	6,150,455	132
96	427,718	6,150,345	132
97	427,131	6,154,461	132
98	429,107	6,150,184	132
99	418,936	6,163,182	130
100	429,934	6,151,155	133
101	420,894	6,155,621	130

APPENDIX C RECEIVER LOCATIONS

139 noise sensitive receivers have been identified by the applicant within 5 km of a proposed project wind turbine. The co-ordinates of the receivers are provided in Table 9 together with their respective distance to the nearest wind turbine.

Data has been provided to MDA by the applicant on 28 January 2026.

Table 9: Receiver coordinates – GDA2020 MGA zone 55

Receiver ID	Easting, m	Northing, m	Terrain elevation, m	Distance to nearest wind turbine, m
<i>Associated</i>				
<i>Receiver - residential</i>				
SH018	416,900	6,167,521	129	4,275
SH019	417,056	6,167,297	129	4,104
SH020	417,081	6,167,296	129	4,108
SH021	417,109	6,167,268	129	4,085
SH022	417,669	6,166,120	130	3,002
<i>Receiver - non-residential</i>				
SH055	416,977	6,167,420	129	4,212
SH056	417,000	6,167,446	129	4,242
SH057	417,017	6,167,406	129	4,206
SH058	417,235	6,166,327	130	3,196
SH059	417,338	6,166,329	130	3,228
<i>Non-associated</i>				
<i>Receiver - residential</i>				
CdR001	433,704	6,152,651	135	3,851
CdR005	432,625	6,152,148	134	2,779
CiR001	417,692	6,159,944	131	3,185
CiR002	417,311	6,160,025	129	3,073
CiR003	416,942	6,160,106	129	3,006
CiR004	416,638	6,160,131	128	2,843
CiR005	416,571	6,160,308	130	2,656
DRD001	411,418	6,167,600	127	4,762
DRD002	411,200	6,165,990	127	3,801
DRD003	411,255	6,165,923	127	3,714
DRD004	411,139	6,165,014	127	3,118
DRD005	411,013	6,164,973	127	3,186

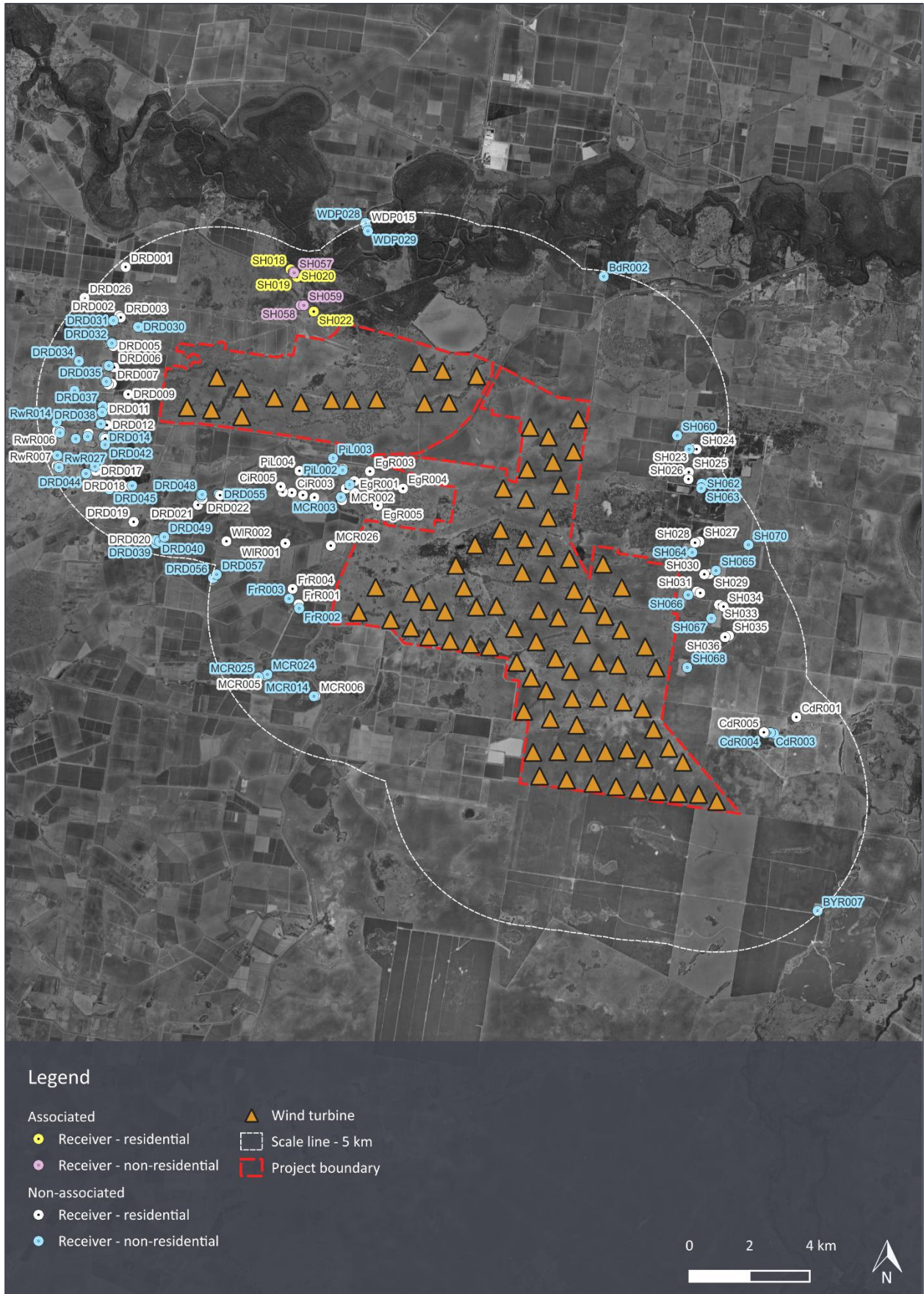
Receiver ID	Easting, m	Northing, m	Terrain elevation, m	Distance to nearest wind turbine, m
DRD006	411,040	6,164,269	127	2,766
DRD007	410,958	6,163,727	127	2,627
DRD008	410,840	6,163,702	127	2,733
DRD009	411,505	6,163,372	127	2,007
DRD010	410,843	6,162,934	127	2,620
DRD011	410,691	6,162,882	126	2,773
DRD012	410,798	6,162,351	127	2,729
DRD013	410,689	6,161,969	127	2,938
DRD015	410,744	6,161,900	127	2,910
DRD017	410,424	6,160,824	126	3,701
DRD018	411,574	6,160,326	125	3,222
DRD019	411,685	6,159,136	126	4,196
DRD020	412,421	6,158,545	128	4,513
DRD021	413,822	6,159,700	129	3,190
DRD022	413,972	6,159,896	129	2,977
DRD026	410,054	6,166,575	127	4,987
DRD072	414,557	6,160,022	127	2,705
EgR001	419,025	6,160,098	132	3,085
EgR002	419,396	6,160,362	133	2,858
EgR003	419,536	6,160,812	130	2,397
EgR004	420,637	6,160,243	135	2,916
EgR005	419,799	6,159,677	134	2,714
FrR001	417,169	6,156,397	129	2,002
FrR004	416,965	6,156,913	131	2,322
MCR001	419,018	6,160,486	134	2,697
MCR002	418,734	6,160,242	130	2,947
MCR004	418,609	6,159,854	129	3,099
MCR005	416,073	6,154,036	128	3,731
MCR006	417,725	6,153,350	131	3,134
MCR026	418,235	6,158,347	129	2,037
PiL001	418,643	6,160,900	130	2,301
PiL004	417,194	6,160,832	129	2,266
RwR005	409,143	6,162,165	126	4,388

Receiver ID	Easting, m	Northing, m	Terrain elevation, m	Distance to nearest wind turbine, m
RwR006	409,248	6,162,154	126	4,287
RwR007	409,121	6,161,004	125	4,753
RwR008	409,203	6,161,004	126	4,679
RwR009	410,184	6,162,073	126	3,391
SH023	430,257	6,161,577	134	3,924
SH024	430,388	6,161,549	133	4,057
SH025	430,132	6,160,787	135	3,892
SH026	430,120	6,160,555	137	3,928
SH027	430,479	6,158,487	134	2,996
SH028	430,338	6,158,443	134	2,852
SH029	430,821	6,157,409	134	2,951
SH030	430,646	6,157,395	134	2,775
SH031	430,404	6,156,828	134	2,502
SH032	430,511	6,156,774	134	2,556
SH033	431,138	6,156,385	134	2,824
SH034	431,285	6,156,320	134	2,924
SH035	431,465	6,155,353	134	2,647
SH036	431,336	6,155,309	134	2,511
WDP015	419,420	6,168,964	131	4,879
WIR001	416,724	6,158,425	129	3,336
WIR002	414,768	6,158,491	128	4,169
<i>Receiver - non-residential</i>				
BdR002	427,303	6,167,285	134	4,825
BYR007	434,410	6,146,217	133	4,942
CdR002	432,961	6,152,103	135	2,946
CdR003	432,837	6,152,133	135	2,892
DRD014	410,686	6,161,939	127	2,951
DRD016	410,368	6,160,896	126	3,708
DRD030	411,831	6,165,609	127	3,114
DRD031	411,013	6,165,820	127	3,784
DRD032	410,962	6,165,068	127	3,287
DRD033	410,859	6,164,318	127	2,949
DRD034	409,867	6,164,474	126	3,911

Receiver ID	Easting, m	Northing, m	Terrain elevation, m	Distance to nearest wind turbine, m
DRD035	410,777	6,163,796	127	2,820
DRD036	409,721	6,163,491	126	3,783
DRD037	410,663	6,162,975	127	2,801
DRD038	410,593	6,162,389	127	2,922
DRD039	412,421	6,158,413	127	4,642
DRD040	412,452	6,158,532	128	4,519
DRD041	412,549	6,158,483	127	4,546
DRD042	410,734	6,161,697	126	2,998
DRD043	410,398	6,160,976	127	3,638
DRD044	410,103	6,160,743	126	4,013
DRD045	410,878	6,160,216	127	3,753
DRD046	410,641	6,162,775	127	2,827
DRD047	413,919	6,159,989	128	2,890
DRD048	413,927	6,160,050	127	2,829
DRD049	412,703	6,158,637	128	4,366
DRD050	413,962	6,160,045	127	2,829
DRD053	411,559	6,160,813	127	2,852
DRD054	414,494	6,160,057	127	2,689
DRD055	414,510	6,160,046	127	2,695
DRD056	414,321	6,157,273	128	4,965
DRD057	414,443	6,157,389	128	4,874
DRD058	411,639	6,160,340	127	3,174
EgR006	419,706	6,159,949	131	2,985
FrR002	417,185	6,156,262	129	1,973
FrR003	416,849	6,156,585	130	2,349
MCR003	418,573	6,159,909	129	3,164
MCR012	418,861	6,160,372	130	2,811
MCR013	418,572	6,159,956	129	3,208
MCR014	417,675	6,153,345	131	3,163
MCR024	416,130	6,154,068	128	3,666
MCR025	415,829	6,153,976	128	3,968
PiL002	418,630	6,160,852	131	2,350
PiL003	418,312	6,161,246	129	1,931

Receiver ID	Easting, m	Northing, m	Terrain elevation, m	Distance to nearest wind turbine, m
RwR014	409,126	6,162,447	126	4,365
RwR025	409,238	6,162,091	126	4,309
RwR026	409,147	6,161,346	125	4,601
RwR027	409,203	6,160,942	126	4,704
RwR028	409,762	6,161,897	126	3,845
RwR029	410,157	6,161,968	127	3,445
SH060	429,745	6,162,004	133	3,336
SH061	430,140	6,161,549	134	3,817
SH062	430,561	6,160,404	135	4,226
SH063	430,542	6,160,253	135	4,118
SH064	430,247	6,158,119	134	2,616
SH065	431,033	6,157,518	134	3,178
SH066	430,113	6,156,707	134	2,221
SH067	430,879	6,155,931	134	2,390
SH068	430,080	6,154,301	134	1,037
SH070	432,112	6,158,373	135	4,440
WDP028	419,387	6,169,065	131	4,986
WDP029	419,469	6,168,793	131	4,703

APPENDIX D SITE LAYOUT PLAN



APPENDIX E NOISE PREDICTION MODEL

In Australia, wind turbine noise predictions are typically calculated using ISO 9613-2:2024, Annex D. The use of ISO 9613-2 is supported by international research publications, measurement studies conducted by Marshall Day Acoustics and direct reference to the standard in the SA Guidelines.

A computer model was created in the environmental noise modelling program SoundPLANnoise v9.1 to predict noise levels from the proposed development to relevant receptors in the vicinity of the subject site. The noise model has been used to calculate noise levels at the nearest receptors in accordance with ISO 9613-2:2024.

The noise model enables the calculation of noise levels over a wide area, and accounts for key considerations including site arrangement, terrain, and atmospheric conditions.

The ISO 9613-2:2024 standard specifies an engineering method for calculating noise at a known distance from a variety of sources under meteorological conditions that are favourable to sound propagation. The standard defines favourable conditions as downwind propagation where the wind blows from the source to the noise-affected premises within an angle of ± 45 degrees from a line connecting the source to the receptors, at wind speeds between approximately 1 m/s and 5 m/s, measured at a height of 3 m to 11 m above the ground. Equivalently, the method accounts for average propagation under a well-developed moderate ground based thermal inversion. In this respect, it is noted that at the wind speeds relevant to noise emissions from wind turbines, atmospheric conditions do not favour the development of thermal inversions throughout the propagation path from the source to the receiver.

