



Social Impact Assessment

28-May-2025
Cobbora Solar Farm

Social Impact Assessment

Client: Pacific Partnerships Pty. Ltd.

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Glossary and abbreviations

Key Terms

Key terms	Description
Amenity	Refers to the quality of a place, its appearance, feel and sound, and the way the community experiences the place. Amenity contributes to a community's identity and its sense of place. Aesthetic qualities are an important part of amenity, but the broader concept of amenity is determined also by the physical design of a place and the human activity that takes place within it. A place that has 'amenity' is regarded as pleasant and attractive, as well as convenient and comfortable (Handy, 2002)
Cumulative impacts	Impacts that, when considered together, have different and/or more substantial impacts than a single impact assessed on its own.
Primary impact area	Area within the immediate vicinity of the Project Area. This area will be most likely to experience acute and/or multiple impacts (see Figure 2-1)
Project	Cobbora Solar Farm Pty Ltd (CSF), in its capacity as trustee for the Cobbora Solar Farm Trust (a wholly owned subsidiary of Pacific Partnerships Pty Ltd) is seeking development consent to construct, operate and decommission Cobbora Solar Farm in Central West New South Wales (NSW). The solar farm will be a large-scale solar photovoltaic (PV) generation facility with associated infrastructure for its management and connection to the national electricity market (the Project).
Project Area	The Project will be located nearby Cobbora, approximately 20 kilometres south-west of the township of Dunedoo and 55 kilometres east of Dubbo in Central West NSW (see Figure 1-1)
Residual impacts	Impacts of the Project that remain after mitigation measures are implemented.
Secondary impact area	This encompasses the rest of the social locality where people living or working within this area are expected to experience a minor to moderate level of social impact (see Figure Social locality)
Social infrastructure	Infrastructure assets that deliver social services and other community uses, including schools, hospitals, childcare centres, libraries, and sport and recreation facilities. The term can also be used to broadly encompass the networks of facilities, places, spaces, programs, projects, and services that sustain a community's quality of life and wellbeing.

Acronyms

Acronyms	Description
ABS	Australian Bureau of Statistics
AC	Alternating Current
BESS	Battery Energy Storage System
CEMP	Construction Environmental Management Plan
CSF	Cobbora Solar Farm Pty Ltd
CSP	Community Strategic Plan
CWO	Central West Orana
DPHI	NSW Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement

Acronyms	Description
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW).</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2021 (NSW)</i>
EPA	NSW Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Act 1999 (Commonwealth)</i>
IER	Index of Economic Resources
IRSAD	Index of Relative Socio-economic Advantage and Disadvantage
km	kilometres
LGA	Local Government Area
MW	Megawatts
MWh	Megawatt hour
O&M	Operations and maintenance
PCU	Power conversion unit
PV	Photovoltaic
REZ	Renewable Energy Zone
SA3	Statistical Area Level 3
SCADA	Supervisory Control and Data Acquisition
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Index for Areas
SIA	Social Impact Assessment
SIA Guideline	<i>Social Impact Assessment Guideline for State Significant Projects (DPIE, 2023)</i>
TTIA	Traffic and Transport Impact Assessment

Executive Summary

Cobbora Solar Farm Pty Ltd, in its capacity as trustee for the Cobbora Solar Farm Trust (a wholly owned subsidiary of Pacific Partnerships Pty Ltd) is seeking development consent to construct, operate and decommission the Cobbora Solar Farm in the central west region of New South Wales (NSW).

The solar farm will be a large-scale solar photovoltaic (PV) generation facility with a battery energy storage system (BESS) and associated infrastructure for its management and connection to the national electricity market (NEM) (the Project).

The Project is located in the Dubbo Regional and Warrumbungle local government areas. The Project Area covers approximately 3,000 hectares, with the project infrastructure occupying an indicative Development Footprint of approximately 1,600 hectares within the Project Area. The Project Area has direct access via the Golden Highway and Spring Ridge Road. The Project will improve the reliability of energy supply in the region by providing storage and firming capacity to the National Energy Market (NEM).

Land surrounding the Project Area is characterised by undulating cleared land used primarily for sheep and cattle grazing or dry land cropping with scattered rural residences. There are four abandoned and dilapidated dwellings in the northern portion of the Project Area and a house, large shed and cattle yards in the south of the Project Area. These will be demolished to allow for the placement of the proposed solar array. Within the Project Area and 51 non-associated dwellings within 4 km of a line of site of the Project.

This Social Impact Assessment (SIA) has been prepared to support the Project's Environmental Impact Statement (EIS). The purpose of this report is to assess potential social benefits and impacts of the Project and to address the relevant Secretary's Environmental Assessment Requirements (SEARs) provided by the NSW Department of Planning, Housing and Infrastructure (DPHI). As required by the SEARs, this SIA has been prepared in line with the Social Impact Assessment Guideline for State Significant Projects (Department of Planning, Industry and Environment, 2023)(SIA Guideline).

Social locality

The social locality for the SIA has been defined using Australian Bureau of Statistics (Australian Bureau of Statistics, 2021) Statistical Areas Level 2 (SA2) boundaries. Two sub-areas have been considered within the social locality:

- The primary impact area - the area immediate to the Project Area most likely to experience acute and/or multiple impacts
- The secondary impact area - the area expected to experience a minor to moderate level of social impact.

Potential impacts and benefits

Potential social impacts of the Project during construction include:

- Potential minor changes on the makeup of the local community in the region.
- Minor adverse impacts to local amenity, particularly through noise and visual amenity.
- Economic benefits during construction arising from increased expenditure at local businesses.

Potential social impacts of the Project during operation include:

- Cumulative impacts of operation with other Projects within the social locality.

Mitigation and management measures

Potential social impacts such as noise and vibration, air quality, visual impacts, and traffic during construction will be largely managed through a construction environmental management plan (CEMP) that will be prepared for the Project. The CEMP will detail the proposed approach to environmental management, monitoring and reporting during construction.

1.0 Introduction

1.1 Project context and overview

Cobbora Solar Farm Pty Ltd (CSF), in its capacity as trustee for the Cobbora Solar Farm Trust (a wholly owned subsidiary of Pacific Partnerships Pty Ltd) (henceforth referred to as 'the Proponent') is seeking development consent to construct, operate and decommission Cobbora Solar Farm in Central West New South Wales (NSW). The solar farm will be a large-scale solar photovoltaic (PV) generation facility with associated infrastructure for its management and connection to the national electricity market (the Project). The Project will be located nearby Cobbora, approximately 20 kilometres south-west of the township of Dunedoo and 55 kilometres east of the regional centre of Dubbo in Central West NSW (the Project Area), as shown on **Figure 1-1**.

The Project will have a capacity to generate up to 700 megawatts (MW) (AC) of electricity from PV solar panels and will also include a 400 megawatt / 1600 megawatt-hour (MWh) battery energy storage system (BESS). The Project will connect to the Central West Orana (CWO) Renewable Energy Zone (REZ) grid infrastructure via an onsite grid substation connecting to the Elong Elong Energy Hub owned and operated by ACERES.

Key development and infrastructure components will include:

- Construction and operation of a 700 MW (AC) Solar Farm
- Installation of a 400 MW / 1600 MWh BESS
- Four substations including:
 - One substation connecting the BESS to the Elong Elong Energy Hub
 - Up to three substations connecting the Solar Farm to the Elong Elong Energy Hub (four potential locations have been considered in the Project EIS).
- Supporting development and infrastructure components will include:
 - internal roads
 - upgrades to external access roads, if required
 - underground and overhead cabling
 - waterway crossings
 - staff office
 - meeting facilities
 - operations and control room
 - workshop
 - amenities
 - accommodation
 - car parking
 - storage facilities
 - fencing and landscaping.



- Project Area
- Local government area
- State forest
- National parks and reserves
- Waterbody
- Watercourses
- Motorway
- Main road
- Railway

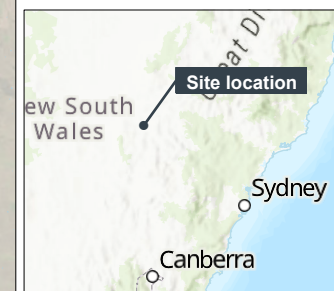


FIGURE 1-1: LOCALITY MAP AND REGIONAL CONTEXT

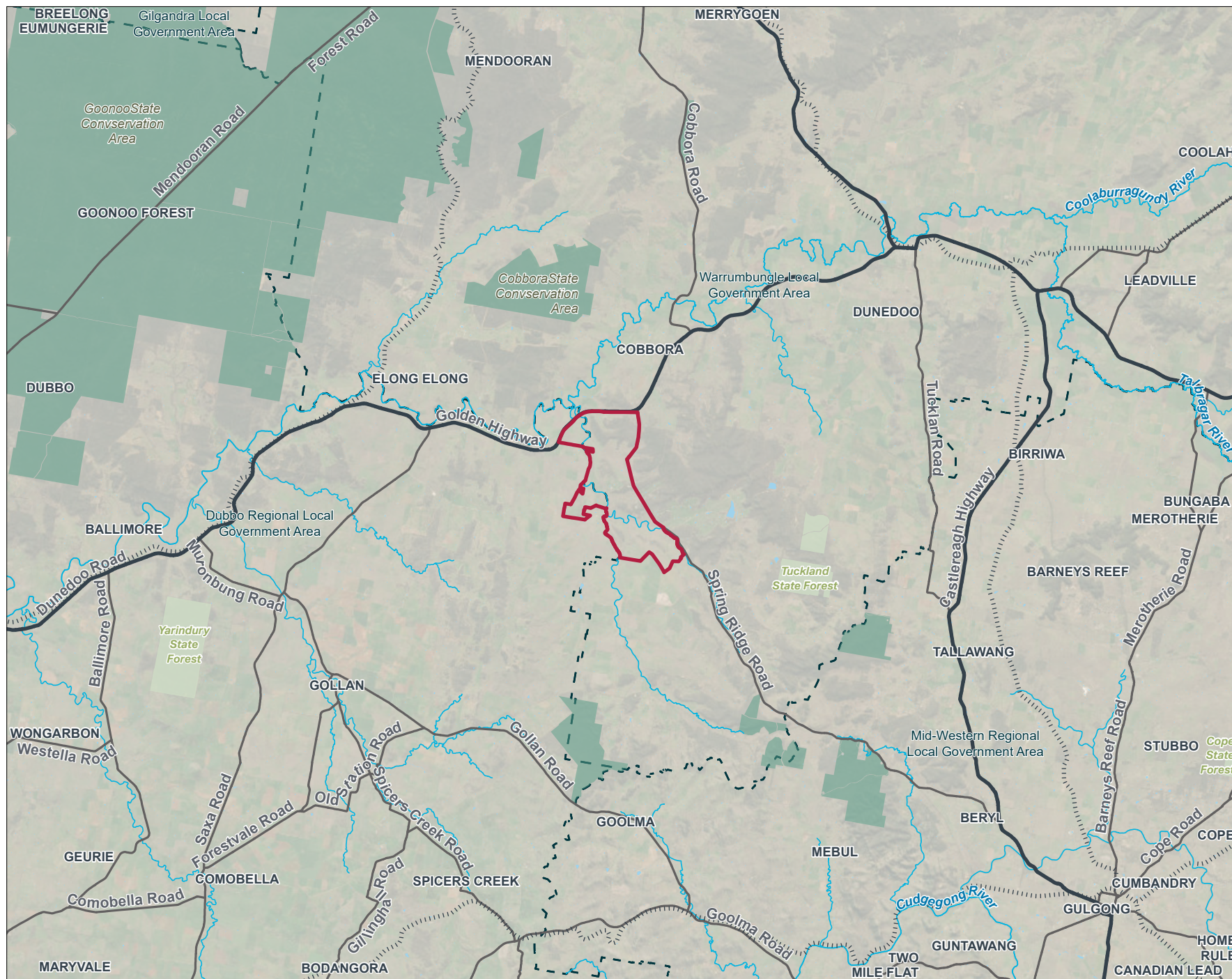
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1.2 The Project

Key components of the Project are summarised in **Table 1-1**. These components are described in more detail in Chapter 3 (Project description) of the Environmental Impact Statement (EIS).