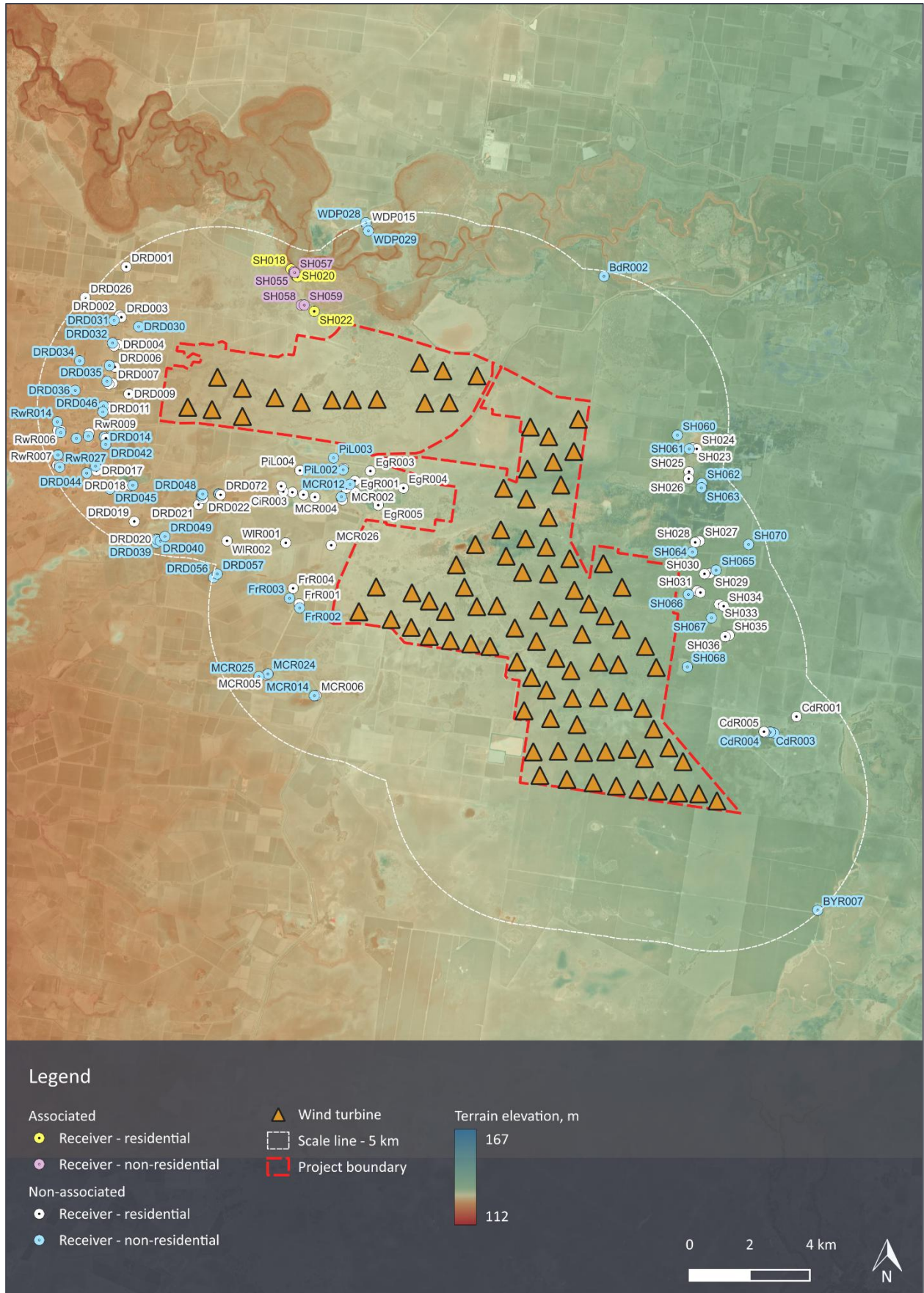
Accordingly, predictions based on ISO 9613-2:2024 account for the instances when local atmospheric conditions at the site favour the propagation of sound to surrounding receptor locations. Under alternative atmospheric conditions, such as when the wind is blowing from a noise-affected premises location to the development site, the noise levels would be lower than calculated.

To calculate far-field noise levels according to the ISO 9613-2:2024, the noise emissions of each turbine are firstly characterised in the form of octave band frequency levels. A series of octave band attenuation factors are then calculated for a range of effects including:

- geometric divergence
- air absorption
- reflecting obstacles
- screening
- vegetation
- ground reflections.

The octave band attenuation factors are then applied to the noise emission data to determine the corresponding octave band and total calculated noise level at noise sensitive receptors.

APPENDIX F SITE TOPOGRAPHY



APPENDIX G C-WEIGHTING ASSESSMENT

G1 Introduction

Presented below are details of the risk assessment carried out for the purpose of gauging whether penalties for low frequency, as detailed in the Technical Supplement for Noise, are applicable.

G2 Assessment requirement

The following excerpt concerning C-weighted wind turbine noise have been reproduced from Technical Supplement for Noise.

Low-frequency noise

Analysis of wind turbine spectra shows that low-frequency noise is typically not a significant feature of modern wind turbine noise when it complies with the A-weighted criteria in section 3.1.

In the unlikely event that excessive low-frequency noise is a repeated characteristic – that is, noise from the wind project would repeatedly be greater than 60 dB(C) – of the wind turbine noise, dB(A) must be added to the predicted or measured noise level from the wind energy project.

Penalties for special noise characteristics

In NSW, assessments must adjust the wind energy project noise level where they identify excessive levels of tonality, low-frequency noise, or a combination of both, in accordance with this technical supplement to a maximum adjustment of 5 dB(A). The noise monitoring report should report the results of these calculations.

G3 Prediction method

As stated in Section 5.1.2, there are no commonly used, practical methods to accurately predict the wind turbine low frequency noise levels at receptor locations.

In this case, the C-weighted noise levels at receptor locations have been estimated using a simplified approach which constitutes the same noise modelling methods as described above for A-weighted levels, but with the following modifications:

- The range of band frequencies has been expanded to include bands down to the 12.5 Hz third octave frequency band; and
- The ground absorption parameter has been set to $G = 0$ (hard ground) to account for the increased influence of ground reflections at low frequencies.

C-weighted noise levels have been predicted for the worst-case hub height wind speed in terms of C weighted levels being 10 m/s.

G4 Results

Table 10 presents the results of the preliminary C-weighted noise predictions for identified non-associated receivers within 5 km of a wind turbine. Only results above 50 dB are tabulated for brevity.

Table 10: Predicted C-weighted noise levels at non-associated receivers, dB L_{Ceq}

Receiver	Predicted noise level
<i>Receiver - residential</i>	
CdR001	53.6
CdR005	55.1
CiR001	55.1
CiR002	55.0
CiR003	54.9
CiR004	54.8
CiR005	54.9
DRD002	50.6
DRD003	50.7
DRD004	51.2
DRD005	51.1
DRD006	51.5
DRD007	51.6
DRD008	51.5
DRD009	52.7
DRD010	51.6
DRD011	51.4
DRD012	51.5
DRD013	51.3
DRD015	51.3
DRD017	50.7
DRD018	51.6
DRD019	51.2
DRD020	51.5
DRD021	53.1
DRD022	53.3
DRD072	53.8
EgR001	55.9
EgR002	56.1

Receiver	Predicted noise level
EgR003	56.3
EgR004	56.8
EgR005	56.4
FrR001	55.0
FrR004	54.7
MCR001	55.9
MCR002	55.7
MCR004	55.6
MCR005	53.0
MCR006	54.1
MCR026	55.8
PiL001	56.0
PiL004	55.6
RwR009	50.7
SH023	54.0
SH024	53.9
SH025	54.5
SH026	54.6
SH027	55.3
SH028	55.5
SH029	55.5
SH030	55.8
SH031	56.4
SH032	56.3
SH033	55.7
SH034	55.5
SH035	55.7
SH036	55.9
WDP015	51.3
WIR001	54.3
WIR002	53.0

Receiver	Predicted noise level
<i>Receiver - non-residential</i>	
BdR002	51.9
BYR007	50.9
CdR002	54.6
CdR003	54.8
CdR004	55.1
DRD014	51.3
DRD016	50.7
DRD030	51.5
DRD031	50.6
DRD032	51.0
DRD033	51.2
DRD034	50.1
DRD035	51.3
DRD036	50.2
DRD037	51.3
DRD038	51.2
DRD039	51.5
DRD040	51.5
DRD041	51.6
DRD042	51.3
DRD043	50.8
DRD044	50.4
DRD045	51.0
DRD046	51.3
DRD047	53.4
DRD048	53.4
DRD049	51.7
DRD050	53.5
DRD053	51.9
DRD054	53.8
DRD055	53.8
DRD056	52.4

Receiver	Predicted noise level
DRD057	52.5
DRD058	51.7
EgR006	56.3
FrR002	55.0
FrR003	54.5
MCR003	55.6
MCR012	55.8
MCR013	55.6
MCR014	54.1
MCR024	53.0
MCR025	52.8
PiL002	56.0
PiL003	56.3
RwR028	50.3
RwR029	50.7
SH060	54.2
SH061	54.1
SH062	54.2
SH063	54.3
SH064	55.8
SH065	55.2
SH066	57.0
SH067	56.3
SH068	59.0
SH070	53.8
WDP028	51.2
WDP029	51.4

APPENDIX H PREDICTED NOISE LEVELS

H1 Non-associated receivers - Residential

Table 11: Predicted noise levels at non-associated residential receivers within 5 km (inc. +0.8 dB uncertainty),
dB L_{Aeq}, 10 min

Receiver	Distance to nearest wind turbine, m	Predicted noise level
CdR001	3,851	28.7
CdR005	2,779	31.8
CiR001	3,185	31.4
CiR002	3,073	31.2
CiR003	3,006	31.2
CiR004	2,843	31.2
CiR005	2,656	31.5
DRD001	4,762	23.1
DRD002	3,801	25.3
DRD003	3,714	25.5
DRD004	3,118	26.7
DRD005	3,186	26.4
DRD006	2,766	27.5
DRD007	2,627	27.7
DRD008	2,733	27.4
DRD009	2,007	30.2
DRD010	2,620	27.6
DRD011	2,773	27.1
DRD012	2,729	27.2
DRD013	2,938	26.6
DRD015	2,910	26.7
DRD017	3,701	24.9
DRD018	3,222	26.5
DRD019	4,196	25.0
DRD020	4,513	25.2
DRD021	3,190	28.7
DRD022	2,977	29.3
DRD026	4,987	22.6
DRD072	2,705	30.1
EgR001	3,085	32.4

Receiver	Distance to nearest wind turbine, m	Predicted noise level
EgR002	2,858	32.9
EgR003	2,397	33.5
EgR004	2,916	34.0
EgR005	2,714	33.3
FrR001	2,002	31.8
FrR004	2,322	31.0
MCR001	2,697	32.8
MCR002	2,947	32.3
MCR004	3,099	32.0
MCR005	3,731	27.2
MCR006	3,134	29.4
MCR026	2,037	32.9
PiL001	2,301	33.4
PiL004	2,266	32.9
RwR005	4,388	23.1
RwR006	4,287	23.3
RwR007	4,753	22.6
RwR008	4,679	22.8
RwR009	3,391	25.3
SH023	3,924	28.9
SH024	4,057	28.6
SH025	3,892	29.7
SH026	3,928	29.9
SH027	2,996	31.3
SH028	2,852	31.7
SH029	2,951	31.8
SH030	2,775	32.2
SH031	2,502	33.5
SH032	2,556	33.3
SH033	2,824	32.1
SH034	2,924	31.8
SH035	2,647	32.2
SH036	2,511	32.6

Receiver	Distance to nearest wind turbine, m	Predicted noise level
WDP015	4,879	24.9
WIR001	3,336	29.8
WIR002	4,169	27.5

H2 Non-associated receivers – Non-residential

Table 12: Predicted noise levels at non-residential receivers (inc. +0.8 dB uncertainty), dB LAeq, 10 min

Receiver	Distance to nearest wind turbine, m	Predicted noise level
BdR002	4,825	25.4
BYR007	4,942	24.0
CdR002	2,946	30.9
CdR003	2,892	31.2
CdR004	2,769	31.7
DRD014	2,951	26.6
DRD016	3,708	24.8
DRD030	3,114	27.4
DRD031	3,784	25.2
DRD032	3,287	26.2
DRD033	2,949	26.9
DRD034	3,911	24.2
DRD035	2,820	27.1
DRD036	3,783	24.3
DRD037	2,801	27.0
DRD038	2,922	26.6
DRD039	4,642	25.0
DRD040	4,519	25.2
DRD041	4,546	25.2
DRD042	2,998	26.5
DRD043	3,638	25.0
DRD044	4,013	24.2
DRD045	3,753	25.1
DRD046	2,827	26.9
DRD047	2,890	29.5
DRD048	2,829	29.7
DRD049	4,366	25.6

Receiver	Distance to nearest wind turbine, m	Predicted noise level
DRD050	2,829	29.7
DRD053	2,852	27.4
DRD054	2,689	30.2
DRD055	2,695	30.2
DRD056	4,965	26.1
DRD057	4,874	26.3
DRD058	3,174	26.7
EgR006	2,985	33.0
FrR002	1,973	31.9
FrR003	2,349	30.7
MCR003	3,164	32.0
MCR012	2,811	32.5
MCR013	3,208	32.0
MCR014	3,163	29.3
MCR024	3,666	27.3
MCR025	3,968	26.7
PiL002	2,350	33.3
PiL003	1,931	34.4
RwR014	4,365	23.1
RwR025	4,309	23.2
RwR026	4,601	22.8
RwR027	4,704	22.7
RwR028	3,845	24.2
RwR029	3,445	25.2
SH060	3,336	29.5
SH061	3,817	29.1
SH062	4,226	29.2
SH063	4,118	29.4
SH064	2,616	32.3
SH065	3,178	31.2
SH066	2,221	34.6
SH067	2,390	33.3
SH068	1,037	38.7

Receiver	Distance to nearest wind turbine, m	Predicted noise level
SH070	4,440	28.3
WDP028	4,986	24.8
WDP029	4,703	25.2

H3 Associated receivers

Table 13: Predicted noise levels at associated receivers (inc. +0.8 dB uncertainty), dB L_{Aeq}, 10 min

Receiver	Distance to nearest wind turbine, m	Predicted noise level
<i>Receiver - residential</i>		
SH018	4,275	27.0
SH019	4,104	27.5
SH020	4,108	27.5
SH021	4,085	27.5
SH022	3,002	30.5
<i>Receiver - non-residential</i>		
SH055	4,275	27.2
SH056	4,104	27.1
SH057	4,108	27.2
SH058	4,085	29.9
SH059	3,002	29.9

APPENDIX I TABULATED PREDICTED NOISE LEVEL DATA

Table 14: Predicted noise levels, dB L_{Aeq}, for receivers within 5 km of a wind turbine

Receiver	Hub-height wind speed, m/s						
	4	5	6	7	8	9	≥10
Associated							
<i>Receiver - residential</i>							
SH018	13.8	15.7	19.2	22.5	24.7	26.7	27.0
SH019	14.3	16.2	19.7	23.0	25.2	27.2	27.5
SH020	14.3	16.2	19.7	23.0	25.2	27.2	27.5
SH021	14.3	16.2	19.7	23.0	25.2	27.2	27.5
SH022	17.3	19.2	22.7	26.0	28.2	30.2	30.5
<i>Receiver - non-residential</i>							
SH055	14.0	15.9	19.4	22.7	24.9	26.9	27.2
SH056	13.9	15.8	19.3	22.6	24.8	26.8	27.1
SH057	14.0	15.9	19.4	22.7	24.9	26.9	27.2
SH058	16.7	18.6	22.1	25.4	27.6	29.6	29.9
SH059	16.7	18.6	22.1	25.4	27.6	29.6	29.9
Non-associated							
<i>Receiver - residential</i>							
CdR001	15.5	17.4	20.9	24.2	26.4	28.4	28.7
CdR005	18.6	20.5	24.0	27.3	29.5	31.5	31.8
CiR001	18.2	20.1	23.6	26.9	29.1	31.1	31.4
CiR002	18.0	19.9	23.4	26.7	28.9	30.9	31.2
CiR003	18.0	19.9	23.4	26.7	28.9	30.9	31.2
CiR004	18.0	19.9	23.4	26.7	28.9	30.9	31.2
CiR005	18.3	20.2	23.7	27.0	29.2	31.2	31.5
DRD001	9.9	11.8	15.3	18.6	20.8	22.8	23.1
DRD002	12.1	14.0	17.5	20.8	23.0	25.0	25.3
DRD003	12.3	14.2	17.7	21.0	23.2	25.2	25.5
DRD004	13.5	15.4	18.9	22.2	24.4	26.4	26.7
DRD005	13.2	15.1	18.6	21.9	24.1	26.1	26.4
DRD006	14.3	16.2	19.7	23.0	25.2	27.2	27.5
DRD007	14.5	16.4	19.9	23.2	25.4	27.4	27.7
DRD008	14.2	16.1	19.6	22.9	25.1	27.1	27.4