Table 1-1 Key components of the Project

Project	Cobbora Solar Farm
Key features	Construction, operation, and maintenance of the Cobbora Solar Farm with a capacity of up to 700 MW AC solar farm, a centralised 400 MW / 1600 MWh BESS and up to four substations.
Proposed development	- The Project will involve the development of: - Bifacial PV solar panels mounted on single axis tracking systems - PCU - BESS - Onsite grid substation comprising transformers, associated switchgear, control and protection equipment - Transmission network connection - Internal electrical cabling and conduits - The following will be constructed to facilitate the development of the Project: - O&M building, parking and perimeter fencing - Internal access tracks and minor waterway crossings - Vegetation screening - Security fencing, CCTV and reactive lighting. Key development and infrastructure components are shown on Figure 1-3.
Project Area	The Project Area is shown in Figure 1-2 .
Project Area description	The Project Area is within an agricultural region that is dominated by grazing land with large tracts of remnant native vegetation, from extensive clearing associated with agricultural land use, on the less fertile slopes and ridges. Much of the area within the centre of the Project Area that is proposed for solar arrays is considered to be improved pasture or disturbed land. A construction laydown, stockpiling and parking area will also be provided on the Project Area.
Access and parking	During construction and operation, access to the Project Area will be via an existing access point on Spring Ridge Road, which is a sealed local road. Parking will be provided within the Project Area for the construction and operation of the Project.
Grid connection	The Project will connect to the national network via the Elong Elong Energy Hub via up to four grid substations.
Construction	
Construction activities	Construction works for the Project will involve: - Site establishment activities and enabling works, including (where required): - Demolishing existing buildings - Upgrading the local public road network and internal roads - Constructing minor waterway crossings on internal roads - Clearing of vegetation and cut and fill to desired design levels - Construction of concrete slabs to support battery modules, PCUs and substations

Project	Cobbora Solar Farm
	- Construction of the solar farm, including: - Installing fencing and landscaping - Piling supporting posts - Assembling tracker units and mounting solar panels - Installing monitoring equipment - Cable trenching and laying electrical and data cables - Installing PCUs, grid substation and BESS - Constructing other infrastructure (staff office, meeting facilities, operations and control room, workshop, amenities, car parking and storage facilities) - Connecting grid substation to Elong Elong Energy Hub - Commissioning of the solar farm - Demobilisation and rehabilitation works.
Plant and equipment	Construction of the Project will require a range of heavy and light machinery and vehicles, including trucks, excavators, dump trucks, graders, water trucks, concrete trucks, generators, forklifts, cranes and light vehicles.
Construction duration	The construction (including commissioning) phase of the project is expected to take 47 months.
Construction workforce	Up to 734 FTE construction workers will be required at the busiest peak of construction for a period of up to 12 months. Outside of this peak time, an average of about 390 FTE workers a day will be required.
Construction hours	The construction activities will be carried out during standard construction hours, as defined by the NSW Environment Protection Authority's (EPA) Draft Construction Noise Guideline (NSW Environmental Protection Authority, 2020), being: 7am to 6pm, Monday to Friday 8am to 1pm, Saturdays - No work on Sundays or public holidays.
Construction traffic volumes	During its peak, construction of the Project will require the following movements: 14 light vehicles movements per day 88 heavy vehicle movements per day 2 OSOM vehicle movements per day (as required) 34 shuttle bus movements per fortnight.
Operation	
Operational life expectancy	The Project has an expected life of 35 years with components anticipated to be replaced or upgraded as required, with the potential to extend the life beyond 35 years. Once the Project reaches the end of its operational life, it will be decommissioned and the Project Area returned to its previous land use (grazing), or another permissible land use as agreed by the Project owner and the landholder at that time.
Operational workforce	Once operational, the Project will require 20 full-time-equivalent employees. The Project has the ability to run unmanned, as it will largely be automatically controlled remotely through the supervisory control and data acquisition (SCADA) system, however regular maintenance will be conducted during standard construction hours. If necessary reactive or emergency maintenance

Project	Cobbora Solar Farm
	may need to occur outside of standard construction hours, however this will be a rare occurrence.
Project Area security	Areas within the Project Area not required for the operation of the solar farm or BESS will be rehabilitated to as close to its pre-development condition as practical. The Solar Farm and BESS will be surrounded by security fencing and all access to the Project Area will be restricted by locked security gates. CCTV cameras will be installed around the perimeter of the fenced areas.
Typical operating scenario	The solar farm will generate electricity during daylight hours, seven days a week. The BESS is expected to operate on a 24 hour per day, seven days a week basis.
Services and infrastructure	Operation of the Project will involve the following activities: • Monitoring of the solar farm and associated infrastructure • Maintenance and management of equipment, site buildings and landscaping • General office activities • Receipt of goods • Waste removal.

Legend

- Project Area
- Cadastral boundary
- Local government area
- Waterbody
- Watercourses
- Motorway
- Main road



FIGURE 1-2: THE PROJECT AREA

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Legend

- Project Area
- 33 kV easement
- 330 kV easement
- Solar array area
- Main construction area
- Construction areas
- Proposed tree planting locations
- BESS
- Accomodation camp
- Helipoint
- Secondary substations
- Roads
- Main substation
- Waterbody
- Motorway
- Main road
- Local road
- Watercourses
- Primary access point
- Secondary access point
- 33 kV poles
- 330 kV towers
- Proposed bridge crossings

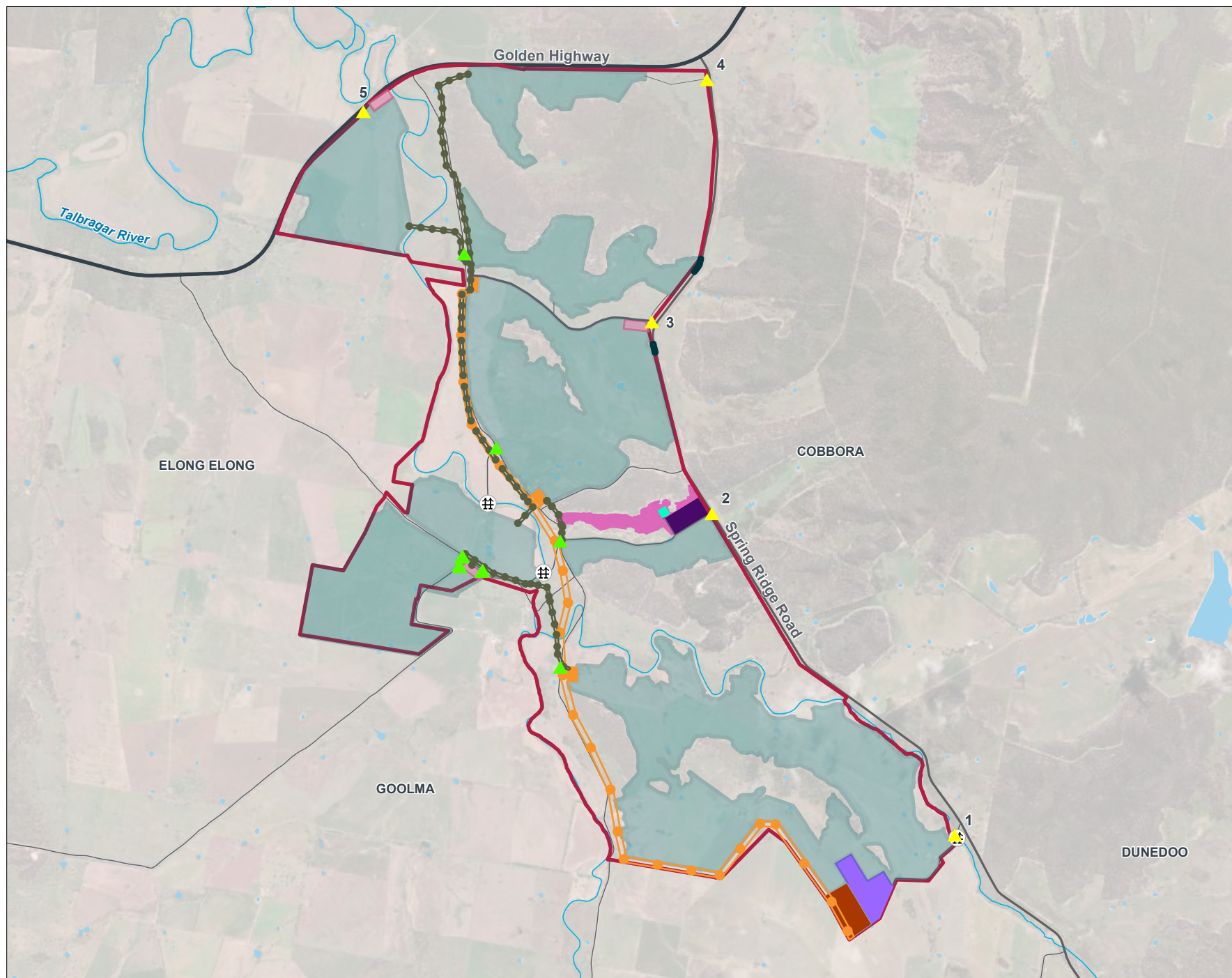
FIGURE 1-3: PROJECT LAYOUT

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1.3 Purpose of this technical report

The purpose of this SIA is to identify and assess the potential social impacts that may arise from the Project during construction and operation. This report considers the direct, indirect and cumulative social impacts that may affect residents, businesses and other key stakeholders, as well as users of roads, public open space and other social infrastructure. This report considers the potential impacts in detail and identifies measures to minimise adverse outcomes and enhance the benefits of the Project. In doing so, the report addresses the Secretary's Environmental Assessment Requirements (SEARs), as outlined in **Section 1.3.1**.

Details of the relevant qualifications and experience of the authors are included in **Appendix A**. (certification page).

1.3.1 Assessment requirements

The SEARs issued by the DPHI relating to social impacts and where these requirements are addressed in this SIA are outlined in **Table 1-2**.

As identified in the SEARs, the relevant guidelines are the *Social Impact Assessment Guideline for State Significant Projects* (Department of Planning, Industry and Environment, 2023) (the SIA Guideline). This SIA has been prepared in accordance with the SIA Guideline.