Receiver	Hub-height wind speed, m/s						
	4	5	6	7	8	9	≥10
DRD009	17.0	18.9	22.4	25.7	27.9	29.9	30.2
DRD010	14.4	16.3	19.8	23.1	25.3	27.3	27.6
DRD011	13.9	15.8	19.3	22.6	24.8	26.8	27.1
DRD012	14.0	15.9	19.4	22.7	24.9	26.9	27.2
DRD013	13.4	15.3	18.8	22.1	24.3	26.3	26.6
DRD015	13.5	15.4	18.9	22.2	24.4	26.4	26.7
DRD017	11.7	13.6	17.1	20.4	22.6	24.6	24.9
DRD018	13.3	15.2	18.7	22.0	24.2	26.2	26.5
DRD019	11.8	13.7	17.2	20.5	22.7	24.7	25.0
DRD020	12.0	13.9	17.4	20.7	22.9	24.9	25.2
DRD021	15.5	17.4	20.9	24.2	26.4	28.4	28.7
DRD022	16.1	18.0	21.5	24.8	27.0	29.0	29.3
DRD026	9.4	11.3	14.8	18.1	20.3	22.3	22.6
DRD072	16.9	18.8	22.3	25.6	27.8	29.8	30.1
EgR001	19.2	21.1	24.6	27.9	30.1	32.1	32.4
EgR002	19.7	21.6	25.1	28.4	30.6	32.6	32.9
EgR003	20.3	22.2	25.7	29	31.2	33.2	33.5
EgR004	20.8	22.7	26.2	29.5	31.7	33.7	34.0
EgR005	20.1	22.0	25.5	28.8	31.0	33.0	33.3
FrR001	18.6	20.5	24.0	27.3	29.5	31.5	31.8
FrR004	17.8	19.7	23.2	26.5	28.7	30.7	31.0
MCR001	19.6	21.5	25.0	28.3	30.5	32.5	32.8
MCR002	19.1	21.0	24.5	27.8	30.0	32.0	32.3
MCR004	18.8	20.7	24.2	27.5	29.7	31.7	32.0
MCR005	14.0	15.9	19.4	22.7	24.9	26.9	27.2
MCR006	16.2	18.1	21.6	24.9	27.1	29.1	29.4
MCR026	19.7	21.6	25.1	28.4	30.6	32.6	32.9
PiL001	20.2	22.1	25.6	28.9	31.1	33.1	33.4
PiL004	19.7	21.6	25.1	28.4	30.6	32.6	32.9
RwR005	9.9	11.8	15.3	18.6	20.8	22.8	23.1
RwR006	10.1	12.0	15.5	18.8	21.0	23.0	23.3
RwR007	9.4	11.3	14.8	18.1	20.3	22.3	22.6

Receiver	Hub-height wind speed, m/s						
	4	5	6	7	8	9	≥10
RwR008	9.6	11.5	15.0	18.3	20.5	22.5	22.8
RwR009	12.1	14.0	17.5	20.8	23.0	25.0	25.3
SH023	15.7	17.6	21.1	24.4	26.6	28.6	28.9
SH024	15.4	17.3	20.8	24.1	26.3	28.3	28.6
SH025	16.5	18.4	21.9	25.2	27.4	29.4	29.7
SH026	16.7	18.6	22.1	25.4	27.6	29.6	29.9
SH027	18.1	20.0	23.5	26.8	29.0	31.0	31.3
SH028	18.5	20.4	23.9	27.2	29.4	31.4	31.7
SH029	18.6	20.5	24.0	27.3	29.5	31.5	31.8
SH030	19.0	20.9	24.4	27.7	29.9	31.9	32.2
SH031	20.3	22.2	25.7	29.0	31.2	33.2	33.5
SH032	20.1	22.0	25.5	28.8	31.0	33.0	33.3
SH033	18.9	20.8	24.3	27.6	29.8	31.8	32.1
SH034	18.6	20.5	24.0	27.3	29.5	31.5	31.8
SH035	19.0	20.9	24.4	27.7	29.9	31.9	32.2
SH036	19.4	21.3	24.8	28.1	30.3	32.3	32.6
WDP015	11.7	13.6	17.1	20.4	22.6	24.6	24.9
WIR001	16.6	18.5	22.0	25.3	27.5	29.5	29.8
WIR002	14.3	16.2	19.7	23.0	25.2	27.2	27.5
<i>Receiver - non-residential</i>							
BdR002	12.2	14.1	17.6	20.9	23.1	25.1	25.4
BYR007	10.8	12.7	16.2	19.5	21.7	23.7	24.0
CdR002	17.7	19.6	23.1	26.4	28.6	30.6	30.9
CdR003	18.0	19.9	23.4	26.7	28.9	30.9	31.2
CdR004	18.5	20.4	23.9	27.2	29.4	31.4	31.7
DRD014	13.4	15.3	18.8	22.1	24.3	26.3	26.6
DRD016	11.6	13.5	17.0	20.3	22.5	24.5	24.8
DRD030	14.2	16.1	19.6	22.9	25.1	27.1	27.4
DRD031	12.0	13.9	17.4	20.7	22.9	24.9	25.2
DRD032	13.0	14.9	18.4	21.7	23.9	25.9	26.2
DRD033	13.7	15.6	19.1	22.4	24.6	26.6	26.9
DRD034	11.0	12.9	16.4	19.7	21.9	23.9	24.2

Receiver	Hub-height wind speed, m/s						
	4	5	6	7	8	9	≥10
DRD035	13.9	15.8	19.3	22.6	24.8	26.8	27.1
DRD036	11.1	13.0	16.5	19.8	22.0	24.0	24.3
DRD037	13.8	15.7	19.2	22.5	24.7	26.7	27.0
DRD038	13.4	15.3	18.8	22.1	24.3	26.3	26.6
DRD039	11.8	13.7	17.2	20.5	22.7	24.7	25.0
DRD040	12.0	13.9	17.4	20.7	22.9	24.9	25.2
DRD041	12.0	13.9	17.4	20.7	22.9	24.9	25.2
DRD042	13.3	15.2	18.7	22.0	24.2	26.2	26.5
DRD043	11.8	13.7	17.2	20.5	22.7	24.7	25.0
DRD044	11.0	12.9	16.4	19.7	21.9	23.9	24.2
DRD045	11.9	13.8	17.3	20.6	22.8	24.8	25.1
DRD046	13.7	15.6	19.1	22.4	24.6	26.6	26.9
DRD047	16.3	18.2	21.7	25.0	27.2	29.2	29.5
DRD048	16.5	18.4	21.9	25.2	27.4	29.4	29.7
DRD049	12.4	14.3	17.8	21.1	23.3	25.3	25.6
DRD050	16.5	18.4	21.9	25.2	27.4	29.4	29.7
DRD053	14.2	16.1	19.6	22.9	25.1	27.1	27.4
DRD054	17.0	18.9	22.4	25.7	27.9	29.9	30.2
DRD055	17.0	18.9	22.4	25.7	27.9	29.9	30.2
DRD056	12.9	14.8	18.3	21.6	23.8	25.8	26.1
DRD057	13.1	15.0	18.5	21.8	24.0	26.0	26.3
DRD058	13.5	15.4	18.9	22.2	24.4	26.4	26.7
EgR006	19.8	21.7	25.2	28.5	30.7	32.7	33.0
FrR002	18.7	20.6	24.1	27.4	29.6	31.6	31.9
FrR003	17.5	19.4	22.9	26.2	28.4	30.4	30.7
MCR003	18.8	20.7	24.2	27.5	29.7	31.7	32.0
MCR012	19.3	21.2	24.7	28.0	30.2	32.2	32.5
MCR013	18.8	20.7	24.2	27.5	29.7	31.7	32.0
MCR014	16.1	18.0	21.5	24.8	27.0	29.0	29.3
MCR024	14.1	16.0	19.5	22.8	25.0	27.0	27.3
MCR025	13.5	15.4	18.9	22.2	24.4	26.4	26.7
PiL002	20.1	22.0	25.5	28.8	31.0	33.0	33.3

Receiver	Hub-height wind speed, m/s						
	4	5	6	7	8	9	≥10
PiL003	21.2	23.1	26.6	29.9	32.1	34.1	34.4
RwR014	9.9	11.8	15.3	18.6	20.8	22.8	23.1
RwR025	10.0	11.9	15.4	18.7	20.9	22.9	23.2
RwR026	9.6	11.5	15.0	18.3	20.5	22.5	22.8
RwR027	9.5	11.4	14.9	18.2	20.4	22.4	22.7
RwR028	11.0	12.9	16.4	19.7	21.9	23.9	24.2
RwR029	12.0	13.9	17.4	20.7	22.9	24.9	25.2
SH060	16.3	18.2	21.7	25.0	27.2	29.2	29.5
SH061	15.9	17.8	21.3	24.6	26.8	28.8	29.1
SH062	16.0	17.9	21.4	24.7	26.9	28.9	29.2
SH063	16.2	18.1	21.6	24.9	27.1	29.1	29.4
SH064	19.1	21.0	24.5	27.8	30.0	32.0	32.3
SH065	18.0	19.9	23.4	26.7	28.9	30.9	31.2
SH066	21.4	23.3	26.8	30.1	32.3	34.3	34.6
SH067	20.1	22.0	25.5	28.8	31.0	33.0	33.3
SH068	25.5	27.4	30.9	34.2	36.4	38.4	38.7
SH070	15.1	17.0	20.5	23.8	26.0	28.0	28.3
WDP028	11.6	13.5	17.0	20.3	22.5	24.5	24.8
WDP029	12.0	13.9	17.4	20.7	22.9	24.9	25.2

APPENDIX F BIODIVERSITY SPECIES TABLES

Table F1: Plant community type state vegetation mapping, with associated TEC/SAII status

PCT	Vegetation Zone	BC Act	EPBC Act	SAII	Area (ha) based of SVTM mapping – Not validated	Area (ha) within the Project site - Validated
PCT 10 – River Red Gum - Black Box woodland wetland of the semi-arid (warm) climatic zone (mainly Riverina Bioregion and Murray Darling Depression Bioregion)	PCT 10 (non-TEC)	-	-	N/A	32.0	8.7
PCT 13 – Black Box - Lignum woodland wetland of the inner floodplains in the semi-arid (warm) climate zone (mainly Riverina Bioregion and Murray Darling Depression Bioregion)	PCT 13 (non-TEC)	-	-	N/A	6.0	6.0
PCT 16 – Black Box grassy open woodland wetland of rarely flooded depressions in south western NSW (mainly Riverina Bioregion and Murray Darling Depression Bioregion)	PCT 16 (non-TEC)	-	-	N/A	1484.0	1.514.6
PCT 17 – Lignum shrubland wetland of the semi-arid (warm) plains (mainly Riverina Bioregion and Murray Darling Depression Bioregion)	PCT 17 (non-TEC)	-	-	N/A	68.0	99.1
PCT 19 – Cypress Pine woodland of source-bordering dunes mainly on the Murray and Murrumbidgee River floodplains	PCT 19 (TEC)	Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions Endangered	-	No	159.0	176.6
PCT 20 – Buloke - Moonah - Black Box open woodland on sandy rises of semi arid (warm) climate zone (mainly Riverina Bioregion and Murray Darling Depression Bioregion)	PCT 20 (non-TEC)	<i>Allocasuarina luehmannii</i> Woodland in the Riverina and Murray-Darling Depression Bioregions Endangered	Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions Endangered	Yes	31.0	78.2
PCT 26 – Weeping Myall open woodland of the Riverina Bioregion and NSW South Western Slopes Bioregion	PCT 26 (TEC)	Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Penepplain, Murray-Darling Depression, Riverina and	Weeping Myall Woodlands Endangered	No	23.0	43.7

PCT	Vegetation Zone	BC Act	EPBC Act	SAIL	Area (ha) based of SVTM mapping – Not validated	Area (ha) within the Project site - Validated
		NSW South Western Slopes bioregions Endangered				
PCT 28 – White Cypress Pine open woodland of sand plains, prior streams and dunes mainly of the semi-arid (warm) climate zone	PCT 28 (TEC)	Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions Endangered	<i>Acacia melvillei</i> Shrubland in the Riverina and Murray-Darling Depression bioregions Endangered	No	53.0	37.7
PCT 44 – Forb-rich Speargrass - Windmill Grass - White Top grassland of the Riverina Bioregion	PCT 44 (Cat-1 land and TEC)	-	Natural Grasslands of the Murray Valley Plains Critically Endangered	N/A	5,851.0	7,695.8 (1,577.3 Cat 1)
PCT 46 – Curly Windmill Grass – speargrass – wallaby grass grassland on alluvial clay and loam on the Hay Plain, Riverina Bioregion	PCT 46 (Potentially EPBC Act)	-	Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains Critically Endangered	N/A	1.0	1,534.7
PCT 53 – Shallow freshwater wetland sedgeland in depressions on floodplains on inland alluvial plains and floodplains	PCT 53 (non-TEC)	Artesian Springs Ecological Community in the Great Artesian Basin Critically Endangered	-	Yes	47.0	31.7
PCT 70 – White Cypress Pine woodland on sandy loams in central NSW wheatbelt	PCT 70 (non-TEC)	-	-	N/A	47.0	54.5
PCT 74 – Yellow Box - River Red Gum tall grassy riverine woodland of NSW South Western Slopes Bioregion and Riverina Bioregion	PCT 74 (non-TEC)	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions Critically Endangered	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – Critically Endangered	Yes	14.0	10.8

PCT	Vegetation Zone	BC Act	EPBC Act	SAIL	Area (ha) based of SVTM mapping – Not validated	Area (ha) within the Project site - Validated
PCT 75 – Yellow Box - White Cypress Pine grassy woodland on deep sandy-loam alluvial soils of the eastern Riverina Bioregion and western NSW South Western Slopes Bioregion	PCT 75 (non-TEC)	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions Critically Endangered Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions Endangered	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland Critically Endangered	Yes (Box Gum Woodland)	281.0	250.0
PCT 160 – Nitre Goosefoot shrubland wetland on clays of the inland floodplains	PCT 160 (non-TEC)	Artesian Springs Ecological Community in the Great Artesian Basin Critically Endangered	-	Yes	10.0	11.9
					8,107	11,554