Table 1-2 Relevant SEARs addressed in this report

SEARs
Social
An assessment of the social impacts or benefits of the project for the region and the State as a whole in accordance with Social Impact Assessment Guideline (DPE, 2023) including consideration of any increase in demand for community infrastructure services, consideration of construction workforce accommodation and consideration of potential opportunities for nearby settlements.

2.0 Assessment methodology

2.1 Relevant guidelines and policies

2.1.1 Legislative context

The assessment of social impacts is a key element of environmental impact assessment (EIA) under both Commonwealth and NSW environmental planning legislation, whereby 'environment' is defined to include the social environment.

The statutory definition of the environment at both Commonwealth and State level is provided in the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the *Environmental Planning and Assessment Act 1979* (EP&A Act) respectively. Section 528 of the EPBC Act defines the environment as including:

- a. ecosystems and their constituent parts, including people and communities; and
- b. natural and physical resources; and
- c. the qualities and characteristics of locations, places and areas; and
- d. heritage values of places; and
- e. **the social, economic and cultural aspects of a thing mentioned in paragraph (a), (b), (c) or (d).**

Similarly, Part 1 of Section 1.4 of the NSW EP&A Act defines the environment as "all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings." In addition, the *Environmental Planning and Assessment Regulation 2021*, Section 171, requires the consideration of environmental issues that comprise both direct and indirect social impacts.

Direct and indirect social impacts of the Project, including those relating to amenity, the aesthetic qualities of the local environment, and local heritage values, are assessed in **Section 5.0** (Assessment of construction impacts) and **Section 6.0** (Assessment of operational impacts).

2.1.2 Relevant guidelines

The SIA Guideline (Department of Planning, Industry and Environment, 2021) seeks to provide a consistent framework and approach to the assessment of social impacts associated with state-significant projects in NSW. This report has been prepared with reference to guiding principles detailed in the SIA Guideline, as well as the following categories which have been considered throughout the assessment of social impacts of the Project:

- **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.

The SIA Guideline also sets out principles to guide an evidence-based approach to the SIA. An overview of these principles and how they have been considered in this SIA is provided in **Table 2-1**.

Table 2-1 SIA principles

Principle and description	Consideration in this SIA
Action-oriented – defines specific actions to deliver practical, achievable and effective outcomes for people	Section 7.0 of this SIA identifies the mitigation and management measures proposed to address potential social impacts of the Project. These measures have been developed to be action-oriented and achievable.
Adaptive – establishes systems to respond to new or different circumstances to support continuous improvement	The mitigation and management measures proposed in Section 7.0 have been developed to respond to differing circumstances as the Project progresses, and to support continuous improvement in community outcomes. The Community and Stakeholder Engagement Plan will facilitate the continued engagement with relevant stakeholders and the community.
Culturally responsive – develops culturally informed approaches and methodologies to ensure Aboriginal and culturally diverse communities are engaged appropriately, and their perspectives, insights and feedback are valued	The SIA has assessed potential social impacts in relation to the connection and value placed on the land by local Aboriginal people in Section 5.3 and Section 6.4 . Consultation with Registered Aboriginal Parties has been undertaken by the Proponent with the aim to

Principle and description	Consideration in this SIA
	understand their connection to land and how the design of the Project can protect these values.
Distributive equity – considers how different groups will experience social impacts differently (particularly vulnerable and marginalised groups, future generations compared with current generations, and differences by gender, age and cultural group)	Secondary research and the assessment of impacts in this SIA has been undertaken to understand and properly consider people from a broad range of backgrounds. Potentially vulnerable and marginalised groups have been identified and considered as part of this assessment (refer to Section 4.1.2)
Impartial – uses fair, unbiased research methods and follows relevant ethical standards	The methodology, research and impact assessment has been undertaken considering the SIA Guideline and in consultation with relevant stakeholders and the community. Special care has been taken to avoid bias where possible, particularly during community consultation. This report has been prepared by appropriately qualified environmental impact assessment and SIA practitioners (Appendix A).
Inclusive – seeks to hear, understand, respect and document the perspectives of all likely affected people. Uses respectful, meaningful and effective engagement activities tailored to the needs of those being engaged (e.g., being culturally sensitive and accessible)	The exhibition of the EIS will allow for people to express their support or objection, by providing comments on the Project and how it impacts on their lives. Submissions from the community will be responded to within the Submissions Report and considered by DPHI in its assessment of the Project.
Integrated – uses and references relevant information and analysis from other assessments to avoid duplication. Supports effective integration of social, economic and environmental considerations in decision-making	The SIA has referenced inputs from technical assessments prepared for other key issues as part of the EIS, as well as relevant data and information from the Australian Bureau of Statistics (ABS) and local councils to identify and assess social impacts of the Project.
Life-cycle focus – seeks to understand likely impacts (including cumulative impacts) at all project stages, from pre-construction to post closure/operation commencement	Relevant social impacts have been assessed for construction and operational phases of the Project. The assessment has also included consideration of cumulative impacts and has identified mitigation and management measures with respect to the Project's phases (refer to Section 4.0). The assessment has also considered the impacts of post closure of the Site where all above ground components will be removed and re-purposed where possible and land rehabilitated as far as reasonably practicable.
Material – identifies which likely social impacts matter the most for people and/or pose the greatest risk/opportunity to those expected to be affected	The significance of impacts is based on a risk matrix approach (taking into account likelihood and magnitude) as described in Section 2.7 and the results of the consultation identified in Section 3.0 .
Precautionary – if there are risks of serious or irreversible environmental damage (including harm to people), avoids using any limits on full scientific certainty as a reason for postponing measures to prevent environmental (including social) degradation	Section 7.0 of this SIA identifies the mitigation and management measures proposed to address potential social impacts of the Project. These measures have been developed to be precautionary based on the technical assessment presented.

Principle and description	Consideration in this SIA
Proportionate – ensures the scope and scale of the SIA corresponds to the scope and scale of the likely social impacts	Given the scale of the Project and its potential to result in social impacts, both positive and negative, a 'minor' SIA report, as defined by the SIA Guideline Technical Supplement (Department of Planning, Industry and Environment, 2023) is considered most suitable and has been prepared.
Rigorous – uses appropriate, accepted social science methods and robust evidence from authoritative and trustworthy sources	This SIA has been prepared using ABS data. Data has been gathered and analysed using accepted social science methods. Additional inputs have been derived from other technical assessments within the EIS. All of these sources are considered to be trustworthy and authoritative. The assessment methodology has been prepared and implemented in accordance with both the SIA Guideline and other relevant guidance documents.
Transparent – explains, justifies and makes available information, methods and assumptions so that people can see how their input has been considered	The impact assessment methodology, baseline data and other information sources considered in the SIA have been clearly detailed in Section 2.0 (Assessment methodology) and Section 4.0 (Social baseline) with impacts discussed in detail in Section 5.0 (Assessment of construction impacts) and Section 6.0 (Assessment of operational impacts).

2.1.3 Strategic context

The Project is broadly consistent with a number of Australian and NSW strategic plans for improving renewable energy and energy reliability. Key strategies, policies, and plans have also informed and influenced the objectives and design development of the Project. Chapter 2 (Strategic Context) and Chapter 4 (Statutory context) of the EIS outline the strategic context of the Project, including the of consideration of the Community Strategic Plans (CSP) for the relevant local government areas (LGA). These plans are also considered below.

The Project spans two LGAs (Dubbo Regional and Warrumbungle Shire), both of which have a CSP that considers the changing needs for the LGAs and wholistically sets out the strategic plan for the community into the future. The CSPs are:

- Towards 2040 – Community Strategic Plan (REF) (Dubbo CSP) (Dubbo Regional Council, 2020)
- Warrumbungle Shire Council Community Strategic Plan 2022/2037 (REF) (Warrumbungle CSP) (Warrumbungle Shire Council, 2022).

Table 2-2 describes how the two CSPs align and interact with the Project.

Table 2-2 Strategic context for the relevant CSPs

Overview	How the Project aligns
Dubbo Community Strategic Plan – Towards 2040	
The Dubbo CSP is structured around six strategic directions. These are: • Housing • Infrastructure • Economy • Leadership • Liveability • Environmental sustainability.	The Project will be generally consistent with the following goals of the Dubbo CSP: • Infrastructure meets the current and future needs of the community • Employment opportunities • Investment in renewable energy opportunities. The Project will provide critical infrastructure which will support the CWO REZ. The Project will increase electricity supply reliability and thereby support a more stable electricity market

Overview	How the Project aligns
	and energy affordability, with greater capacity for renewable energy storage and input into the grid. The Project will facilitate employment opportunities during construction and will provide for renewable energy infrastructure when operational. The Project will help deliver energy system security and reliability through its ability to generate clean energy.
Warrumbungle Shire Council Community Strategic Plan 2022/2037	
The Warrumbungle CSP is structured around four strategic directions. These are: • Caring for the environment • Civic leadership • Strengthening the local economy • Supporting community life.	The Project will be generally consistent with the following goals of the Warrumbungle CSP: • Sustainable growth and respectful planning acknowledges the rural character of the area, values the natural environment and encourages ecologically sustainable development • The community benefits from the economic returns of local renewable energy production. The design of the Project has considered the rural character of the area and has been designed to retain ecological values and some agricultural practices in the Project Area. The Project is a renewable energy facility located in the CWO REZ. The Project will improve the security, resilience and sustainability of NSW's electricity grid with a cost effective, environmentally sensitive, and proven solution, thereby providing direct and indirect social and economic benefits to the State of NSW and locally.

2.2 Limitations and assumptions

Key assumptions applied to this SIA include the following:

- Socio-economic data utilised for the social locality (refer to **Section 2.4**) accurately reflect the community's demographic profile, noting that detailed demographic data for the township of Cobbora was not available
- The assessment relies on the findings of other technical studies in the EIS
- No SIA specific consultation was undertaken (refer to **Section 3.1** for further details) given the low level of amenity impacts during construction and operation of the Project and isolated nature of the proposed infrastructure. Nonetheless the SIA has been informed by broad stakeholder engagement undertaken by the Project. A detailed summary of stakeholder engagement undertaken by the Proponent can be found in Chapter 5 (Engagement) of the EIS.

2.3 Approach to SIA

This SIA has been prepared to understand the social environment and context within and around the Project's social locality, and to consider its impacts in a broad, inclusive, and culturally sensitive manner. In doing so, the requirements of the SIA Guideline have been closely integrated throughout. The main phases of the assessment and their constituent components are outlined below:

- **Phase 1 - Scoping and initial assessment**, which involved:
 - Defining the social locality of the Project and gaining an understanding of the characteristics of the communities within (refer to **Section 2.4**)

- Undertaking an initial scoping assessment to identify the key social impacts to be considered in the SIA, and the level to which these need to be assessed (refer to **Section 2.5**).
- **Phase 2 - Social impact assessment**, which involved:
 - Completing a baseline study to understand the social context of the area without the Project, based on the ABS 2021 Census and other relevant data (refer to **Section 4.1.1**)
 - Predicting and analysing potential social impacts and benefits of the Project, within each relevant social impact category of the SIA Guideline (refer to **Section 2.1.2** for an overview of these categories). This has been informed by other technical assessments including air quality, traffic and transport, noise and vibration, heritage, and landscape and visual
 - Evaluating the potential significance of social impacts using a risk-based assessment relating to the likelihood and magnitude of each impact (refer to **Section 2.7**)
 - Identifying and assessing potential cumulative social impacts
 - Developing mitigation measures for identified adverse social impacts, as well as opportunities to enhance identified social benefits
 - Evaluating potential residual adverse social impacts, following the application of proposed mitigation measures.

Further detail on key aspects of the methodology is provided in the following sections.

This SIA has been prepared considering the multiple demographic, cultural and social groups which exist within the social locality (refer to **Section 2.4**). The impact assessment has been informed by secondary data from the ABS 2021 Census and community consultation activities undertaken specifically for the Project (detailed in **Section 3.0** (Consultation)). The potential for different groups to experience different impacts has been considered throughout this SIA.

2.4 Social locality

The study area for the Project, hereafter referred to as the 'social locality' in line with the SIA Guideline, has been developed with view to the likely direct and indirect areas of influence associated with the construction and operation of the Project.

Data for the social locality has been collected at the level of ABS Statistical Area Level 2 (SA2). This was done to allow for the assessment to encompass the communities surrounding the Project at a reasonable scale. Noting that many of the residents in the vicinity of the Project often travel across the region to large population centres such as Dubbo and Dunedoo.

The social locality for the SIA was set as the land within a 5 km buffer of the Project Area (see **Figure 2-1**). However, there is no data available for this area due to its small size and population (the nearest township of Cobbora has a population of 25). Due to this, the social baseline data used for this assessment has been set according to the following SA2s:

- Mudgee Surrounds – West SA2
- Dubbo Surrounds – SA2.

Data at the SA2 level has been used to allow for the assessment to target the communities most likely to be directly affected by the Project. **Section 4.1.1** of this report presents key demographic data and **Appendix B** presents all ABS data considered in this assessment.

To enable a comparison between the social locality and other relevant areas, the data from the above SA2s has been compared to the following areas:

- Dubbo SA3
- NSW.

Data for social infrastructure has been collated from within a 5 km radius of the Project (see **Section 4.3**).

Noting the potential for multiple and/or overlapping impacts, this assessment has considered the following sub-categories of the social locality:

- **Primary impact area:** area within the immediate vicinity of the Project Area. This area will be most likely to experience acute and/or multiple impacts (see **Figure 2-1**)
- **Secondary impact area:** this encompasses the rest of the social locality where people living or working within this area are expected to experience a minor to moderate level of social impact (see **Figure 2-2**).



0 10 20 km

Legend

Site Boundary

5 km Buffer from Site Boundary

LGA Boundary

Statistical Area 2 boundary

Dubbo surrounds SA2

Mudgee surrounds - west SA2

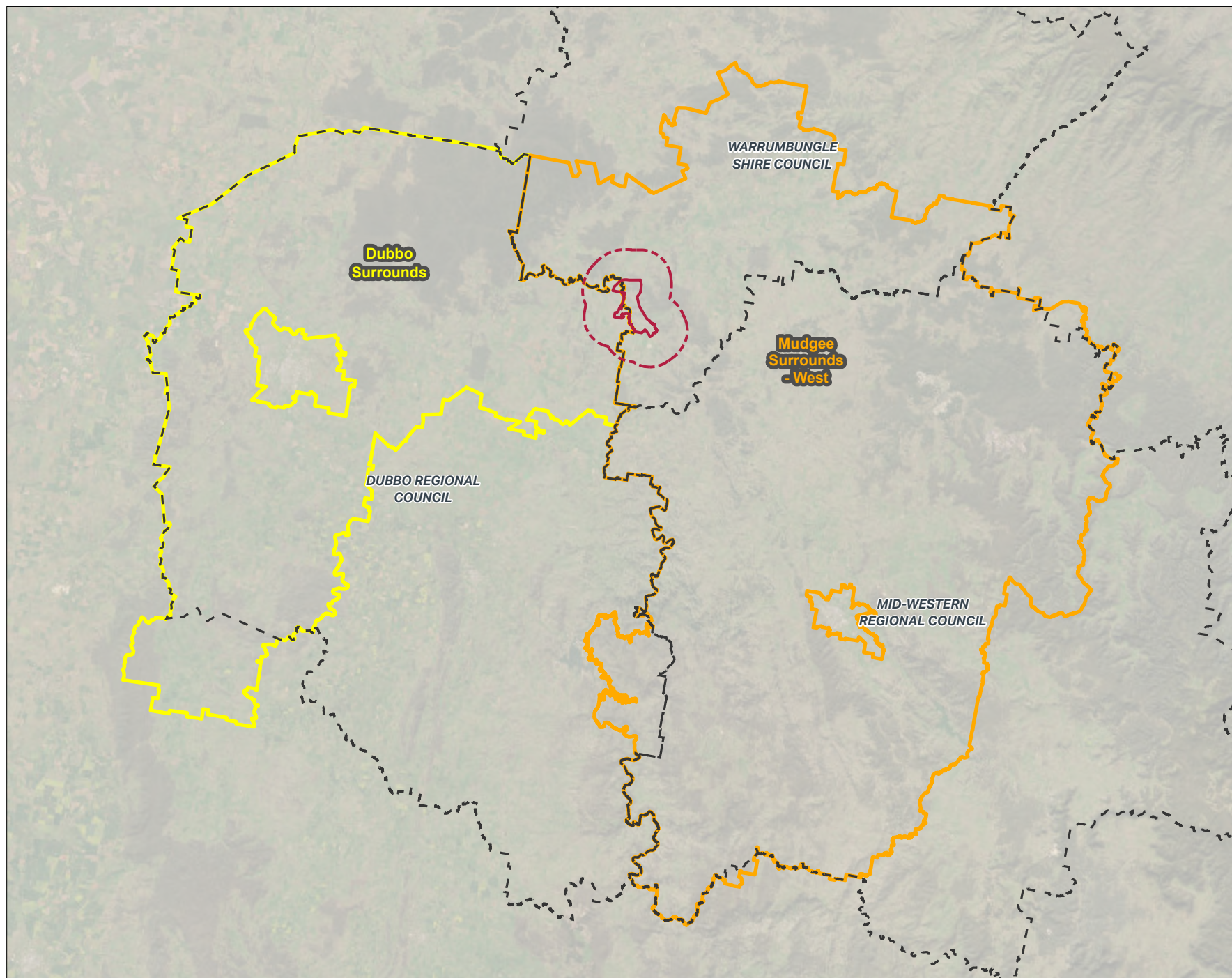


FIGURE 2-1: SOCIAL LOCALITY

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Source: Earthstar Geographics



Legend

- Site Boundary
- Primary Impact Area
- Secondary Impact Area
- LGA Boundary
- Dubbo surrounds SA2
- Mudgee surrounds - west SA2
- State Forest
- Road
- Vehicular Track

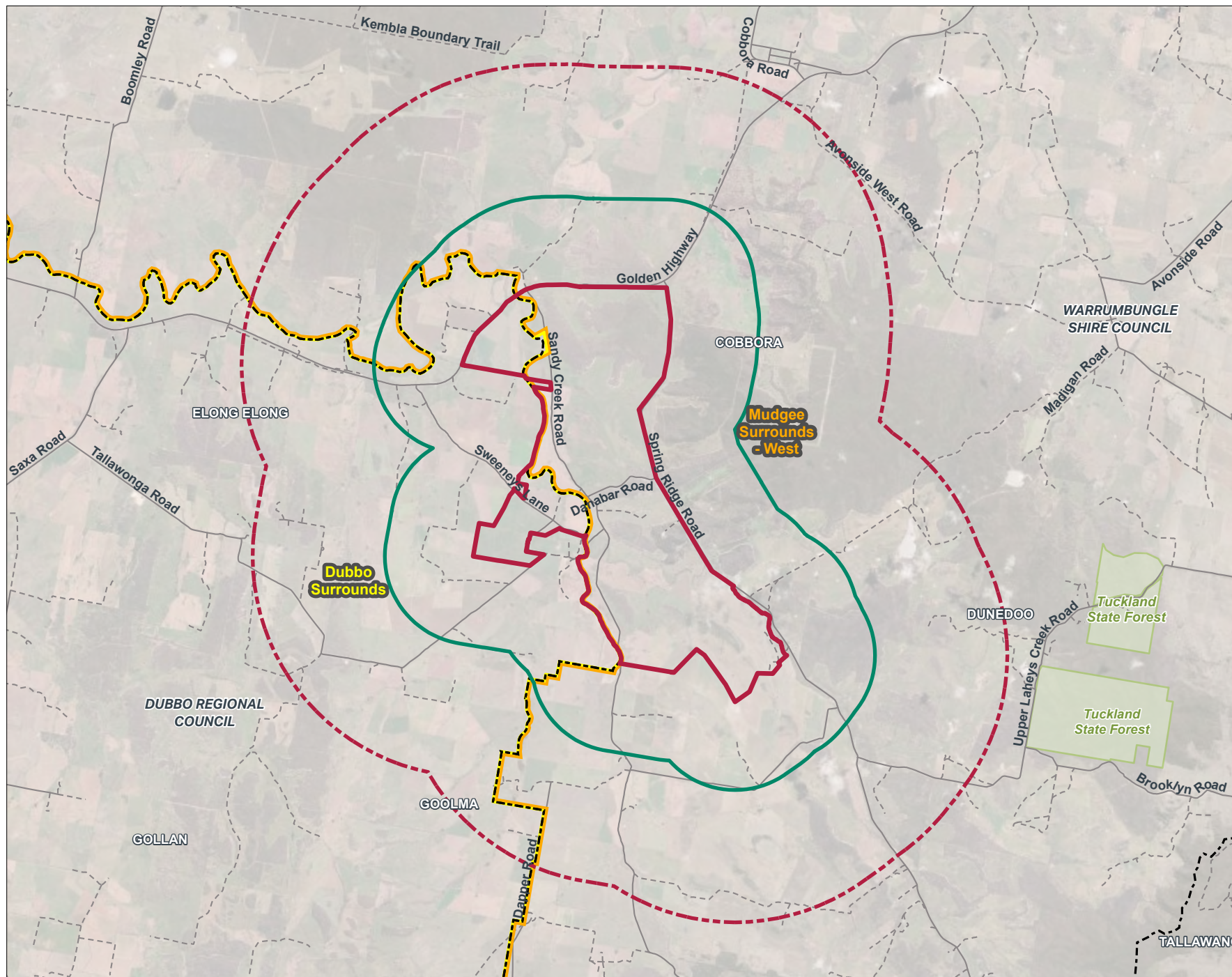


FIGURE 2-2: SOCIAL LOCALITY - IMPACT AREAS

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Source: Earthstar Geographics

2.5 Scoping and initial assessment

An initial scoping assessment was undertaken to identify the key social impacts to be considered in the SIA. This involved the following steps:

- Review of the Scoping Report, Chapter 3 (Project description) and other relevant environmental impact assessments within the EIS
- Consideration of the categories of social impact identified in the SIA Guideline
- Consideration of social impacts assessed on other comparable projects
- Consideration of the specific social impacts likely to arise from the Project.