Table F2: List of migratory species with the potential to occur within 10 km of the Project site

Scientific name	Common Name	BC Act *	EPBC Act *
<i>Actitis hypoleucos</i>	Common Sandpiper	-	-
<i>Apus pacificus</i>	Fork-tailed Swift	-	-
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	-	V, Bonn, C, K, J
<i>Calidris ferruginea</i>	Curlew Sandpiper	-	CE, Bonn, C, J, K
<i>Calidris melanotos</i>	Pectoral Sandpiper	-	-
<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe	-	V, Bonn, J, K
<i>Motacilla flava</i>	Yellow Wagtail	-	-
<i>Tringa nebularia</i>	Common Greenshank, Greenshank	-	E, C, J, K

* V= vulnerable, E= Endangered, CE= Critically Endangered, J= JAMBA, K= ROKAMBA, C= CAMBA

Table F3: Threatened species sightings records from BioNet atlas 5 km around the Project site

Threatened Species	Bionet Species Sightings	
Flora	• <i>Cullen Parvum</i> • <i>Diuris Tricolor</i> • Swainsona Sericea	
Fauna	• Australasian Bittern • Australian Painted Snipe • Blue-winged Parrot • Blue-billed Duck • Brown Treecreeper (Eastern subspecies) • Bush Stone-curlew • Dusky Woodswallow • Flame Robin • Freckled Duck • Grey-crowned Babbler (eastern subspecies) • Inland Forest Bat • Koala • Little Eagle • Little Pied Bat • Magpie Goose • Painted Honeyeater • Plains-wanderer • Sloane's Froglet • Southern Bell Frog • Spotted Harrier • Square-tailed Kite • Superb Parrot • Turquoise Parrot • Varied Sittella • White-bellied Sea-Eagle • Yellow-bellied Sheath-tail-bat	

APPENDIX G PROTECTED MATTERS SEARCH TOOL (PMST)



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 18-Aug-2025

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	5
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	7
Listed Threatened Species:	48
Listed Migratory Species:	19

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	49
Commonwealth Heritage Places:	None
Listed Marine Species:	31
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	4
Regional Forest Agreements:	None
Nationally Important Wetlands:	2
EPBC Act Referrals:	7
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Banrock station wetland complex	400 - 500km upstream from Ramsar site	In feature area
Fivebough and tuckerbil swamps	Within Ramsar site	In buffer area only
Hattah-kulkyne lakes	200 - 300km upstream from Ramsar site	In feature area
Riverland	400 - 500km upstream from Ramsar site	In feature area
The coorong, and lakes alexandrina and albert wetland	500 - 600km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities

[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions	Endangered	Community may occur within area	In feature area
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community likely to occur within area	In feature area
Natural Grasslands of the Murray Valley Plains	Critically Endangered	Community likely to occur within area	In buffer area only
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area	In feature area
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains	Critically Endangered	Community likely to occur within area	In buffer area only
Weeping Myall Woodlands	Endangered	Community likely to occur within area	In feature area

Community Name	Threatened Category	Presence Text	Buffer Status
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species

[[Resource Information](#)]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
 Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat known to occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat may occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]	Endangered	Species or species habitat known to occur within area	In buffer area only
Lophochroa leadbeateri leadbeateri Major Mitchell's Cockatoo (eastern), Eastern Major Mitchell's Cockatoo, Pink Cockatoo (eastern) [82926]	Endangered	Species or species habitat known to occur within area	In feature area
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat known to occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
CRUSTACEAN			
Euastacus armatus Murray Crayfish [81537]	Vulnerable	Species or species habitat known to occur within area	In feature area
FISH			
Bidyanus bidyanus Silver Perch, Bidyan [76155]	Endangered	Species or species habitat known to occur within area	In feature area
Craterocephalus fluviatilis Murray Hardyhead [56791]	Endangered	Species or species habitat may occur within area	In feature area
Galaxias rostratus Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow [84745]	Critically Endangered	Species or species habitat may occur within area	In feature area
Maccullochella macquariensis Trout Cod [26171]	Endangered	Species or species habitat known to occur within area	In feature area
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat known to occur within area	In feature area
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area	In feature area
FROG			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Crinia sloanei Sloane's Froglet [59151]	Endangered	Species or species habitat may occur within area	In feature area
Litoria raniformis Southern Bell Frog, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat known to occur within area	In feature area
MAMMAL			
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In feature area
PLANT			
Austrostipa wakoolica [66623]	Endangered	Species or species habitat likely to occur within area	In feature area
Brachyscome muelleroides Mueller Daisy [15572]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Brachyscome papillosa Mossgiel Daisy [6625]	Vulnerable	Species or species habitat known to occur within area	In feature area
Caladenia arenaria Sand-hill Spider-orchid [9275]	Endangered	Species or species habitat known to occur within area	In buffer area only
Caladenia xanthochila Yellow-lip Spider-orchid [55509]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lepidium aschersonii Spiny Peppercress [10976]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Lepidium monoplacoides Winged Pepper-cress [9190]	Endangered	Species or species habitat known to occur within area	In feature area
Maireana cheelii Chariot Wheels [8008]	Vulnerable	Species or species habitat may occur within area	In feature area
Sclerolaena napiformis Turnip Copperburr [11742]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Swainsona murrayana Slender Darling-pea, Slender Swainson, Murray Swainson-pea [6765]	Vulnerable	Species or species habitat known to occur within area	In feature area
Swainsona plagiotropis Red Darling-pea, Red Swainson-pea [10804]	Vulnerable	Species or species habitat likely to occur within area	In feature area
REPTILE			
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hemiaspis damelii Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area	In feature area
Listed Migratory Species [Resource Information]			
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area	In feature area
Calidris pugnax as Philomachus pugnax Ruff [91256]		Species or species habitat known to occur within area	In buffer area only
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Species or species habitat known to occur within area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat known to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limosa lapponica Bar-tailed Godwit [844]	Endangered	Species or species habitat known to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]		Species or species habitat known to occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area	In buffer area only
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Commonwealth Lands

[[Resource Information](#)]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Commonwealth Bank of Australia		
Commonwealth Land - Commonwealth Bank of Australia [15388]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [16118]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [15384]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [15391]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [15385]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [15383]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [15382]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Commonwealth Bank of Australia [15387]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [15386]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [15393]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [15390]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [15392]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [15687]	NSW	In buffer area only
Communications, Information Technology and the Arts - Telstra Corporation Limited		
Commonwealth Land - Australian Telecommunications Commission [15389]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15398]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15403]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15402]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15404]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15401]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15399]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15620]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15395]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15397]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15394]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15460]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [15400]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [15396]	NSW	In buffer area only
Defence		
Defence - LEETON ARES DEPOT ; 4/3 RNSWR ANNEX & POL STORE [10062]	NSW	In buffer area only

Commonwealth Land Name		State	Buffer Status
Defence - LEETON ARES DEPOT ; 4/3 RNSWR ANNEX & POL STORE [10065]		NSW	In buffer area only
Defence - LEETON ARES DEPOT ; 4/3 RNSWR ANNEX & POL STORE [10064]		NSW	In buffer area only
Defence - LEETON ARES DEPOT ; 4/3 RNSWR ANNEX & POL STORE [10063]		NSW	In buffer area only
Education, Science and Training - CSIRO			
Commonwealth Land - Commonwealth Scientific & Industrial Research Organisation [15405]		NSW	In buffer area only
Unknown			
Commonwealth Land - [16018]		NSW	In buffer area only
Commonwealth Land - [15378]		NSW	In buffer area only
Commonwealth Land - [15373]		NSW	In buffer area only
Commonwealth Land - [15372]		NSW	In buffer area only
Commonwealth Land - [15371]		NSW	In buffer area only
Commonwealth Land - [15376]		NSW	In buffer area only
Commonwealth Land - [15370]		NSW	In buffer area only
Commonwealth Land - [15377]		NSW	In buffer area only
Commonwealth Land - [15375]		NSW	In buffer area only
Commonwealth Land - [15374]		NSW	In buffer area only
Commonwealth Land - [15276]		NSW	In buffer area only
Commonwealth Land - [15274]		NSW	In buffer area only
Commonwealth Land - [15275]		NSW	In buffer area only
Commonwealth Land - [15273]		NSW	In buffer area only
Commonwealth Land - [15950]		NSW	In buffer area only
Commonwealth Land - [16057]		NSW	In buffer area only
Commonwealth Land - [15949]		NSW	In buffer area only
Listed Marine Species [Resource Information]			
Scientific Name		Threatened Category	Presence Text
Bird			Buffer Status

Scientific Name	Threatened Category	Presence Text	Buffer Status
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Breeding likely to occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area	In feature area
Calidris pugnax as Philomachus pugnax Ruff [91256]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Species or species habitat known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Charadrius ruficapillus Red-capped Plover [881]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area overfly marine area	In buffer area only
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]	Endangered	Species or species habitat known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Merops ornatus Rainbow Bee-eater [670]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]		Species or species habitat known to occur within area overfly marine area	In feature area
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area	In buffer area only
Recurvirostra novaehollandiae Red-necked Avocet [871]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]		Species or species habitat known to occur within area overfly marine area	In feature area
Stiltia isabella Australian Pratincole [818]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area overfly marine area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Buckingbong	Flora Reserve	NSW	In buffer area only
Murrumbidgee Valley	Regional Park	NSW	In buffer area only
Murrumbidgee Valley	National Park	NSW	In feature area
South West Woodland	Nature Reserve	NSW	In feature area

Nationally Important Wetlands			[Resource Information]
Wetland Name		State	Buffer Status
Fivebough Swamp		NSW	In buffer area only
Tuckerbil Swamp		NSW	In buffer area only

EPBC Act Referrals			[Resource Information]	
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Devlins Bridge Wind Farm	2024/09894		Assessment	In feature area
Tuckerbil Wetland Hydrological Improvement Works	2024/09895		Assessment	In buffer area only
Not controlled action				
Darlington Point Solar Farm, near Darlington Point, NSW	2018/8218	Not Controlled Action	Completed	In feature area
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action (particular manner)				
Fivebough and Tuckerbil Wetland Management and Maintenance, Leeton, NSW	2015/7446	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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APPENDIX H SOCIAL SCOPING REPORT



Social Impact Scoping Report

Banandra Wind Farm, NSW

05 June 2026

Disclaimer

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1 Introduction

1.1 Overview

AAP Consulting has been engaged to identify and scope the likely social impacts of the proposed Banandra Wind Farm (the Project). The Project is located in the Riverina region of southern New South Wales, near Euroley and Darlington Point, within a predominantly rural and agricultural landscape characterised by irrigated farming enterprises, dispersed rural dwellings and small regional service centres. The Project site spans land within both the Murrumbidgee and Narrandera Local Government Areas (LGAs).

The Project will be assessed by the NSW Department of Planning, Housing and Infrastructure (DPHI) as a State Significant Development (SSD) under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the *State Environmental Planning Policy (Planning Systems) 2021*.

This Social Impact Scoping Report has been prepared to provide early, high-level insight into the potential social impacts and benefits associated with the Project. The scoping process has been informed by the NSW DPHI Social Impact Assessment Guideline (NSW SIA Guideline) (July 2025) and associated Social Impact Scoping Tool and is intended to support a proportionate, risk-based approach to SIA during the EIS.

Specifically, this report seeks to:

- define the Project's social locality, including communities and groups that may experience direct, indirect or cumulative social impacts
- outline the high-level characteristics of the social baseline within that locality
- identify potential social impacts and benefits, both positive and negative, and the population groups likely to experience them
- indicate the anticipated level of assessment required for each impact pathway in the EIS
- identify any early project design considerations or refinements relevant to social outcomes.

This report does not represent a full SIA. Rather, it establishes the scope, focus and scale of social issues to be examined in detail through the EIS and associated technical studies and engagement activities.

1.2 The proponent

The proponent for the Project is Squadron Energy, an Australian renewable energy company that develops, owns and operates renewable energy projects across Australia. Squadron Energy has a growing portfolio of operational and committed wind, solar and battery projects and is an active participant in Australia's energy transition.

1.3 The Project

The Project includes the installation, operation, maintenance and decommissioning of up to 93 wind turbine generators (WTGs) and associated permanent and temporary infrastructure. The Project would have the capacity to generate approximately 558 MW of renewable electricity.

Electricity generated by the Project would be exported to the National Electricity Market (NEM) via a direct connection to the existing 330 kV Darlington Point to Wagga Wagga transmission line.

The key components of the Project include:

- up to 93 WTGs, with a blade-tip height of up to 270 metres
- a substation and switching yard to support grid connection
- permanent ancillary infrastructure including internal access roads, hardstands, laydown areas, operation and maintenance compounds, transmission infrastructure, meteorological masts, telecommunications facilities, utility services and external road upgrades (subject to further investigation during the Environmental Impact Statement (EIS)).
- temporary construction-phase infrastructure including site compounds, batching and crushing facilities, temporary access tracks, laydown areas and temporary worker accommodation (subject to further investigation during the EIS).

Refinement of the Project layout and infrastructure siting will continue during the EIS process as environmental, technical, social and amenity constraints are further assessed, and stakeholder engagement is undertaken.

From a social perspective, the scale and spatial extent of the Project means that potential impacts may extend beyond the immediate Project Site to surrounding rural landholders, nearby residences, local communities, road users and regional service centres. These potential interactions inform the scoping of social impacts presented in this report.

1.4 Structure of this report

The structure of this Social Impact Scoping Report is designed to support a proportionate, risk-based approach to SIA and is outlined below.

Table 1.1 Structure of this report

Chapter	Description
Chapter 1	Introduces the Project, outlines the purpose and structure of this report, and describes the methodology applied during the scoping phase
Chapter 2	Describes the social locality and provides a high-level overview of the social baseline
Chapter 3	Outlines the preliminary stakeholder mapping and engagement activities that have informed this scoping report
Chapter 4	Identifies the likely social impacts and benefits for different groups within the social locality
Chapter 5	Outlines the proposed framework and approach for the SIA during the EIS phase

Chapter	Description
Chapter 6	Provides conclusions and summarises the outcomes of the social impact scoping process

1.5 Preliminary assessment method

This Social Impact Scoping Report has been informed by a combination of desktop review, preliminary engagement inputs and professional judgement, consistent with the purpose of the scoping phase under the NSW SIA Guideline. The methods used to inform this scoping phase are outlined in Table 1.2.

Table 1.2 Preliminary assessment method

Stage	Approach
Understanding of project context	A review of relevant regional and local planning policies and strategies was undertaken to contextualise the Project. This included consideration of land use patterns irrigated agricultural activities, settlement characteristics and regional development objectives within the Riverina region. Early engagement activities undertaken by Squadron Energy to date, along with a review of comparable large-scale renewable energy projects within the Riverina and broader south-west NSW region, also informed the Project context.
Identifying the preliminary social locality and description of the existing environment	The preliminary social locality was identified by considering who is most likely to experience direct, indirect or cumulative impacts as a result of the Project, and where those groups are located. The social locality will continue to be refined during the EIS as Project design progresses and further impact pathways are investigated. The description of the existing environment provides a high-level overview of the social locality, including regional demographic characteristics, socio-economic context, land use, key industries and social infrastructure, as well as an overview of directly affected localities, rural properties and nearby townships.
Scoping of likely social impacts	The scoping of likely social impacts has been guided by the NSW SIA Guideline and the social impact categories presented in Table 1.3. This process involved: • understanding the Project and its interaction with people and communities • considering the characteristics and sensitivities of communities within the social locality • identifying potential social impacts and benefits for different population groups. The initial scoping of likely social impacts was informed by: • review of Project documentation and preliminary assessments • desktop review of comparable projects and publicly available assessment documentation • review of community sentiment, submissions and social commentary associated with similar developments in the Riverina region.
Determining the complexity of EIS SIA	The approach to determining the level of assessment required for each identified social impact has been undertaken in accordance with the NSW SIA Guideline. A key objective of the scoping phase is to identify the appropriate level of assessment for each impact in the EIS. The level of assessment determines the extent of data, analysis and engagement required. The indicative data requirements for each level of assessment are shown in Table 1.4.

Table 1.3 Social impact categories (NSW DPHI, 2026)

Categories	Definition
Way of life	including how people live, how they get around, how they work, how they play, and how they interact each day
Community	including composition, cohesion, character, how the community functions, resilience, and people's sense of place
Accessibility	including how people access and use infrastructure, services and facilities, whether provided by a public, private, or not-for-profit organisation
Culture	both Aboriginal and non-Aboriginal, including shared beliefs, customs, practices, obligations, values and stories, and connections to Country, land, waterways, places and buildings
Health and wellbeing	including physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, access to open space and effects on public health
Surroundings	including ecosystem services such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment, and aesthetic value and amenity
Livelihoods	including people's capacity to sustain themselves through employment or business
Decision-making systems	including the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.

Table 1.4 Indicative data requirements for different levels of assessment (source: Table 2, NSW Technical Supplement - Social Impact Assessment Guideline for State Significant Projects DPHI, July 2025)

Assessment level for each impact	Secondary data	Primary Data	
		Engagement	Research
Minor	Required	Limited – if required (e.g. local council)	Not required
Standard	Required	Targeted engagement	Potentially targeted research
Detailed	Required	Broad engagement	Targeted research

2 Preliminary social locality and baseline

2.1 Social locality

For the purposes of this Scoping SIA, the social locality refers to the area in which people are likely to experience the potential social impacts of the Banandra Wind Farm.

Consistent with the NSW SIA Guideline (2025), the social locality is not defined by a fixed geographic boundary or arbitrary distance. Rather, it reflects the spatial distribution of potential impacts across different groups, recognising that impacts may vary in nature, duration and intensity.

The Project is located in the Riverina region of southern New South Wales, near Euroley and Darlington Point, and spans land within both the Murrumbidgee and Narrandera LGAs. The adjacent Leeton LGA is also relevant due to its functional service and employment linkages.

Regional Strategic Context

The Riverina Murray Regional Plan 2041 identifies the region as a productive agricultural landscape anchored by irrigated farming, food processing and regional service centres including Griffith, Leeton and Narrandera (NSW Department of Planning and Environment, 2022). The Plan supports economic diversification, renewable energy development and infrastructure investment to strengthen regional resilience and long-term sustainability.

The Project is located within this broader strategic planning framework. The Regional Plan identifies renewable energy development as part of the region's economic diversification and infrastructure priorities, alongside the continued importance of agricultural productivity and rural character.

The social locality has been identified during the scoping phase based on:

- The nature and scale of the Project.
- The characteristics of affected communities (see Section 2.3).
- Pathways through which impacts may be reasonably perceived or experienced.
- Settlement patterns and land use in the surrounding area.

Spatial Layers of the Social Locality

To reflect likely gradients of impact, the social locality has been structured into the following categories:

Host landowners: This term applies to the landholder who may enter into an agreement to host wind turbines and associated infrastructure. There is one host landholder for the Project. This landholding contains multiple associated dwellings.

Nearby non-associated dwellings (neighbouring landholders and residents): Non-associated dwellings refer to residences that are not part of the host landholding and may experience changes in amenity (such as visual, noise or traffic-related impacts). In line with the visual impact assessment, up to 116 non-associated dwellings and businesses have been identified within the 7.7 km study area. These

dwelling may represent multiple landholdings; however, the exact number of affected landholders is not currently defined.

For the purposes of the social impact assessment, particular focus is given to residents in closer proximity to the Project, where potential impacts such as noise, traffic and day-to-day disruption are more likely to be experienced.

Local towns and rural localities: The primary Suburbs and Localities (SALs) as defined by the Australian Bureau of Statistics (ABS), most proximate to the Project include:

- Euroley
- Darlington Point
- Morundah
- Coleambally

These SALs encompass the towns and dispersed rural properties located within and adjacent to the project site and define the primary area of potential direct interaction between the Project and local residents.

Regional communities (LGA scale): The project footprint is located within the Murrumbidgee and Narrandera LGAs. The adjacent Leeton LGA has also been included in the regional social locality due to its functional linkages, including service provision, employment catchments and accommodation capacity. While the most direct project interactions will occur within Murrumbidgee and Narrandera LGAs, the broader regional context may experience indirect effects such as workforce accommodation demand, supply chain activity and associated economic flow-on benefits.

This layered approach allows both concentrated impacts (e.g. construction activity near turbine locations) and more diffuse regional changes (e.g. economic activity in service centres) to be identified and assessed.

The social locality will be refined as the project progresses, particularly once workforce supply chains, transport routes, and service catchments are confirmed.

2.2 Preliminary social baseline data collection

A social baseline profile provides an evidence-based understanding of the existing social environment in which a project is proposed (Vanclay, 2015). It establishes a reference point against which potential impacts can be assessed.

This baseline draws primarily on ABS 2021 Census data and is organised at two spatial scales:

- SALs closest to the project site (primary locality)
- LGAs representing broader regional communities

Table 2.1 Primary areas of interest for the purpose of statistical data collection

ABS Geography Type	Name/Localities Included	Description
Suburb and Locality (SAL)	• Euroley (SAL 11468) • Darlington Point (SAL11216) • Morundah (SAL12744) • Coleambally (SAL10964)	Rural localities most proximate to the project footprint. This scale represents the immediate host communities and near-field residential context where direct and perceptible project-related changes may occur.
Local Government Area (LGA)	• Narrandera LGA • Murrumbidgee LGA • Leeton LGA (neighbouring)	LGAs within which the project footprint is located (Murrumbidgee and Narrandera), together with the adjacent Leeton LGA. This scale represents the broader regional communities likely to experience indirect economic, workforce and service-related effects.
State/Territory	Rest of NSW	New South Wales benchmark values used to provide comparative context for regional demographic and socio-economic indicators.

2.3 Social baseline overview

The social baseline has been structured across six thematic areas to reflect key dimensions of the social environment relevant to the Banandra Wind Farm. Detailed statistical tables are provided in Appendix 1. The following summary synthesises the primary characteristics of the SALs closest to the project footprint and the surrounding LGAs of Narrandera, Murrumbidgee and Leeton, compared with the Rest of NSW benchmark.

2.3.1 Population and Settlement Characteristics

The immediate project locality is characterised by small, low-density rural settlements typical of the Riverina region. Darlington Point (1,030 persons) and Coleambally (1,152 persons) function as small service towns, while Morundah (81 persons) and Euroley (76 persons) are highly dispersed agricultural localities.

Across the broader LGAs, population sizes remain relatively small compared to metropolitan NSW, reinforcing the rural character of the region.

Key characteristics include:

- Median ages in Narrandera (44) and Murrumbidgee (45) slightly exceed the Rest of NSW benchmark (43), while Leeton (38) is younger.
- Narrandera LGA has a higher proportion of Aboriginal and Torres Strait Islander residents (12.7%) compared to the state benchmark.
- Residential stability across the LGAs (approximately 54–60%) is broadly consistent with Rest of NSW trends, indicating established settlement patterns with moderate mobility.
- Household structures are predominantly family-based, with average household sizes between 2.3 and 2.8 persons at SAL level.

Overall, the study area reflects established rural communities with moderate demographic stability and dispersed settlement patterns.

2.3.2 Economic Structure and Labour Market

The regional economy is strongly influenced by irrigated agriculture, food processing, education, local government and health services. This profile is consistent with the Riverina Murray Regional Plan 2041, which identifies the region's irrigated farming systems and agribusiness supply chains as key economic drivers. Agricultural industries, including grain growing and mixed livestock farming, are particularly prominent in Murrumbidgee LGA.

Key labour market characteristics include:

- Labour force participation is above the Rest of NSW benchmark in Murrumbidgee and Leeton, and slightly below in Narrandera.
- Unemployment varies across the LGAs, with Narrandera slightly above the state benchmark and Murrumbidgee and Leeton below.
- Full-time employment rates exceed the state benchmark across all three LGAs, reflecting agricultural and trade-based workforce structures.
- The Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) scores indicate variation in socio-economic position: Narrandera ranks in decile 2, Leeton in decile 3, and Murrumbidgee in decile 6.

These indicators suggest an active regional workforce with differing levels of socio-economic resilience across the study area.

2.3.3 Housing and Infrastructure Capacity

Housing markets at the SAL level are characterised by relatively low median rents compared to the Rest of NSW benchmark. However, smaller localities such as Morundah and Euroley have very limited dwelling stock, indicating constrained housing supply.

Key characteristics include:

- Median rents across the LGAs are substantially lower than the state benchmark.
- Rates of rental and mortgage stress are generally below the Rest of NSW benchmark.
- Median mortgage repayments are lower than state averages, reflecting regional property values.
- Motor vehicle ownership rates (approximately 2–3 vehicles per dwelling) exceed the state benchmark, reflecting reliance on private transport and limited public transport availability.

While housing affordability indicators appear comparatively favourable, total housing supply at the local scale is limited, particularly in smaller SALs.

2.3.4 Education and Skills Capacity

Educational attainment across the LGAs is lower than the Rest of NSW benchmark.

Key characteristics include:

- Tertiary education attainment ranges between 11–13%, compared to approximately 19% across the Rest of NSW.
- Rates of Year 9 or below educational attainment are higher than the state benchmark.
- Employment profiles reflect agricultural, trade and processing industries, consistent with lower tertiary attainment.

This education and skills profile suggests that highly specialised technical roles may require workforce sourcing beyond the immediate host communities.

2.3.5 Health and Wellbeing

Overall health indicators across the LGAs are broadly comparable to Rest of NSW trends.

Key characteristics include:

- The proportion of residents reporting no long-term health condition is similar to the state benchmark.
- Slightly higher arthritis rates in Narrandera and Murrumbidgee align with their older median age profiles.
- Reported mental health condition prevalence is marginally lower than the state benchmark.
- Rates of unpaid assistance to persons with disability are consistent with Rest of NSW trends, reflecting informal care responsibilities within regional communities.

The health profile does not indicate significant deviation from broader state patterns, though age-related conditions are evident in parts of the study area.

2.3.6 Community Networks and Social Capital

Indicators suggest established community networks typical of rural agricultural regions.

Key characteristics include:

- Volunteering rates in Narrandera (21.2%) and Murrumbidgee (23.2%) exceed the Rest of NSW benchmark (15.5%).
- Residential stability levels are broadly consistent with state trends, indicating moderately stable population bases.
- Household structures and family composition reflect long-standing rural settlement patterns.

These indicators suggest active civic participation and established local networks across much of the study area.

2.3.7 Summary

Overall, the social locality is characterised by small rural populations, agricultural employment dominance, moderate socio-economic variation across LGAs, relatively affordable but limited housing

supply at the local scale, lower tertiary education attainment compared with the Rest of NSW benchmark, and established community networks.

These baseline characteristics provide the contextual foundation for identifying and scoping potential social impact pathways associated with the Project. In particular, the small population base of the immediate SALs, variation in socio-economic resilience across LGAs, and reliance on private transport and agricultural industries will inform the subsequent identification of social matters requiring further assessment in the EIS.

2.4 Cumulative development context

The Banandra Wind Farm is located within a region that has experienced recent and ongoing renewable energy development. A number of operational, approved and proposed large-scale renewable energy and battery storage projects are located within approximately 10 to 70 km of the Project. These include Darlington Point Solar Farm (14 km), Woodland Battery Energy Storage System (16 km), Delvins Bridge Wind Farm (15 km, planning), and several solar and battery facilities in the Coleambally, Yanco and Narrandera areas. Additional renewable developments, including Dinawan Wind Farm and Dinawan Solar Farm, are located at greater distances.

In addition to renewable energy infrastructure, other approved industrial and agricultural developments, such as the Euroley Poultry Facility (approximately 10 km from the Project), form part of the broader development context.

At the scoping stage, the presence of multiple operational, approved and proposed projects indicates that cumulative social impact pathways will require consideration. The EIS will assess potential cumulative interactions in relation to matters such as workforce demand, accommodation capacity, traffic and road use, landscape and visual change, and community perceptions of development activity within the region.

These regional dynamics are consistent with findings from broader research on community responses to renewable energy development. Research on community attitudes to renewable energy in Australia indicates that while there is broad support for renewable energy at a national level, local responses are more complex and often shaped by place-based factors, including landscape values, perceived fairness in the distribution of benefits and impacts, and trust in project proponents (Hall, Ashworth & Devine-Wright, 2013; CSIRO, 2020). National energy planning documents also identify social licence and community acceptance as key risks to the delivery of renewable energy infrastructure, particularly in regional areas where cumulative development and workforce pressures may be experienced (Australian Energy Market Operator, 2022).

Consistent with guidance from the International Association for Impact Assessment, social impacts associated with large-scale infrastructure are often shaped not only by physical changes, but by perceptions of change, cumulative development pressures, and the distribution of impacts and benefits across communities (Vanclay et al., 2015). These insights are reflected in the identification of social impact pathways for the Project.

2.5 Vulnerabilities and opportunities within the social locality

Understanding baseline demographic and socio-economic characteristics assists in identifying aspects of the social locality that may warrant further consideration during impact assessment. At the scoping stage, this section identifies characteristics that may influence how potential project-related changes are experienced across different parts of the social locality.

The following matters have been identified based on comparison with the Rest of NSW benchmark and analysis of SAL and LGA-level data. These findings are also consistent with baseline conditions and social impact pathways identified in Social Impact Assessments prepared for renewable energy developments in the Riverina region including Devlins Bridge Wind Farm and the Dinawan Wind Farm¹.