Given the scale of the Project and its potential to result in a range of social impacts, a minor SIA report was identified as appropriate.

Key impacts and research methods identified through the scoping process are outlined in **Table 2-3**.

Opportunities for refinements to avoid and minimise potential environmental impacts, including social impacts, have also been identified during Project development and integrated into the design or implementation, as relevant.

Table 2-3 Key impacts identified for further assessment in the SIA

Key Project activities with potential to produce social impacts	Key scoped impacts (positive and negative)	Proposed methods and data sources to investigate impacts
Construction		
- Enabling works - Civil, structural, mechanical and electrical works - Transmission connection works - Commissioning - Presence of construction traffic (heavy and light vehicles) - Presence of construction workforce.	Culture - Potential loss of Aboriginal sites, minor changes to connections to Country, natural values or heritage items resulting in impacts to cultural elements which are valued by the community (negative) Way of life - Potential disruptions to way of life for individuals and the community, caused by temporary disruptions to road users (negative) - Change in access to accommodation within the social locality due to the demand from construction workforce (negative) Community - Potential temporary changes to community composition from the presence of construction workers, which may impact the existing community's identity (negative) - Potential barriers to community cohesion from the presence of construction sites and changes in accessibility which may limit community members' opportunities to socialise within the community (negative) Accessibility - Potential increased pressure on local health services in Dunedoo and Dubbo by medical needs from the construction workforce (negative) - Potential increased demand for access to basic supplies at the supermarket (negative) Surroundings - Adverse changes in local biodiversity due to habitat disturbance and construction activities, potentially impacting aesthetic value (negative) Livelihoods - Potential impacts on local businesses located close to the Project Area due to increased noise and vibration, dust and construction traffic (negative) - Potential benefits to businesses, including benefit from a net gain in passing trade (depending on the business location) during construction owing to the presence of construction workers (positive) - Potential benefits to businesses within social locality providing accommodation services due to potential increase in demand for accommodation (positive)	- Use of secondary data, including ABS Census data for key social indicators, DPHI population growth data to inform the social baseline for the Project (refer to Section 2.5.1) - Use of consultation outcomes (refer to Section 3.0)

Key Project activities with potential to produce social impacts	Key scoped impacts (positive and negative)	Proposed methods and data sources to investigate impacts
	- Potential benefits for local construction related businesses, such as construction recruitment agencies, construction companies and resource suppliers (positive) - Direct and indirect employment opportunities in the area, for example to supply goods, services and materials to the Project's construction, which can positively influence the local community's capacity to earn an income in the area (positive) Cumulative Impacts - Potential for combined and consecutive social impacts on the community in relation to the construction of other projects nearby the Project Area.	
Operation		
- Operation of the solar farm - Operation of the transmission connection/s between the solar farm, BESS and associated substations - Operation and use of control room/s, office and maintenance buildings, warehouses, switch rooms, site access, internal roads, laydown areas and car parking.	Surroundings - Potential impacts on residents and users of community facilities located close to the operational footprint, due to increased noise and vibration, dust and traffic (negative) Livelihoods - Direct and indirect employment opportunities in the area, for example maintenance on the Project, which can positively influence the local community's capacity to earn an income in the area (positive) - Direct and indirect farming opportunities for the provision of sheep stock to maintain the project area continuing the use of the site for agricultural purposes (positive)	As above.

2.5.1 Issues scoped out of the construction impact assessment

Given the discrete physical extent and isolated nature of the Project, the following category has been excluded from the construction impact assessment of this SIA.

Decision making systems

The Project is aligned with Australia's Long Term Emissions Reduction Plan (Australian Government, 2021), NSW Renewable Energy Action Plan (NSW Government, 2021) NSW Climate Change Policy Framework (Office of Environment and Heritage, 2016), Towards 2040 – Community Strategic Plan (Dubbo Regional Council, 2020), and Warrumbungle Shire Council Community Strategic Plan 2022-2037 (Warrumbungle Shire Council, 2022). These plans have undergone community consultation to create strategies that align with the values and aspirations of Australia, NSW and the relevant LGAs. The Project will provide benefits to the local economy, helping the emerging local renewables energy industry. Further information on the need for the Project, strategic context, and options analysis is provided in Chapter 2 (Strategic context) of the EIS.

The Project will be located on private land that is not accessible to the public. Its presence will be consistent with the rural nature of the surrounding area and will not affect the ability of the community to have input into decisions and matters that affect them.

The exhibition of the EIS will provide an opportunity for the community to express their support or objection for the Project by providing comments on the Project and how it may impact on their lives. Submissions from the community will be formally responded to in a Submissions Report and considered by DPHI during the assessment of the Project.

2.5.2 Issues scoped out of the operational impact assessment

Given the discrete physical extent and isolated nature of the Project, the following categories have been excluded from the operational impact assessment of this SIA.

Community

Once operational, the Project will require 20 full-time-equivalent employees. The Project can run unmanned, as it will largely be automatically controlled remotely through the Supervisory Control and Data Acquisition (SCADA) system, however regular maintenance will be conducted during standard construction hours. Reactive or emergency maintenance may need to occur outside of standard construction hours, however this will be a rare occurrence.

Due to the limited number of employees needed for day-to-day operations, the impact of the Project on local demographics and community composition will be negligible.

Accessibility

The Project does not propose to change access arrangements within the social locality. The Project will not require the closure of roads and will not prevent the access to existing social infrastructure, services or facilities during operation.

During operation, the Project will not affect accessibility and connectivity within the social locality, either for pedestrians, cyclists, public transport or private motor vehicle users.

Additionally, the Proponent will have on-site accommodation and health facilities (provision of a first aid station with an onsite nurse) to support the workforce which will reduce the burden on health services in nearby towns such as Dunedoo, which will remain to be for the community. Thereby, the Project will not change the access to health facilities for the community.

Parking will be provided on-site for workers to minimise operational impacts. Refer to Appendix H (TTIA) of the EIS for further details.

Health and wellbeing

The operation of the Project will result in intermittent and ongoing impacts in relation to noise and vibration, traffic, visual impacts and air (dust) emissions. The impacts are not expected to be of a scale or intensity that will directly or indirectly affect health and wellbeing of local residents or workers, particularly in the context of the existing traffic, air and noise emissions associated with the Golden Highway, which passes directly adjacent to the Project Area.

Risks specific to the operation of the Project include the generation electro-magnetic fields (EMF) associated with the movement of electricity, the risk of fire associated with a malfunction of the BESS, and the potential for bushfire to be caused by the Project. These issues have been addressed within the EIS and their risk has been found to be very low. As such these issues have not been considered within this SIA.

2.6 Social baseline study

The social baseline describes the social context without the Project. It profiles the existing social characteristics, conditions and trends relevant to the potential social impacts of the Project. For the purposes of this assessment the social baseline considered local demographics, social infrastructure, business and transport services, community values and relevant local plans and strategies.

Preparation of the social baseline study involved the following:

- Establishing the strategic context of the social locality, as set out in relevant plans and strategies (refer to **Section 2.1.3**)
- Collating ABS data for relevant social indicators from the 2021 census. These have been analysed at the SA3 or LGA levels and compared to statistics from Greater Dubbo and NSW.

2.7 Evaluation of the significance of social impacts

The potential likelihood and magnitude of each impact has been determined with reference to the definitions in **Table 2-4** and **Table 2-5**. In determining the magnitude of potential impacts, the dimensions of social impact outlined in **Table 2-6** have also been taken into consideration.

Table 2-4 Likelihood level definitions (DPIE, 2023)

Likelihood level	Meaning
Almost certain	Definite or almost definitely expected (e.g., has happened on similar projects)
Likely	High probability
Possible	Medium probability
Unlikely	Low probability
Very unlikely	Improbable or remote probability

Table 2-5 Magnitude level definitions (DPIE, 2023)

Magnitude level	Meaning
Transformational	Substantial change experienced in community wellbeing, livelihood, infrastructure, services, health, and/or heritage values; permanent displacement or addition of at least 20% of a community.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	Little noticeable change experienced by people in the locality.

Table 2-6 Dimensions of social impact magnitude (DPIE, 2023)

Dimensions	Details needed to enable assessment
Extent	Who specifically is expected to be affected (directly, indirectly, and/or cumulatively), including any vulnerable people? Which location(s) and people are affected? (e.g. near neighbours, local, regional, future generations).
Duration	When is the social impact expected to occur? Will it be time-limited (e.g. over particular project phases) or permanent?
Severity or scale	What is the likely scale or degree of change? (e.g. mild, moderate, severe)
Sensitivity or importance	How sensitive/vulnerable (or how adaptable/resilient) are affected people to the impact, or (for positive impacts) how important is it to them? This might depend on the value they attach to the matter; whether it is rare/unique or replaceable; the extent to which it is tied to their identity; and their capacity to cope with or adapt to change.
Level of concern/interest	How concerned/interested are people? Sometimes, concerns may be disproportionate to findings from technical assessments of likelihood, duration and/or intensity.

The assessment matrix in **Table 2-7** has been used to determine the significance of each social impact, as a function of the potential likelihood and magnitude levels.

Table 2-7 Social impact significance matrix (DPIE, 2023)

		Magnitude level				
		Minimal	Minor	Moderate	Major	Transformational
Likelihood	Almost certain	Low	Medium	High	Very High	Very High
	Likely	Low	Medium	High	High	Very High
	Possible	Low	Medium	Medium	High	High
	Unlikely	Low	Low	Medium	Medium	High
	Very unlikely	Low	Low	Low	Medium	Medium

3.0 Consultation

3.1 Consultation undertaken during preparation of the EIS

3.1.1 Community and stakeholder consultation

At the scoping stage the potential interest in the social impact of the Project was considered. Noting the isolated, rural nature of the Project Area and the relatively low likelihood of substantial adverse social impacts, no SIA-specific consultation was deemed necessary.

However, the Proponent has undertaken general consultation with relevant stakeholders and the community throughout the development of the Project. Stakeholders and the community were engaged using a range of tools and techniques including face to face meetings, online meetings, phone calls, phone messages, emails, handouts and surface mail. Details of the consultation activities undertaken are summarised in Chapter 5 (Engagement) of the EIS. The results of these consultation activities have been used to inform the development of this SIA.

3.1.2 Aboriginal community engagement

To inform the Aboriginal Cultural Heritage Assessment Report (ACHAR), Aboriginal community consultation was undertaken in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (Heritage NSW, 2010) (refer to Appendix K (ACHAR) of the EIS for further details). This consultation has been used to inform the development of the SIA, where relevant.

3.2 Key issues raised during consultation

A detailed breakdown of the issues raised throughout consultation and where they have been addressed in the EIS can be found in Table 5-5 of the EIS (Engagement Chapter). Key community issues with regard to the cumulative impacts which will come from the Project have been addressed in the construction and operation assessments in **Section 5.0** and **6.0**. This issue has been considered in the assessment of impacts of this SIA.

4.0 Social baseline

This section presents the social baseline for the assessment. The social baseline describes the social context without the Project, i.e. prior to construction or operation. It documents the existing social environment, conditions and trends relevant to the social locality and the potential social impacts of the Project.