2.5.1 Vulnerabilities and Sensitivities

- **Small population base at SAL level:** The immediate host localities (Euroley in particular) have very small populations and limited dwelling numbers. In such contexts, even moderate changes in traffic movements, workforce presence or land use activity may be proportionally noticeable relative to the existing scale of settlement and activity. This sensitivity is consistent with findings from nearby wind farm SIAs, where highly dispersed rural populations are identified as being more sensitive to changes in activity and scale.
- **Socio-economic variation across LGAs:** IRSAD results indicate variation in relative disadvantage across the region, with Narrandera ranking in decile 2 and Leeton in decile 3. This suggests differing levels of socio-economic resilience across the social locality and may influence how economic changes are experienced.
- **Lower tertiary education attainment:** Tertiary education attainment across the LGAs is below the Rest of NSW benchmark. This may influence the extent to which local residents are positioned to access highly specialised technical roles during construction and operations without targeted training or workforce development initiatives. This is consistent with findings from comparable renewable energy projects, where workforce skills availability and alignment are identified as key considerations.
- **Transport reliance:** High levels of motor vehicle ownership across the SALs and LGAs reflect strong reliance on private transport. This increases sensitivity to changes in traffic volumes, travel times and road conditions during construction, particularly along key local and regional routes.
- **Limited local rental supply:** While median rents are lower than the Rest of NSW benchmark, smaller localities have limited total dwelling stock. Housing market capacity, rather than affordability alone, is therefore a key consideration. This is consistent with findings from nearby renewable energy projects, where accommodation shortages and workforce housing demand

¹ EMM Consulting (2024), *Dinawan Wind Farm Environmental Impact Statement – Appendix E.14 Social Impact Assessment*, prepared for Spark Renewables Pty Ltd; and SLR Consulting (2024), *Devlins Bridge Wind Farm Social Impact Scoping Report*, prepared for Stromlo Energy

have been identified as key constraints through both baseline analysis and community engagement.

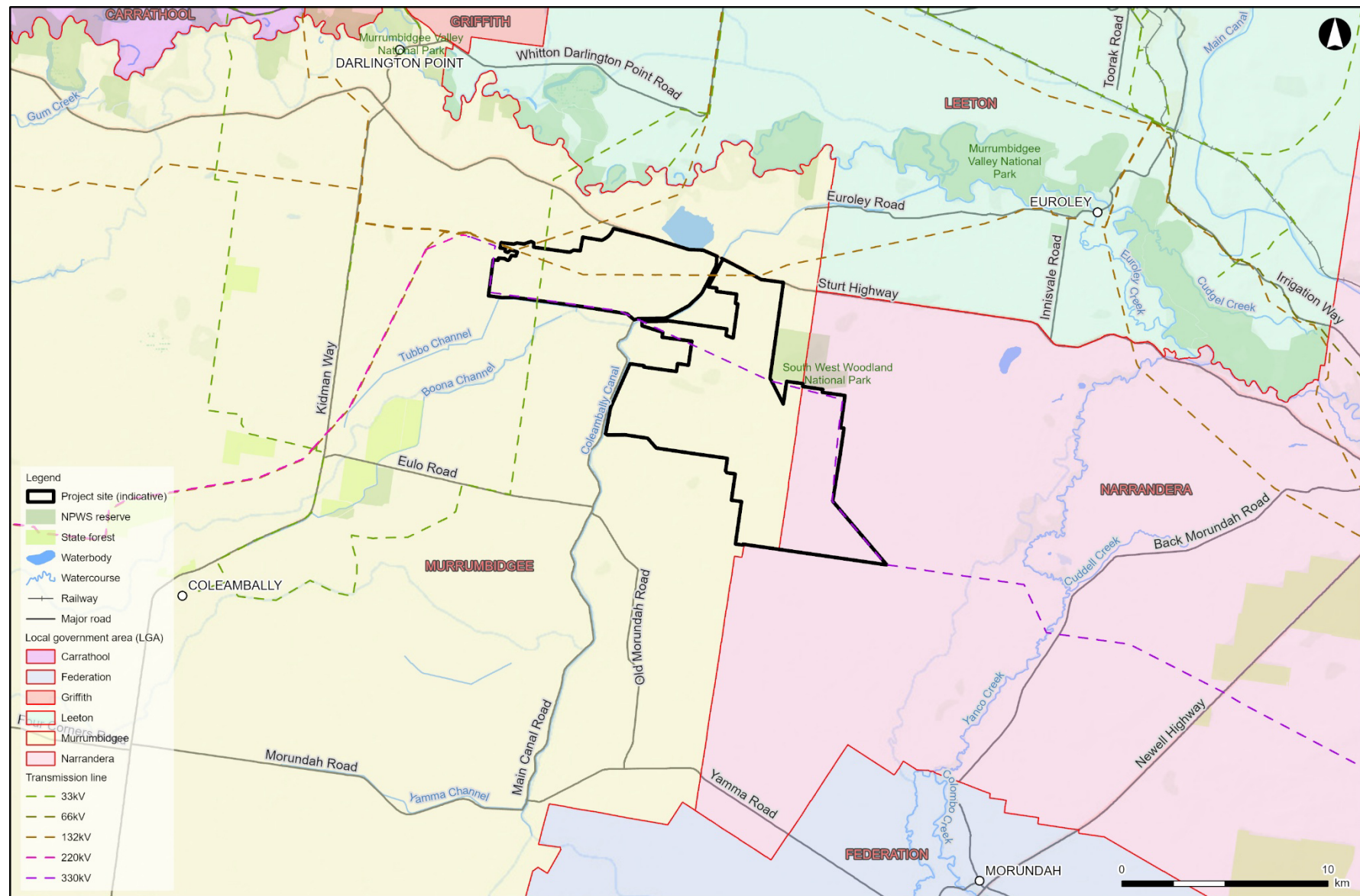
- **Age profile:** Median ages in Narrandera and Murrumbidgee are slightly above the state benchmark, suggesting a mature population profile. Age-related health considerations and varying levels of adaptability to change may influence how potential impacts are experienced across the community, consistent with the identification of older populations in comparable SIAs.

2.5.2 Opportunities and Community Strength

- **Active regional labour markets:** Labour force participation rates are strong in parts of the region, particularly in Murrumbidgee and Leeton. This may present opportunities for local employment during construction, subject to skills alignment.
- **Established agricultural and processing industries:** The prominence of irrigated agriculture, food processing and local government employment suggests existing supply chain networks that may intersect with project-related procurement opportunities.
- **Community participation:** Volunteering rates exceed the Rest of NSW benchmark in Narrandera and Murrumbidgee, indicating established civic participation and organised community structures that may support structured engagement processes.
- **Regional service centres:** Narrandera and Leeton function as regional service hubs with existing infrastructure and accommodation capacity. These centres may play a role in supporting broader project-related economic activity. Griffith, while located further from the Project, represents a larger regional centre that may support workforce accommodation, labour supply and specialised services, depending on workforce sourcing and contractor arrangements. However, its distance from the Project site may limit its practicality for daily workforce commuting. The suitability of workforce accommodation options, including those in Narrandera, Leeton, Griffith, and other localities, will require detailed consideration during the EIS phase.
- **Alignment with regional renewable energy objectives:** The Riverina Murray Regional Plan 2041 identifies renewable energy development as part of the region's economic diversification and infrastructure priorities. The Project is situated within this strategic policy direction, which may support regional investment and industry transition objectives.
- **Income diversification for host landholders:** Agreements with host landholders may contribute to farm income diversification and long-term agricultural enterprise resilience.

The characteristics identified above do not represent assessed impacts. Rather, they inform the identification of potential social impact pathways to be examined in the EIS. These baseline factors, together with the strategic directions outlined in the Riverina Murray Regional Plan 2041, will guide further assessment of matters such as workforce sourcing, accommodation demand, traffic and road safety, economic participation and community engagement approaches.

Figure 2.1 Project Geographical Context



3 Stakeholder mapping and engagement

3.1 Stakeholder identification

SIA involves the participation and collaboration of people who have an interest in or those who are affected by a project. As Burdge (2004) outlines, stakeholders may be affected groups or individuals that:

- live, work, or recreate near the project
- have an interest in the proposed action or change
- use or value a resource associated with the project
- are affected by the project e.g., may be required to relocate because of the project.

A stakeholder identification process has been undertaken by Squadron Energy to identify those people, including any potentially vulnerable or marginalised groups that the project may impact. The key stakeholder groups identified are shown below, with a more comprehensive list provided in Appendix 2.



Figure 3.1 Stakeholder group identification

3.2 Stakeholder engagement

3.2.1 Engagement overview

Squadron Energy has undertaken stakeholder engagement activities throughout 2024 and early 2026, including engagement with host landholders, neighbouring landholders, local businesses, First Nations stakeholders, local councils and relevant government agencies.

Early engagement activities have primarily focused on landholder engagement, project introduction and feasibility-stage discussions with directly affected stakeholders.

A Stakeholder Engagement Plan (SEP) has been prepared to guide consultation during the EIS phase. The SEP outlines a structured approach to ongoing stakeholder and community engagement, including broader community participation activities as the Project progresses.

Engagement will continue throughout the EIS to inform the detailed SIA including the identification and assessment of impacts, and the development of appropriate mitigation and management measures.

Stakeholder engagement will also support the identification and development of community benefit sharing and local opportunities. Through ongoing consultation with councils, community groups and stakeholders, potential initiatives such as community benefit funds, local employment and procurement opportunities, and community partnerships will be explored and refined to align with local needs and priorities.

Squadron Energy has a dedicated Stakeholder Engagement and Community Relations team. These team members work closely with the project team to support engagement activities and maintain ongoing communication with communities and stakeholders. The team provides guidance on engagement approaches and supports the development of tailored strategies to respond to local context and stakeholder needs.

Engagement will continue throughout the lifecycle of the Project, with regular communication occurring through face-to-face meetings, phone calls, emails and other appropriate channels. As the Project progresses through the EIS phase, engagement activities are expected to include stakeholder briefings, community information sessions, surveys and ongoing consultation with key stakeholder groups. Feedback received through these activities will continue to inform the environmental assessment process and project design development.

3.2.2 Community information sessions

Community information sessions were held on the 26th and 27th of May 2026 with a total of 31 people in attendance over six hours, providing an opportunity for local residents and stakeholders to engage directly with the project team. The sessions supported Squadron's early-stage consultation as part of the scoping process, allowing community members to learn more about the proposed development, ask questions, and provide initial feedback. Information on the project's current status, indicative layout, and upcoming planning processes was made available in an informal and accessible format to encourage open dialogue.

Feedback received during these sessions will inform the ongoing development of the environmental assessment and stakeholder engagement strategy. The drop-in format proved effective in enabling one-on-one conversations, helping to build awareness of the project and ensuring that local perspectives are considered as the project progresses through the scoping phase.

3.3.3 Summary of engagement

The following table provides a quantitative overview of the engagement activities undertaken to 1 June 2026. Feedback received to date has included queries and concerns on topics such as:

- Visual and noise impacts
- Changes to property access and local roads
- Economic opportunities (local jobs and business participation)
- Environmental impacts (biodiversity, amenity)
- Social impacts and distributive equity of Project benefits
- Environmental management (fire management)
- Housing and accommodation
- Materials and resources (water).

This feedback has informed ongoing Project design and will be incorporated into impact assessments and mitigation strategies as part of the EIS process.

These engagement activities, together with baseline analysis and evidence from comparable developments, have informed the scoping of likely social impacts presented in Section 4.

Table 3.1 : Quantitative overview of the engagement activities undertaken to 1 June 2026

Activity	Host Landowners	Neighbours and Local Businesses	First Nations Stakeholders	Council	Department
Face to face meetings	23	68	5	4	4
Phone calls	176	82	2	0	0
Emails	136	74	5	41	25
SMS	1	14	1	0	0

4 Scoping of likely social impacts

The scoping of likely social impacts for the Project has been undertaken in accordance with the NSW Social Impact Assessment Guideline (2026) and informed by the social locality, project characteristics and established social impact pathways associated with large-scale renewable energy development.

The assessment considers how different phases of the Project may interact with the surrounding community, including construction, operation and the broader cumulative development context of the region. Impacts have been identified across the key social impact categories outlined in the Guideline, including way of life, community, accessibility, culture, health and wellbeing, surroundings, livelihoods and decision-making systems.

At this stage, engagement inputs are limited and the identification of impacts has primarily been informed by baseline analysis, project characteristics and evidence from comparable developments. This includes consideration of engagement findings from nearby and comparable renewable energy projects in the Riverina region, where community feedback has identified key issues such as housing and accommodation pressures, workforce and skills availability, traffic and road safety, impacts on rural character and visual amenity, and the distribution of project benefits.²

The identification of impacts is based on an understanding of the Project footprint, scale and activities, combined with baseline conditions and evidence from comparable developments. Evidence from Social Impact Assessments and associated community engagement undertaken for comparable projects, including the Devlins Bridge Wind Farm and Dinawan Wind Farm, has been used to inform the identification of relevant impact pathways and strengthen confidence in the scoping of potential impacts. The impacts described reflect how people may experience changes to their environment, daily routines, access to services, economic participation and sense of place.

The impacts presented in Table 4.1 are preliminary and include both direct and indirect pathways, as well as potential cumulative effects arising from the presence of other renewable energy and infrastructure developments in the region. These impacts have been considered in terms of their indicative magnitude to support scoping and to determine the level of assessment required.

A detailed assessment of social impacts will be undertaken during the EIS phase. This will include further technical inputs and targeted stakeholder engagement to validate the identified impact pathways, assess impact magnitude and likelihood, and determine overall significance and residual impacts following mitigation.

² EMM Consulting (2024), *Dinawan Wind Farm Environmental Impact Statement – Appendix E.14 Social Impact Assessment*, prepared for Spark Renewables Pty Ltd; and SLR Consulting (2024), *Devlins Bridge Wind Farm Social Impact Scoping Report*, prepared for Stromlo Energy.