Data has been collated from the two SA2 regions within the social locality. Data for the small townships nearby (Cobbora and Elong Elong) was not sufficient for a comprehensive understanding due to the low population numbers, and as such data has been collected for the larger SA2s. Data has also been collected for the larger SA3 of Dubbo and NSW generally so as to allow a comparison to the broader demographics of the community.

According to the ABS (2021) an SA2 is a medium-sized general purpose area with the purpose of representing a community that interacts together socially and economically, whilst SA3s are larger geographical areas that have similar regional characteristics.

4.1 Socio-economic profile

4.1.1 Key demographic data

Key demographic indicators of relevance to the Project, as derived from ABS 2021 census data, are provided in **Table 4-1**. Demographic data has been provided for the SA2 of Mudgee Surrounds – West (which is the location of the eastern portion of the Project) and Dubbo Surrounds (which is the location of the western portion of the Project). This data has been compared with Dubbo (the nearest large population centre) and the remainder of NSW.

Table 4-1 Demographic information for social locality and NSW (ABS, 2021)

Demographic information	Mudgee Surrounds - West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
Population				
Total Resident Population	11,072	5,963	74,078	8,097,062
Median age	45	42	38	39
Aboriginal or Torres Strait Islander population	7%	8%	16%	3%
Speaks only English at home	89%	90%	83%	73%
Labour force and economics				
Employed	96%	98%	96%	95%
Unemployed	4%	2%	4%	5%
Top three employment industries	• Agriculture, Forestry and Fishing • Mining • Health Care and Social Assistance	• Agriculture, Forestry and Fishing • Health Care and Social Assistance • Construction	• Health Care and Social Assistance • Agriculture, Forestry and Fishing • Construction	• Health Care and Social Assistance • Retail Trade • Professional, Scientific and Technical Services
Dwellings				
Separate house	3,872 (80.6%)	1,860 (90.4%)	22,926 (78.9%)	1,902,734 (65.6%)
Semi-detached, townhouse, terrace house, etc.	42 (0.9%)	20 (1.0%)	1,655 (5.7%)	340,582 (11.7%)
Flat or apartment	23 (0.5%)	0	1,322 (4.6%)	630,030 (21.7%)
Other	35 (0.7%)	3 (0.1%)	158 (0.5%)	19,374 (0.7%)
Home ownership (number of dwellings)				
Owned outright	1,790 (45.0%)	796 (41.9%)	8,495 (34.2%)	914,537 (31.5%)
Owned with a mortgage	1,388 (34.9%)	822 (43.8%)	8,297 (31.7%)	942,804 (32.5%)
Rented	588 (14.8%)	178 (9.4%)	7,610 (29.1%)	944,585 (32.6%)

Demographic information	Mudgee Surrounds - West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
Other tenure type	129 (3.2%)	58 (3.1%)	766 (2.9%)	55,931 (1.9%)
Tenure type not stated	82 (2.1%)	38 (2.0%)	556 (2.1%)	42,613 (1.5%)
Household structure				
Family household	2,855 (71.8%)	1,541 (81.1%)	17,989 (68.7%)	2,065,107 (71.2%)
Single (or lone)	1,035 (26.0%)	324 (17.1%)	7,36 (28.2%)	723,716 (24.95%)
Group household	87 (2.2%)	324 (1.7%)	806 (3.1%)	111,646 (3.85%)
Journey to work and vehicle ownership				
Top transport method to work	Car (as driver)	Car (as driver)	Car (as driver)	Car (as driver)
No motor vehicle	104 (2.6%)	20 (1.1%)	1,366 (5.4%)	262,031 (9.0%)
One motor vehicle	992 (25.0%)	295 (15.5%)	8,868 (34.6%)	1,096,761 (37.8%)
Two motor vehicles	1,485 (37.4%)	768 (40.4%)	9,04 (37.8%)	989,258 (34.1%)
Three or more motor vehicles	1,318 (33.1%)	782 (41.5%)	5,699 (21.8%)	1,745,924 (18.8%)

Notes:

* Both employment industries have an employment percentage. Percentages may not add to 100 per cent due to rounding

4.1.2 Vulnerable communities

Population groups within the social locality which are potentially vulnerable or marginalised have been identified using ABS Census data and are discussed in **Table 4-2**. This table also outlines relevant considerations applied in assessing the potential social impacts of the Project to these groups.

Table 4-2 Potentially vulnerable communities in the social locality

Group	Overview
Aboriginal Community	Both Mudgee Surrounds – West SA2 and Dubbo Surrounds SA2 have a higher percentage of Aboriginal people compared to the NSW average, with 6.7% and 8.4% respectively. These figures are significantly higher than the percentages for NSW, which is 3.4%. This group is considered to be one of the largest potentially vulnerable groups within the social locality. Aboriginal communities often face significant vulnerabilities due to historical and systemic factors, including socio-economic disparities, limited access to resources, and ongoing impacts of colonialism. These challenges can affect various aspects of life, including health, education, and economic opportunities. Key considerations for this group in preparing the SIA and proposed mitigation measures include a need for culturally sensitive and inclusive engagement, ensuring consultation with the Aboriginal community. Ongoing consultation and support for socio-economic development will help build trust and ensure that the needs of the Aboriginal community are met throughout the project's duration.
Older and elderly people	As of 2021, 21.0% of the population within the Mudgee Surrounds - West and 17.8% of the population within Dubbo Surrounds were aged 65 years and older, a figure slightly larger than the average of 17% across NSW. Considerations for this group in preparing the SIA and proposed mitigation measures include a need for clear communication of proposed activities through diverse engagement materials (for example, less reliance on online materials); consideration of impacts across different times of the day and week (for example, members of this group, if retired, may be more likely to be at home during daytime hours); maintaining easy and safe access to properties and local businesses. Impacts which involve changes to the local area may also be more relevant for members of this group where they have been long-term residents in the area.
Need for assistance	Core activity need for assistance data measures the number of people who need assistance in their day to day lives with any or all core activities, including self-care, mobility or communication because of a variety of reasons including disability, long-term health condition (lasting six months or more) or old age. In 2021, 5.4% of people within Mudgee Surrounds - West and 4.0% of people in Dubbo Surrounds were identified as needing assistance with a core activity, which is slightly lower than the overall percentage of people in NSW needing assistance (5.8%). Considerations for this group have been considered when preparing this SIA and proposed mitigation measures include a need for clear communication of proposed activities through diverse engagement materials and maintaining easy and safe access to properties and local businesses for those requiring assistance.
Socio-economic disadvantage	The Socio-Economic Index for Areas (SEIFA) (Australian Bureau of Statistics, 2021) is a set of four indexes produced by the ABS as an indicator of relative socio-economic advantage and disadvantage. SEIFA broadly defines relative socio-economic advantage and/or disadvantage in terms of people's access to material and social resources, and their ability to participate in society. The Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) has been used for this assessment, based on 2021 Census data. The IRSAD assesses the socio-economic conditions of people and households within an area, including

Group	Overview
	both relative advantage and disadvantage measures. A decile of one (1) indicates high levels of disadvantage and low levels of advantage (representing the bottom 10% of areas). A decile of 10 indicates high levels of advantage and low levels of disadvantage (representing the top 10% of areas). The IRSAD indicated the following for both LGAs within the social locality: • Warrumbungle Shire – a decile of three for both Australian and NSW State rankings, indicating that 70% of LGAs within NSW and Australia are more disadvantaged. • Dubbo Regional – a decile of six for both Australian and NSW State rankings, indicating that 40% of LGAs within NSW and Australia are more disadvantaged. The Index of Economic Resources has also been used for this assessment, based on 2021 Census date. This index measures the financial aspects of socio-economic status within an area, focusing on the income, wealth, and economic capacity of households. It provides insights into how well households are resourced financially compared to others. A decile of one (1) indicated low levels of economic resources, representing the bottom 10% of areas with limited access to income and assets. Conversely, a decile of 10 reflects high levels of economic resources, placing the area in the top 10% with greater financial security and wealth. The Index of Economic Resources indicated the following for both LGAs within the social locality: • Warrumbungle Shire – a decile of three for the LGAs ranking within Australia and a decile of two for the NSW State rankings, indicating that 70% of LGAs within Australia and 80% of LGAs within NSW have greater levels of economic resources. • Dubbo Regional – a decile of six for both Australian and NSW State rankings, indicating that 40% of LGAs within NSW and Australia have greater levels of economic resources. Overall, Warrumbungle Shire is reported to experience relatively higher levels of socio-economic disadvantage and low levels of economic resources, compared to other LGAs within NSW including Dubbo and Australia. Key considerations for groups that may experience socio-economic disadvantage in the social locality include the capability of this group to respond to potential business or amenity impacts.

4.2 Aboriginal culture and values

The Project Area forms part of a larger cultural landscape of high cultural significance to the local Aboriginal people, notably the confluence of Sandy Creek and Laheys Creek. The Project is located within the eastern boundaries of the Wiradjuri tribal and linguistic group. Surveys of the surrounding Dubbo region have found artefact scatters, modified trees, and grinding grooves as the most frequently occurring site types. The location and size of archaeological sites in this area appear to be determined by various environmental and social factors, such as proximity to water, the underlying geology, and the availability of food resources.

An Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared and forms Appendix K of the EIS.

4.3 Social infrastructure

Social infrastructure comprises social services or facilities that are used for the physical, social, cultural or intellectual development or welfare of the community. Social infrastructure includes educational facilities, childcare centres, hospital and medical facilities, aged care, sporting and recreational facilities, community halls, clubs, and libraries, as well as the services, activities and programs that operate within these facilities. Open spaces, parks and sporting fields that support sport, recreational and leisure activities are also identified as social infrastructure.

Social infrastructure facilities generally operate at a local, district and/or regional level and are defined by the scale of the population catchment they serve. Social infrastructure can be classified as a sensitive receiver and may be directly or indirectly affected by the Project. A Project has the potential to affect social infrastructure by changing the access or use of the location.

Given the rural nature of the surrounding area, social infrastructure in the vicinity of the Project Area is limited. As such, a search radius of 5 kilometres from the Project has been used when considering social infrastructure facilities that may be affected in the area. As outlined in **Table 1-1**, the majority of the construction workers at the site will be bussed into the Project and stay on-site in an accommodation camp that is self-sufficient it is low likelihood that they will access social infrastructure beyond 5 kilometres. Additionally, the Project is proposing to upgrade some roads within the area, however these are restricted to the immediate surroundings of the Project and it is unlikely that social infrastructure outside of 5 kilometres from the Project Area will be significantly affected by changes which arise from this Project.

The only social infrastructure in the 5-kilometre radius of the Project is Tuckland State Forest. Refer to Figure 4-1.

The audit of social infrastructure facilities listed in this section is based on the data available at the time of preparing this report. The audit has been prepared based on desktop research, including reviewing Google Maps and local council social infrastructure lists.



Legend

- Site Boundary
- 5 km Buffer from Site Boundary
- LGA boundary
- SA3 Outline
- State Forest
- Road
- Vehicular track



SOCIAL INFRASTRUCTURE IN CONSIDERATION OF SOCIAL IMPACT

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Source: Earthstar Geographics

4.4 Economic characteristics

4.4.1 Regional economy

The Project Area is located approximately 20 kilometres southwest of Dunedoo and 55 kilometres east of Dubbo in Central West NSW. Dunedoo serves as a small local centre with the required services and facilities to support surrounding areas including a health service, supermarket, fire station and police station whilst Dubbo is the largest local business and employment centre in the region.

Dubbo LGA has the largest economy in the region, with an annual economic output of \$10.1 billion (Remplan, 2025). Warrumbungle Shire LGA has an annual economic output of \$1.3 billion (Remplan, 2025). However, it is noted that Dubbo LGA has a population (as per the 2021 census) of 54,922 compared to 9,225 at Warrumbungle Shire LGA. In Dubbo, the construction industry makes the greatest contribution to economic output in the region (Remplan, 2025) whilst in Warrumbungle Shire, the agriculture, forestry and fishing industry makes the greatest contribution (Remplan, 2025).

Dubbo LGA also had a higher number of businesses operating within the area as of the 2023 – 2024 financial year (Australian Bureau of Statistics, 2024), with 5,686 businesses operating at the end of the financial year compared to only 1,221 businesses operating in the Warrumbungle Shire LGA

The Central West NSW region, where the Project is situated, has a long history of agriculture being the largest economic contributor but has seen a recent increase in mining, food processing and service provision being a large share of the economy (Office of Energy and Climate Change, 2023).

4.4.2 Employment Industry

Table 4-3 outlines the industry of employment for the Project Area, with the largest three industries highlighted. It shows that the Agriculture, Forestry and Fishing sector is the most employed throughout the region and the percentage of employed workers in this industry is higher in the Mudgee Surrounds – West SA2 and Dubbo Surrounds SA2 compared to NSW. Construction also makes up a notable industry of employment for Dubbo Surrounds SA2 and Mining makes up a notable industry of employment for Mudgee Surrounds West SA2. Health Care and Social Assistance remains a key industry of employment, but the percentage of workers employed in this industry is lower than NSW.

Table 4-4 outlines the unemployment rate for the area, which is slightly lower for both the Mudgee Surrounds – West SA2 and Dubbo Surrounds SA2 than NSW and Dubbo SA3.

Table 4-3 Industry of Employment

Employment by Industry	Mudgee Surrounds – West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
Agriculture, Forestry and Fishing	663 (13.7%)	427 (14.1%)	3,191 (9.7%)	73,683 (2%)
Mining	660 (13.7%)	61 (2.0%)	498 (1.5%)	36,842 (1%)
Manufacturing	206 (4.3%)	151 (5.0%)	1,495 (4.5%)	202,629 (5.5%)
Electricity, Gas, Water and Waste Services	48 (1.0%)	39 (1.3%)	449 (1.4%)	36,842 (1%)
Construction	403 (8.3%)	329 (10.9%)	2,732 (8.3%)	316,838 (8.6%)
Wholesale Trade	87 (1.8%)	115 (3.8%)	789 (2.4%)	103,156 (2.8%)
Retail Trade	388 (8.0%)	212 (7.0%)	2,972 (9.0%)	331,574 (9.0%)
Accommodation and Food Services	315 (6.5%)	129 (4.3%)	2,156 (6.5%)	228,418 (6.2%)
Transport, Postal and Warehousing	147 (3.0%)	116 (3.8%)	1,232 (3.7%)	169,471 (4.6%)
Information Media and Telecommunications	29 (0.6%)	13 (0.4%)	209 (0.6%)	66,315 (1.8%)

Employment by Industry	Mudgee Surrounds – West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
Financial and Insurance Services	46 (1.0%)	40 (1.3%)	465 (1.4%)	195,260 (5.3%)
Rental, Hiring and Real Estate Services	48 (1.0%)	32 (1.1%)	332 (1.0%)	62,631 (1.7%)
Professional, Scientific and Technical Services	164 (3.4%)	114 (3.8%)	1,141 (3.5%)	327,890 (8.9%)
Administrative and Support Services	148 (3.1%)	72 (2.4%)	794 (2.4%)	117,893 (3.2%)
Public Administration and Safety	202 (4.2%)	196 (6.5%)	2,541 (7.7%)	224,734 (6.1%)
Education and Training	376 (7.8%)	263 (8.7%)	3,204 (9.7%)	320,522 (8.7%)
Health Care and Social Assistance	471 (9.8%)	393 (13.0%)	5,750 (17.4%)	530,519 (14.4%)
Arts and Recreation Services	50 (1.0%)	66 (2.2%)	444 (1.3%)	51,578 (1.4%)
Other Services	189 (3.9%)	121 (4.0%)	1,215 (3.7%)	125,261 (3.4%)
Inadequately described or not stated (%)	187 (3.9%)	143 (4.7%)	1,359 (4.1%)	169,471 (4.6%)

Table 4-4 Unemployment Rates across the Project Area

	Mudgee Surrounds – West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
Unemployed Persons	19 (3.9%)	64 (2.1%)	1,368 (4.0%)	189,852 (5%)

4.4.3 Income and Housing Stress

The median weekly household income for the SA2s which the Project encompasses have been compared to Dubbo SA3 and NSW in **Table 4-5**. Dubbo-Surrounds has a higher weekly household income compared to NSW and Dubbo SA3 whilst Mudgee-Surrounds West has a noticeably lower weekly household income when compared to Dubbo SA3 and NSW.

Table 4-5 Weekly Household Income

	Mudgee Surrounds - West	Dubbo Surrounds	Dubbo SA3	NSW
Weekly Household Income	\$1,414	\$1,952	\$1,463	\$1,829

An analysis of housing stress rates, determined by mortgage repayments and rental payments, can help to understand housing affordability within the study area. The ABS provides data for owners and renters with mortgage and rental payments which are more than 30% of their household income which can help determine the amount of housing stress in a given area. **Table 4-6** indicates that both Mudgee Surrounds West SA2 and Dubbo Surrounds SA2 have a lower percentage of the population experiencing housing stress when compared to NSW.

Table 4-6 Housing Affordability

Area	Median weekly rent (\$)	Persons paying rent payments greater than 30% of household income	Median monthly mortgage payment (\$)	Persons paying mortgage payments greater than 30% of household income
Mudgee Surrounds West	280	163 (27.7%)	1,651	193 (13.9%)
Dubbo Surrounds	265	28 (15.7%)	1,733	76 (9.1%)
Dubbo SA3	280	1,922 (26.2%)	1,450	830 (10.0%)
NSW	420	335,404 (35.5%)	2,167	163,060 (17.3%)

4.5 Access and connectivity

4.5.1 Road network

The road network in the vicinity of the Project Area includes Spring Ridge Road, Golden Highway, Danabar Road, Sandy Creek Road, Sweeneys Lane, and Tallawonga Road.

Golden Highway is a classified State Road (B84) generally aligned in an east-west direction north of the Project Area. The highway connects Dubbo in the west and Newcastle in the east. The highway connects to Spring Ridge Road east of the Project Area. Near the Project Area, the highway is an undivided carriageway, with one lane in each direction. At the intersection of Golden Highway/Spring Ridge Road, additional short turning lanes are available for turning vehicles approaching the intersection from either direction. The posted speed limit is 100 kilometres per hour for vehicles travelling both eastbound and westbound. No parking or footpaths are provided on either side of the highway near the Project.

Refer to Appendix H (TTIA) of the EIS for further information.

4.5.2 Public transport

There are limited public transport services in the social locality due to the low population density, rural land uses, and consequently low demand for public transport services. Though public transport services do run from nearby key townships, such as Dubbo and Dunedoo, only a limited number of coach services run along the section of Golden Highway north of the Project Area.

Coach services operate to link schools in Dubbo to the west with the township of Dunedoo to the east. The number of coach services operating during the AM and PM peak periods along the Golden Highway between Dubbo and Dunedoo are shown in **Table 4-7**.

Table 4-7 Regional school coach services linking Dubbo and Dunedoo

Direction	AM Weekday Peak (6:00 am – 9:00 am)	PM Weekday Peak (3:00 pm – 6:00 pm)
S137 – Dunedoo to Dubbo	1	0
S137 – Dubbo to Dunedoo	0	1

Outside of these school coaches, no other public coach services operate along the Golden Highway north of the Project Area.

There are no public bus services operating along the Golden Highway near the Project Area.

A freight rail line runs parallel to the Golden Highway (on the north side); however, no public rail services run between Dubbo, Elong Elong and Dunedoo.

4.5.3 Active transport

There are no formal pedestrian and cycling facilities within and immediately surrounding the Project Area.

4.6 Construction workforce and industry

To inform the assessment of social impacts associated with the influx of construction workers into the area (for example, on community composition or accommodation), a review of the existing construction skillsets in the social locality and surrounding commutable area was undertaken. The aim of the review is to understand the likely proportion of the construction workforce that may be employed locally, and the proportion which will be required to relocate from another area.

Given the Project is located in a relatively remote region, the focus was primarily on the Mudgee Surrounds – West SA2 and Dubbo Surrounds SA2.

A substantial proportion of the existing workforce in each of these SA2s are employed in the construction industry, ranging from 8.3 per cent to 10.9 per cent (as outlined in **Table 4-8**). This represents a total of 732 persons. This indicates there is a presence of existing skills and capabilities in the region, but this will be unlikely enough to cover the workers required to deliver the Project.

Table 4-8 Existing construction workforce (2019) (ABS, 2022)

SA2	Number of persons employed in construction	Total workforce	Percentage of workforce employed in construction
Mudgee Surrounds - West	403	4,829	8.3%
Dubbo Surrounds	329	3,030	10.9%
Total	732	7,859	9.6%

5.0 Construction impact assessment

5.1 Way of life

5.1.1 Changes to how people move around

The ability to move around the local community and across the wider region is important to the maintenance of people's livelihoods and way of life. This includes access to work, study, friends, relatives, shopping, health, sporting and social activities.

The Project Area and proposed construction laydown areas are located away from town centres and residential areas. This will minimise substantial disruption to how people move around their local area.

The key road surrounding the Project is the Golden Highway, which connects Dubbo in the west to Newcastle in the east. This road will remain open to traffic at all times, however there may be increased traffic due to the increased number of vehicles on this road.

Appendix H (TTIA) of the EIS identified that the Project will increase the traffic generation on Golden Highway due to materials and equipment being brought to site. Further traffic generation will occur as a result of construction workers travelling to the Project Area and proposed construction laydown area. The short-term increase in the traffic generation during the construction period will likely be acceptable and represent negligible impacts on the existing operation of the road, which can carry high traffic volumes. Of note, the Golden Highway/Spring Ridge Road intersection has existing auxiliary turn lanes which will be sufficient to handle the additional construction traffic expected.

Given the potential extent of disruption to the transport network, the magnitude of impact is considered to be **minor**. The likelihood of the receptors being affected by the impact are considered to be **unlikely**. As such the overall significance of impact will be a **low** (negative).

These impacts will be managed through the development of a Construction Traffic Management Plan (CTMP) for the Project. The CTMP will seek to avoid and reduce transport and traffic impacts (and subsequently social impacts).