Table 4.1 Scoped social impacts

ID	Social impact (impact to people)	Social impact categories	Affected people	Project phase	Nature	Indicative impact magnitude (unmitigated)	Potential vulnerabilities or opportunities	Level of assessment in SIA
S01	Increased traffic, delays and changes to local road conditions may disrupt daily travel, reduce perceived safety and affect access to work, services and social activities	Way of life; Accessibility	Local residents, road users, agricultural operators	Construction	Negative	Moderate	Vulnerability: reliance on local road networks, limited alternative routes and high dependence on private vehicles	Detailed
S02	Temporary dust, noise and vibration during construction may reduce comfort, disrupt daily routines and affect people's enjoyment of their homes and surroundings	Health and wellbeing; Surroundings	Nearby residents	Construction	Negative	Moderate	Vulnerability: older residents and families may be more affected by temporary disruptions	Standard
S03	Increased demand for housing and short-term accommodation during construction may reduce availability of short-term and rental accommodation for local residents, workers and visitors	Accessibility; Livelihoods	Local residents, service providers, visitors	Construction	Negative	Moderate	Vulnerability: limited housing supply in smaller rural communities	Detailed
S04	Increased demand for skilled workers may reduce workforce availability for local businesses and services, affecting their ability to operate effectively	Livelihoods	Local businesses, service providers	Construction	Negative	Moderate	Vulnerability: small regional labour markets may experience workforce shortages	Standard
S05	Employment, training and skills development opportunities may improve income, capability and longer-term economic participation for local residents and First Nations communities	Livelihoods	Local workforce, First Nations communities, businesses	Construction / Operation	Positive	Moderate (positive)	Opportunity: pathways to employment and increased economic participation Vulnerability: lower tertiary attainment may limit access to specialised roles without targeted training	Standard
S06	Perceived unequal distribution of project benefits may lead to feelings of unfairness	Community	Local communities, landholders	Construction / Operation	Negative	Moderate	Vulnerability: small communities with strong social networks	Standard

ID	Social impact (impact to people)	Social impact categories	Affected people	Project phase	Nature	Indicative impact magnitude (unmitigated)	Potential vulnerabilities or opportunities	Level of assessment in SIA
	and tension between community members, particularly between host and non-host landholders							
S07	Differing views about the project may affect relationships, social cohesion and how people interact within the community	Community	Local communities	Construction / Operation	Negative	Moderate	Vulnerability: existing social divisions may be amplified; strong existing social networks and local identity may increase sensitivity to change	Standard
S08	Ongoing change, uncertainty and cumulative development may contribute to stress, anxiety and a reduced sense of wellbeing, particularly for those with strong attachment to place	Health and wellbeing	Nearby residents, regional communities	Construction / Operation	Negative	Moderate	Vulnerability: long-term residents more prone to social fatigue	Standard
S09	Perceptions of limited influence, transparency or fairness in decision-making may reduce trust in the project and willingness to engage	Decision-making systems	Local communities, community groups	Construction / Operation	Negative	Moderate	Opportunity: meaningful engagement can build trust and participation	Standard
S10	Changes to land use and landscape may affect cultural values, connections to Country and the ability of First Nations people to maintain cultural practices and identity	Culture	First Nations communities	Construction / Operation	Negative	Moderate	Vulnerability: cultural connection to land and Country and the need for culturally appropriate engagement and recognition of Aboriginal community interests	Detailed
S11	Concern or distress about potential impacts on wildlife and ecosystems may affect how people feel about the project and their connection to the local environment	Surroundings; Community	Local communities, interest groups	Construction / Operation	Negative	Moderate	Vulnerability: strong environmental values in rural communities	Standard
S12	Community benefit initiatives, such as funding programs or local investment, may	Community; Livelihoods;	Local communities, community groups	Construction / Operation	Positive	Low to Moderate (positive)	Opportunity: strengthen local initiatives and community resilience	Standard

ID	Social impact (impact to people)	Social impact categories	Affected people	Project phase	Nature	Indicative impact magnitude (unmitigated)	Potential vulnerabilities or opportunities	Level of assessment in SIA
	support local projects, services and infrastructure, contributing to wellbeing, cohesion and community capacity	Decision-making systems					depending on design and distribution	
S13	Changes to landscape character and cumulative development may influence how the area is perceived by visitors, potentially affecting tourism activity and amenity-based businesses	Livelihoods; Community	Local businesses, visitors, tourism operators	Construction / Operation	Negative	Low to Moderate	Vulnerability: tourism and amenity-based businesses more sensitive to perception changes	Standard
S14	Ongoing operational noise may affect sleep, reduce amenity and contribute to stress or reduced wellbeing for nearby residents	Health and wellbeing	Nearby residents	Operation	Negative	Moderate	Vulnerability: sensitivity to noise and rural amenity expectations	Detailed
S15	The scale, height and movement of wind turbines may alter the rural landscape, affecting how people experience, value and identify with their local environment	Surroundings; Community	Nearby residents, rural landholders	Operation	Negative	Moderate	Vulnerability: strong place attachment and long-term residency	Detailed
S16	Improvements to roads or infrastructure may enhance access, connectivity and emergency response, particularly for people in more isolated areas	Accessibility	Local residents, emergency services	Operation	Positive	Low to Moderate (positive)	Opportunity: improved access to services and emergency response	Standard
S17	The combined presence of multiple renewable energy developments may contribute to a sense of cumulative landscape change, reducing perceived rural character and contributing to visual fatigue	Surroundings; Community	Regional communities	Operation	Negative	Moderate	Vulnerability: cumulative exposure to infrastructure development	Detailed
S18	Ongoing exposure to multiple infrastructure projects may contribute to	Community	Regional communities	Construction / Operation	Negative	Moderate	Vulnerability: cumulative development pressures	Standard

ID	Social impact (impact to people)	Social impact categories	Affected people	Project phase	Nature	Indicative impact magnitude (unmitigated)	Potential vulnerabilities or opportunities	Level of assessment in SIA
	social fatigue, reduced resilience and a changing sense of regional identity							

Table note: The indicative impact magnitude ratings presented in this table are preliminary and applied at a scoping level only. In accordance with the NSW Social Impact Assessment Guideline (2026) and Technical Supplement, a detailed assessment of impact magnitude, likelihood and overall significance will be undertaken during the EIS phase, including consideration of mitigation and residual impacts.

5 SIA research methodologies and engagement

5.1 Research and approach to SIA during the EIS phase

The scoping phase has identified several likely social impacts of the Project, which will primarily require a 'standard' or 'detailed' level of assessment during the EIS phase.

The SIA will be undertaken in parallel with technical studies, including (but not limited to) noise, visual, traffic, biodiversity and land use assessments. The SIA will interpret how these technical impacts may be experienced by people and communities, including potential effects on amenity, access, wellbeing and perceptions of change.

Consistent with the NSW Social Impact Assessment Guideline (2026), the EIS-phase SIA will apply a combination of qualitative and quantitative research methods to:

- validate and refine the social impact pathways identified in this scoping report
- understand how impacts are experienced and perceived by different groups
- assess the distribution of impacts and benefits across the social locality
- inform the development of appropriate mitigation, management and benefit-sharing measures

The SIA will draw on multiple sources of evidence, including baseline data, technical inputs, stakeholder engagement and comparative analysis of similar projects.

The research methods to be applied during the EIS phase are outlined in Table 5.1.

Table 5.1 Research methods for SIA

Research methods	Description
Interviews and surveys	Semi-structured interviews and online surveys will be used to explore social values, lived experiences, concerns and potential project benefits. Targeted sampling will focus on those most likely to be affected, including nearby residents, First Nations stakeholders, local service providers, businesses and community groups. These methods will support understanding of both actual and perceived impacts.
Exploratory research	This will include review of media coverage, social media commentary and submissions from comparable renewable energy projects. This helps identify recurring themes, areas of concern and community response patterns relevant to the Project.
Desktop analysis based on specialist studies	The SIA will draw on findings from relevant EIS technical studies (e.g. noise, visual, traffic, ecology) to interpret the likely social implications of project impacts. This includes how people may experience changes to amenity, access and the local environment.
Comparative project analysis	Publicly available information from similar renewable energy developments in the Riverina and broader NSW context will be reviewed to inform understanding of potential social impact pathways, community responses and effective mitigation approaches.

5.2 Participatory engagement approach

A structured, inclusive and impartial engagement approach will be used to inform the SIA during the EIS phase. This approach complements Squadron Energy's broader stakeholder engagement program described in Section 3.2, by providing targeted, SIA-specific engagement to support the identification and assessment of social impacts.

This approach will build on Squadron Energy's broader stakeholder engagement program and align with the Project's Stakeholder Engagement Plan. Engagement will be undertaken in a way that is proportionate to the scale of the Project and responsive to the characteristics of the social locality.

At the scoping stage, engagement has primarily focused on landholder discussions and early project introduction. Broader community engagement will be undertaken during the EIS phase to support the detailed assessment of social impacts. This reflects the early stage of the Project, with broader community and stakeholder engagement to be expanded during the EIS phase.

The SIA engagement approach will:

- prioritise stakeholders most likely to be affected by the Project
- provide opportunities for a range of perspectives to be captured
- support transparent communication and accessible information sharing
- minimise consultation fatigue through coordination with the broader project engagement program

A range of engagement methods will be used, as outlined in Table 5.2. Engagement methods may be refined during the EIS phase in response to stakeholder feedback and participation preferences.

Table 5.2 SIA Engagement Approach during EIS phase

Engagement technique	Level of participation	Description	Targeted stakeholders	Engagement lead
Semi-structured interviews	Consulting	Used to explore experiences, concerns, local values and perceptions of change. Enables participants to describe impacts in their own words.	Nearby residents, host landholders, First Nations stakeholders, local service providers, businesses, councils	SIA Consultant / Squadron Energy
Online surveys	Consulting	Structured tool to capture broader community views, including perceptions of impacts, benefits and community priorities.	Wider community, interest groups	SIA Consultant / Squadron Energy
Community information channels (phone, email, website)	Informing	Provides accessible channels for information sharing and feedback throughout the EIS phase.	Wider community	Squadron Energy

Engagement technique	Level of participation	Description	Targeted stakeholders	Engagement lead
Project updates (fact sheets, newsletters)	Informing	Used to communicate project updates, SIA findings and opportunities for participation.	Wider community	Squadron Energy
Targeted First Nations engagement	Consulting	Engagement undertaken in a culturally appropriate manner, consistent with relevant protocols. May include one-on-one discussions or facilitated sessions.	First Nations stakeholders	Squadron Energy (First Nations engagement team)
Community information sessions and pop-up engagement (e.g. local events, public spaces)	Consulting	Builds on planned community information sessions by providing accessible, in-person engagement opportunities in community settings. These informal approaches support participation from a broader cross-section of the community, including individuals who may not engage through structured methods.	Wider community	Squadron Energy

6 Scoping outcomes and EIS phase approach

This Social Impact Scoping Report documents the process and outcomes of the scoping phase of the SIA for the Project. The findings presented reflect a combination of baseline analysis, preliminary engagement and evidence from comparable renewable energy developments within the region.

Specifically, it has:

- defined the Project's social locality
- described the key characteristics of the social baseline
- identified potential social impacts and benefits for different groups
- indicated the level of assessment required during the EIS phase

The scoping process has identified several key social impact themes that will be examined in detail during the EIS. These themes align with the social impact categories outlined in the NSW Social Impact Assessment Guideline (2026) and reflect the impact pathways identified in Table 4.1.

Core social impact themes for EIS

Way of life and accessibility (S01, S03, S16): The EIS will assess how construction traffic, road use and changes to access may affect how people move through their environment and undertake daily activities. This includes consideration of temporary disruptions to travel patterns and access to services, as well as the extent to which infrastructure improvements may enhance accessibility over time, particularly in a context of strong reliance on private vehicles.

Accessibility and housing (S03, S04): The SIA will examine how construction workforce demand may affect access to housing and accommodation, particularly in smaller localities with limited dwelling stock. This includes consideration of changes in availability of short-term and rental accommodation and how this may affect residents, workers and service providers.

Livelihoods and economic participation (S05, S04, S13): The assessment will consider how the Project may influence people's capacity to sustain themselves through employment, business activity and participation in the local economy. This includes both opportunities for employment, training and procurement, and potential constraints such as workforce competition and impacts on local businesses, including tourism and amenity-based industries.

Community cohesion and decision-making systems (S06, S07, S09): The SIA will assess how the Project may influence community composition, cohesion and how people interact, as well as the extent to which people feel able to participate in decisions that affect them. This includes consideration of perceived fairness in the distribution of benefits, differing views about the Project, and trust in engagement and decision-making processes.

Health and wellbeing (S02, S08, S14): Potential impacts on physical and mental wellbeing will be examined, including temporary construction-related amenity impacts such as dust and noise, as well as longer-term operational effects. The assessment will also consider stress, uncertainty and broader wellbeing outcomes associated with project-related change and cumulative development pressures.

Surroundings and sense of place (S11, S15, S17): The EIS will assess how changes to the natural and built environment, including landscape character, visual amenity and environmental values, may influence how people experience, use and value their surroundings. This includes both direct project impacts and broader perceptions of environmental change.

Culture (First Nations) (S10): The SIA will adopt a culturally appropriate approach to engagement and assessment, recognising the importance of connection to Country, cultural values and practices. The assessment will consider how changes to land use and landscape may affect cultural connections and will identify opportunities for meaningful participation and benefit-sharing.

Cumulative impacts (S17, S18, S08): The presence of other renewable energy and infrastructure developments in the region will be considered in relation to cumulative social impacts. This includes how multiple projects may interact over time to influence landscape character, workforce demand, community wellbeing and perceptions of ongoing development.

EIS phase approach

During the EIS phase, the SIA team will:

- refine the social locality as project design and impact pathways are confirmed
- update the social baseline where required
- undertake targeted stakeholder engagement to validate and refine impact pathways
- apply qualitative and quantitative research methods to assess impact magnitude and likelihood
- work with technical specialists to interpret indirect and cross-cutting impacts
- identify mitigation, management and benefit-sharing measures
- assess residual impacts and their significance in accordance with the NSW SIA Guideline

Through this process, the SIA will provide a detailed and evidence-based assessment of the Project's social impacts, supporting informed decision-making and the development of appropriate management responses.

Appendix 1: Community baseline data

Suburbs and Localities (SALs)

The SALs closest to the project site reflect very small, low-density rural communities characteristic of the Riverina region. Darlington Point (1,030 persons) and Coleambally (1,152 persons) function as small service towns, while Morundah (81 persons) and Euroley (76 persons) are highly dispersed agricultural localities. Household structures are predominantly family-based, with moderate household sizes and strong reliance on private vehicles. Median ages range from 38 to 46 years, indicating established working-age populations with some ageing characteristics in smaller settlements. Housing markets are relatively affordable compared to NSW averages; however, total dwelling numbers are limited, particularly in Morundah and Euroley, suggesting constrained rental supply. Given the small population base of these SALs, even moderate project-related changes during construction may be proportionally noticeable within the immediate host communities.

The table below provides high-level demographic and housing indicators for these surrounding localities, based on 2021 ABS Census data. Note that Couragago was not included due to its extremely low resident population recorded in the latest Census.

Surrounding SALs (nearby neighbours)

Category	Indicator	Darlington Point SAL 11216	Morundah SAL 12744	Euroley SAL 11468	Coleambally SAL 10964
People 	Total population	1,030	81	76	1152
	Gender distribution	Male: 52.6% Female: 47.4%	Male 52.6 Female 47.4	Male 44.7 Female 55.3	Male 51.9 Female 48.1
	Median age	44	46	38	43
Families and households 	Total families	265	18	20	310
	Average number of children per family (for families with children)	1.8	2.1	2.3	2
	Total private dwellings	508	37	31	531
	Average number of people per household	2.3	2.8	2.7	2.4
	Median weekly household income	\$1,312	\$1218	\$1625	\$1555

Category	Indicator	Darlington Point SAL 11216	Morundah SAL 12744	Euroley SAL 11468	Coleambally SAL 10964
	Median monthly mortgage repayments	\$1,083	\$2160	\$1733	\$867
	Median weekly rent	\$200	\$150	\$600	\$180
	Average number of motor vehicles per dwelling	2	3	2.3	2.2

Surrounding LGAs

Overall, the surrounding LGAs reflect established rural agricultural communities with moderate socio-economic variation, stable but not static populations, strong labour force participation in primary industries, and relatively affordable housing markets. Differences in socio-economic disadvantage and employment structure across LGAs may influence the distribution of project-related sensitivities and opportunities.

Surrounding LGAs (regional community)

Category	Indicator	Narrandera LGA Code: 15800L	Murrumbidgee LGA Code: 15560	Leeton LGA Code: 14750 (neighbouring)	Rest of NSW	Comparative discussion
Population and Settlement Characteristics 	Total population	5,698	3,353	11,452	2,829,637	The surrounding LGAs have relatively small populations compared to the rest of NSW, reflecting their rural and regional character. Lower population density may influence the scale of available services and the capacity of local communities to absorb short-term workforce influx during construction.
	Gender distribution	Male: 49.6% Female: 50.4%	Male: 52.2% Female: 47.8%	Male: 49.3% Female: 50.7%	Male: 49.2% Female: 50.8%	Gender distribution across all three LGAs is broadly consistent with the NSW profile. Murrumbidgee LGA has a slightly higher proportion of males, consistent with agricultural employment patterns in rural areas.
	Median age	44	45	38	43	Narrandera (44) and Murrumbidgee (45) have slightly older median ages than the NSW average (43), while Leeton (38) is younger. The slightly older age profile in parts of the study area may increase sensitivity to change and reliance on local health and support services.
	Indigenous population	12.7	8.6%	7.9%	6.6%	Narrandera LGA (12.7%) has a notably higher proportion of Aboriginal and Torres Strait Islander people compared to the NSW average (6.6%). Murrumbidgee and Leeton LGAs are also above or comparable to the

Category	Indicator	Narrandera LGA Code: 15800L	Murrumbidgee LGA Code: 15560	Leeton LGA Code: 14750 (neighbouring)	Rest of NSW	Comparative discussion
						state average. This indicates the importance of culturally appropriate engagement and recognition of Aboriginal community interests in the region.
	Country of birth (Australia)	84.2%	82.8%	80.5%	81.3%	All three LGAs have higher proportions of Australian-born residents than the NSW average, indicating relatively lower levels of cultural diversity compared to metropolitan areas. This reflects the rural demographic profile of the Riverina region.
	Social marital status (count of persons aged 15 years and over)	Registered married: 45.8% De Facto: 11.1% Not Married: 43.1%	Registered: 47.3% De Facto: 13.1% Not Married: 39.6%	Registered: 47.2% De Facto: 11.6% Not Married: 41.3%	Registered: 46.2% De Facto: 12.3% Not Married: 41.5%	The distribution of marital status across the LGAs is broadly comparable to NSW. Slightly higher proportions of registered marriages in Narrandera and Murrumbidgee reflect established family-based rural communities.
	Total families	1,422	872	2819	755,789	Family sizes are broadly consistent with NSW averages, indicating stable household structures across the region.
	Average number of children per family (for families with children)	2	1.9	1.9	1.8	
	Couple families without children	44.0%	48.4%	41.4%	43.5%	
	One parent families	19.5%	14.9%	17.3%	17.1%	Rates of one-parent families are broadly comparable to or slightly lower than the NSW average, suggesting similar household structures to the broader state.
Employment and income	Labour force participation (in the labour force)	54.1%	61.0%	58.3%	56.0% in the labour force	Labour force participation rates vary across the LGAs. Murrumbidgee (61.0%) and Leeton (58.3%) are above the NSW average (56.0%), indicating relatively strong workforce engagement. Narrandera (54.1%)

Category	Indicator	Narrandera LGA Code: 15800L	Murrumbidgee LGA Code: 15560	Leeton LGA Code: 14750 (neighbouring)	Rest of NSW	Comparative discussion
						is slightly below the state average, which may reflect an older age profile or differences in local employment structures. Overall, participation levels suggest an active regional workforce, particularly in agriculture, processing and public sector employment.
	Median weekly household income	\$1,184	\$1,401	\$1,417	\$1,434	Household incomes in Narrandera are below the NSW average, while Murrumbidgee and Leeton are closer to but still slightly below the state figure. This suggests moderate earning capacity typical of regional agricultural economies.
	Median personal income	\$651	\$782	\$745	\$722	Narrandera's median personal income is below the NSW average, while Murrumbidgee and Leeton are slightly above. Variations may reflect the concentration of irrigated agriculture and agribusiness employment
	Worked full-time Worked part-time	58.9% 30.2%	64.1% 26.6%	63.0% 28.0%	54.5% 33.7%	All three LGAs have higher proportions of full-time employment than the NSW average, reflecting agricultural, processing, education and public sector employment structures.
	Unemployment rate	5.2%	2.9%	3.8%	4.6%	Unemployment rates are not uniform across the study area. Narrandera LGA (5.2%) is slightly higher than the NSW average (4.6%), suggesting comparatively softer labour market conditions. In contrast, Murrumbidgee (2.9%) and Leeton (3.8%) are below the NSW average, indicating relatively strong employment conditions in those areas at the time of the Census. Taken together, these indicators suggest that while parts of the region demonstrate stable employment bases, labour market capacity and vulnerability may differ across LGAs. This may influence the degree to which local residents are positioned to participate in project-related employment opportunities.
	Industry of employment, top responses	Other Grain Growing 4.4%, Grain-Sheep or Grain-Beef Cattle	Other Grain Growing 9.6%, Grain-Sheep or Grain-Beef Cattle	Secondary Education 5.0%, Meat Processing 4.7%, Grain Mill	Hospitals (except Psychiatric Hospitals) 4.4%, Other Social	Employment profiles across the LGAs reflect the Riverina's agricultural base, with strong representation in irrigated grain farming, livestock production, food processing, education, local government and health services. Compared with NSW, there is a higher concentration in

Category	Indicator	Narrandera LGA Code: 15800L	Murrumbidgee LGA Code: 15560	Leeton LGA Code: 14750 (neighbouring)	Rest of NSW	Comparative discussion
		Farming 4.3%, Local Government Administration 3.8%, Meat Processing 3.8%, Aged Care Residential 3.8%.	Farming 8.2%, Local Government Administration 4.6%, Poultry Processing 3.3%, Sheep Farming (specialised) 2.7%	Product Manufacturing 4.4%, Supermarket and Grocery Stores 3.1%, Primary Education 3.0%	Assistance Services 3.1%, Aged Care Residential Services 2.9%, Supermarket and Grocery Stores 2.7%, Primary Education 2.5%	agriculture and manufacturing and a lower presence of professional and metropolitan service sectors.
	SEIFA Index of Relative Socio-economic Disadvantage	Score 929 / Decile 2	Score 983 / Decile 6	Score 949 / Decile 3	n/a	IRSAD scores indicate variation in socio-economic position across the region. Narrandera (score 929, decile 2) ranks among the more disadvantaged LGAs in NSW. Leeton (949, decile 3) also falls below the state midpoint. In contrast, Murrumbidgee (983, decile 6) ranks above the NSW midpoint, indicating comparatively lower relative disadvantage. This variation suggests differing levels of socio-economic resilience across the study area.
Housing and Infrastructure Capacity 	Median rent	\$200	\$190	\$250	\$330	Median rents across the LGAs are significantly lower than the NSW average, reflecting regional housing markets. However, rental stock is generally limited in small rural towns, meaning even small increases in demand may affect availability.
	Renter households Paying >30% Income	27.7%	13.9%	26.0%	36.0%	Rates of rental stress are lower than the NSW average, suggesting relatively affordable rental markets. However, affordability does not necessarily equate to availability.
	Owner with mortgage households paying >30% of income	10.1%	9.1%	9.5%	12.7%	Mortgage stress rates are also lower than the NSW average, consistent with lower property values in regional areas.

Category	Indicator	Narrandera LGA Code: 15800L	Murrumbidgee LGA Code: 15560	Leeton LGA Code: 14750 (neighbouring)	Rest of NSW	Comparative discussion
	Median mortgage repayments	\$1,000	\$869	\$1,300	\$1,733	Median mortgage repayments are substantially lower than NSW, reflecting regional property markets.
	Average number of motor vehicles per dwelling	2	2.1	2.1	1.9	Vehicle ownership rates are higher than the NSW average, reflecting limited public transport and reliance on private vehicles for work and service access
Education and skills Capacity 	Educational attainment (Tertiary)	11.7%	13.1%	11.7%	19.1%	All three LGAs record lower tertiary education attainment than the NSW average, reflecting rural workforce structures and potentially limiting the availability of locally qualified professionals for highly technical project roles.
	Not stated (Education)	31.8%	34.8%	26.6%	23.4%	High rates of 'not stated' may obscure education profiles, particularly in the smaller LGAs.
	Level of highest education attainment: Year 9 or below	14.6%	12.4%	12.8%	9.5%	Rates of lower educational attainment are higher than the NSW average, reflecting rural education patterns and workforce structures linked to agriculture and trades.
Health 	No long-term health condition(s)	51.0%	51.4%	54.2%	53.6%	Overall health profiles are broadly comparable to NSW. Slightly higher arthritis rates in Narrandera and Murrumbidgee align with their older median ages. Reported mental health conditions are marginally lower than the NSW average across the LGAs.
	Arthritis	11.9%	12.3%	9.9%	11.6%	
	Asthma	11.4%	13.2%	11.3%	9.6%	
	Mental health condition	8.8%	8.0%	9.3%	10.6%	
	Provided unpaid assistance to someone with a disability %	13.2%	12.8%	11.9%	13.1%	Rates of unpaid assistance are broadly consistent with NSW averages, reflecting community-based care responsibilities typical in regional areas.

Category	Indicator	Narrandera LGA Code: 15800L	Murrumbidgee LGA Code: 15560	Leeton LGA Code: 14750 (neighbouring)	Rest of NSW	Comparative discussion
Community Networks and social Capital 	Did voluntary work last 12 months %	21.2%	23.2%	16.4%	15.5%	Narrandera (21.2%) and Murrumbidgee (23.2%) show higher rates of volunteering than the NSW average (15.5%), indicating strong civic participation and social networks. This may support community engagement processes.
	Residential stability (same usual address 5 years ago)	58.2%	59.9%	53.6%	54.6%	Residential stability levels are broadly comparable to the NSW average (54.6%), ranging from 53.6% in Leeton to 59.9% in Murrumbidgee. These figures indicate moderately stable population bases consistent with established rural settlement patterns.

Appendix 2: Stakeholder identification

Stakeholder Group	Stakeholders
Host landholder	There is one host landholder with the potential to host WTGs and/or project infrastructure.
Neighbouring landholders	In line with the visual impact assessment, up to 116 non-associated dwellings and businesses have been identified within the 7.7 km study area. These dwellings may represent multiple landholdings; however, the exact number of affected landholders is not currently defined.
Communities within the Social Locality	Local community: - Darlington Point - Coleambally - Leeton - Narrandera - Yanco - Whitton
Government – State	- Crown Lands - Department of Finance, Services, and Innovation – NSW Telco Authority - NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) including: - Biodiversity, Conservation and Science Directorate (BCSD) - Energy Corporation - Water Group - NSW Department of Planning, Housing and Infrastructure (DPHI) - Department of Primary Industries – Agriculture and Fisheries (DPI) - NSW Environment Protection Authority (EPA) - Fire and Rescue NSW - Heritage NSW - NSW Rural Fire Service (RFS) - Regional NSW – Mining, Exploration and Geoscience (MEG) - Transport for NSW (Transport) - TransGrid - WaterNSW - NSW Renewable Energy Sector Board - NSW Department of Customer Services (DCS) - NSW National Parks and Wildlife Services (NPWS) - Essential Energy - NSW Forestry Corporation
Government - Federal	- Airservices Australia - Bureau of Meteorology (BOM) - Civil Aviation Safety Authority (CASA) - Department of Agriculture, Water and Environment (DAWE) - Department of Defence - Department of Climate Change, Energy, the Environment and Water (DCCEEW) - Australian Energy Market Operator (AEMO)
Local Council	Murrumbidgee Council

Stakeholder Group	Stakeholders
	Narrandera Shire Council
Government - elected representatives	- Federal Member for Farrer, David Farley - NSW Member for Murray, Helen Dalton MP - NSW Member for Cootamundra, Stephanie Cooke
Community interest groups and community services	- Rotary Club Leeton - Rotary Club Narrandera - Coleambally Lions Club - Leeton Lions Club - Narrandera Lions Club - Country Women's Association Narrandera - Country Women's Association Coleambally - Country Women's Association Yanco - Murrumbidgee Landcare Incorporated - NSW Farmers Leeton/Narrandera - Riverina LLS
Schools	- Darlington Point Public School - Coleambally Central School - St Peter's Primary School Coleambally - Narrandera Public School - Narrandera High School - St Joseph's School - TAFE Narrandera
First Nations groups	- Griffith Local Aboriginal Land Council (LALC) - Leeton & District LALC - Warangesda Mission - Darlington Point - Waddi Housing and Advancement Corporation, Darlington Point - Waddi Cultural Centre, Darlington Point
Industry, local business and media	- Coleambally Chamber of Commerce - ABC Riverina - FM 95.1 (radio) - Triple M 963 (radio) - Hit 99.7 (radio) - Hit Riverina 1152 AM (radio) - Triple M Riverina 963 AM (radio) - The Punt Hotel Darlington Point - The Post Office Darlington Point - The Gumview café and corner store Darlington Point - Heath's Butchery Darlington Point - The Friendly Grocer Darlington Point - Darlington Point Riverside Caravan Park

Appendix 3 Authors certification

I, Angela Peace, certify that this Social Impact Assessment Scoping Report has been prepared in accordance with the NSW Social Impact Assessment Guideline (DPHI, March 2026) and the accompanying Technical Supplement.

I further certify that, to the best of my knowledge, this report:

- contains all information relevant to the Social Impact Assessment of the Project;
- is not false or misleading; and
- reflects a rigorous, impartial, and proportionate assessment of the project's potential social impacts.

Author: Angela Peace, Director, AAP Consulting Pty Ltd

Qualifications:

- Bachelor of Arts (Communications)(2003)
- Graduate Certificate in Social Change and Development (High Distinction) (2026)

Professional Memberships:

- Member, International Association of Impact Assessment (IAIA)
- Member, International Association of Public Participation (IAP2)
- Member, Environmental Institute of Australia and New Zealand (EIANZ)

Experience: Angela Peace is trained in social science methodologies and has over 20 years of experience in social impact assessment and community engagement. She has managed SIAs for extractive industries, renewable energy, social infrastructure, and transport infrastructure projects in NSW, including State Significant Developments. Angela is a social impact and community engagement specialist with broad experience in conducting major social impact assessments across a range of sectors in NSW, inclusive of participatory engagement practices.

Date: 9 June 2026

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