5.1.2 Property impacts

The Project Area is located wholly or partly on the following lots:

- Lots 17, 31, 40, 60 and 70 of DP754317
- Lot 1 of DP652054
- Lot 46 of DP257066
- Lots 21, 31, 35 and 38 of DP754289
- Lot 1 of DP532844
- Lots 22, 39, 105, 106, 107 and 112 of DP754305
- Lot 7302 of DP1152415
- Lots 110 and 112 of DP1238586

The land tenure of the Project Area and surrounding land is shown in **Figure 1-2**. There are four abandoned and dilapidated dwellings in the northern portion of the Project Area and a house, large shed and cattle yards in the south of the Project Area. These will be demolished to allow for the placement of the Project.

There is an option for lease agreement with the two associated landowners which will be exercised at financial close once all approvals are in place. In addition to this, the Project has been developed with view to limiting the disruption to their existing operations and land uses, as far as practical.

By leasing the Project Area for the Project, consistent income commencing during construction and continuing during operation is also generated to the landowners which will reduce the overall loss of income from farming activities (which may be impacted by other factors such as climate change, stock price fluctuation).

Overall, the impact to way of life will be minimal, as no property acquisition is required, and landowners will receive a consistent income throughout the Project lifecycle.

In summary, the magnitude of impact will be **minor**. These social impacts will be **likely** to occur. The overall significance of the impact will be **medium** (positive).

5.1.3 Access to accommodation

Social impacts relating to access to accommodation have been considered in relation to accommodation availability for tourists and visitors to the area, and long-term rental accommodation availability for residents. Noting that this Project is located in a REZ, it is also likely that other projects in construction may influence accommodation demand throughout the area.

As outlined in Chapter 3 of the EIS, workforce accommodation in the form of an accommodation camp will be provided on site and will meet the capacity requirements for the total workforce (734 FTE roles during the peak of construction).

Based on the ability of the accommodation camp to meet peak workforce capacity, the magnitude of impact is considered to be **minimal**. The likelihood of the receptors being affected by the impact are **very unlikely** (being community members). As such the overall significance of impact will be a **low** (negative).

Impacts to community and livelihoods during construction are discussed further in **Section 5.2** and **Section 5.7** respectively.

5.2 Community

5.2.1 Demographics and community composition

Construction of the Project may influence the demographic profile of the social locality, primarily through employment and potential inward migration of the construction workforce.

The Project is expected to support an indicative peak construction workforce of up to 734 FTE jobs (direct employment). The construction workforce will comprise trades and construction personnel, and

engineering, functional and administrative staff. The size of the workforce will vary throughout the construction period depending on the activities being undertaken.

Where possible, the construction workforce will be sourced from across the local area and broader area. However, it is likely most workers will be required to fly-in-fly-out as per Chapter 3 of the EIS, contributing to an increase in the full time (day and night) population.

It is likely that a large proportion of the construction workforce will comprise young men, noting that 86.6 per cent of employees in the Australian construction industry are male, and the median age for workers in the construction industry is 38 (Back to Basics, 2022)

Table 5-1 shows the worst extent potential population increase in each scenario if all the Project's workers who relocated to the area for the longer-term were to relocate to the area covered by the Mudgee Surrounds – West or Dubbo Surrounds SA2s. By analysing this data, a noticeable increase in population will occur, notably in Dubbo Surrounds (10.93%), assuming all workers located to areas only within this SA2.

Table 5-1 Potential population increase during construction, assuming all workers move into the nominated single SA2

SA2	2021 Population (ABS, 2021)	Additional Project population increase	Total potential population increase in SA2 (with the Project)	Potential population increase (%)
Mudgee Surrounds - West	11,072	732	11,804	6.61%
Dubbo Surrounds	5,963	732	6,695	10.93%
Distributed across SA2s	17,035	732	17,767	4.12%

The presence of construction workers at the Project Area will result in increases in daytime population within the social locality.

Noticeable increases in population may result in temporary changes to the demographic profile and identity of the community as a whole. Introducing new groups of people to established areas can alter existing values and sense of community. An influx of construction workers, who are not familiar with the local area, its community or the importance of place, may be a potential cause of conflict and dissatisfaction for some existing residents.

Research into the impacts of non-resident and fly-in fly-out (FIFO) and drive-in drive-out (DIDO) FIFO/DIDO workforces on resource (e.g., mining) projects has highlighted potential community concerns associated with the inward movement of a typically young, male workforce into established regional towns. Key issues raised included the development of an 'us versus them' attitude within the community, where there is limited integration between resident and non-resident workforces and disproportionate blame is placed on non-resident workers for crime and social issues (Parliament of the Commonwealth of Australia, 2013). Community members also remarked that FIFO members appeared to have a lack of respect toward the town, for example as properties used by them were not well maintained (Parliament of the Commonwealth of Australia, 2013). Concerns were also raised about worker behaviour, consumption of alcohol, and women's perception of safety in public areas (Parliament of the Commonwealth of Australia, 2013). Social impacts associated with people's perception of safety are considered further in **Section 5.6.2**.

Relevant construction worker behaviour codes, such as the Workplace behaviour Code of Practice (Commission for Occupational Safety and Health, 2022), will be implemented to help promote respectful and appropriate behaviours in the community, thereby limiting the potential for this impact to occur during construction.

Overall, given the relative sizes of the local population and the likely construction workforce, the Project has the potential to result in temporary impacts to the local demographic profile including an increase in population. The magnitude of this impact is considered **moderate**. The likelihood of the Project resulting in broader demographic changes during construction will be **possible**. As such the overall significance of the impact will be **medium** (negative).

5.2.2 Social cohesion and sense of place

Social cohesion refers to the connections and relationships between individuals and their community. Activities that create a physical or psychological barrier between communities can affect social and/or economic interaction, potentially resulting in social isolation and an erosion of the sense of community.

The presence of construction traffic on roads may increase travel times for vehicle users. This has the potential to limit people's opportunity to socialise within the community. For the Project, this effect is likely to be negligible, taking into consideration the small traffic volumes associated with the Project and the existing traffic volumes surrounding the Project Area.

Construction of the Project will also result in minor changes to local amenity. This will be due to increases in noise levels, dust or reduced visual amenity as a result of construction hoarding. These changes will, however, generally result in limited changes to social cohesion and sense of place given the distance the Project is located from town centres or locations where people gather, thereby limiting direct amenity impacts.

Vulnerable groups in the community may have an increased sensitivity to changes in access and amenity which may lead to a degree of self-exclusion from the community. However, this is unlikely to occur as the Project will not close off any roads during construction and is located approximately 7 km from the nearest township of Cobbora (which has a population of 25).

The magnitude of this impact is considered to be minor for groups within the social locality (including vulnerable groups) given that changes to access are limited and the Project Area is located a distance away from nearby community centres of Dunedoo and Elong Elong. Overall, the likelihood of this impact occurring will be unlikely. As such, the overall social significance in relation to community cohesion and sense of place will be low (negative) impact.

5.3 Accessibility

5.3.1 Access to infrastructure, services and facilities

Accessibility to infrastructure, services and facilities (whether provided by public, private or not for profit organisations) may be affected by construction of large-scale infrastructure Projects.

The Project does not propose to change access arrangements within the social locality. The Project will not require the closure of roads and will not prevent the access to existing social infrastructure, services or facilities during construction or operation. During construction and operation, access to the Project Area will be via an existing access point on Golden Highway and an existing access point on Spring Ridge Road which is a sealed local road and three additional access points on Spring Ridge Road which the Proponent will construct.

There are no existing formal or informal pedestrian or cycling facilities within or immediately surrounding the Project Area and as such disruptions are not anticipated. Parking will be provided on-site for workers to minimise impacts. Refer to Appendix H (Traffic and Transport Impact Assessment (TTIA)) of the EIS for further details.

Additionally, accessibility for residents to local health services and basic supplies at supermarkets will not be affected significantly as the Project will be self-sufficient. There will be on-site accommodation, and catering will be provided for construction workers as well as on-site health facilities (a first aid station with an onsite nurse has been included in the workers accommodation to reduce pressure on local health service providers). This will minimise the impact that construction workers will have on accessibility within the social locality. Additionally, it is expected that construction workers who are FIFO and require general medical check-ups beyond urgent care will likely get these activities completed at their home whilst they are on their time off.

Overall, due to the Project's self-sufficiency and lack of impact on accessibility throughout the social locality, the overall magnitude of this impact is considered to be **minor** and the overall likelihood is **unlikely** resulting in a **low** (negative) impact.

5.4 Culture

5.4.1 Aboriginal culture and heritage

The Project Area forms part of a larger cultural landscape of high cultural significance to the local Aboriginal people. A total of 137 Aboriginal Heritage Information Management System (AHIMS) registered Aboriginal sites were recorded fully or partially within the Project Area during archaeological investigations.

Construction of the Project will result in the complete or partial loss of the 22 AHIMS registered sites within the Development Footprint. Of the 22 sites, 20 were assessed as being of low scientific significance, one was assessed as being of moderate scientific significance and one was assessed as being of high scientific significance. Three Potential Archaeological Deposit (PAD) sites were also assessed as being partially impacted by the Project.

An ACHAR was prepared for the Project (refer to Appendix K(ACHAR) of the EIS) that included background research, a program of Aboriginal community consultation and archaeological survey within the Project Area. Based on the findings of the assessment, appropriate management and mitigation measures were developed that included an archaeological salvage program for impacted Aboriginal sites.

Aboriginal community consultation for the Project is outlined in Appendix K (ACHAR). The management and mitigation measures proposed by the Proponent were supported by community representatives.

Although partial impact to a site of recorded high scientific value is proposed, overall there will a moderate impact to Aboriginal cultural heritage values within the Project Area. This is due to the large number of Aboriginal sites which have been identified within the surrounding area. The sites to be completely lost are not representative of the type, nor significant to the region. Additionally, no intangible heritage values which have so far been identified within the Project Area will be affected.

On this basis, the magnitude of impact is considered to be **moderate**. The likelihood of the receptors being affected by the impact are considered to be **possible**. As such the overall significance of impact will be a **medium (negative)**.

5.4.2 Non-Aboriginal heritage

The history and heritage of an area can form the identity of the community who live amongst it. This identity can be endangered if items of heritage importance are adversely affected by development.

No items of non-Aboriginal heritage significance are located within the Project Area. No impacts are proposed to historic heritage items during construction of the Project.

On this basis, construction of the Project will have no impact to non-Aboriginal heritage.

5.5 Health and wellbeing

5.5.1 Community health and wellbeing

Health and wellbeing refers to the physical and mental health of the community affected by a Project. The construction of a project has the ability to influence the physical and mental health for nearby communities, namely those who are vulnerable to social exclusion or substantial change.

The construction of the Project will result in minor impacts to local amenity values that may affect health and wellbeing (i.e. noise and vibration, traffic, visual impacts and air (dust) emissions). The impacts are not expected to be of a scale or intensity that will directly or indirectly affect health and wellbeing of local residents or workers, particularly in the context of the existing traffic, air and noise emissions associated with the Golden Highway, which passes directly adjacent to the Project Area.

Additionally, the Project will have an accommodation camp on site, with a first aid station with an onsite nurse to reduce pressure on local health service providers. A helipad is also included in the Project Area to quickly move injured/sick personal to hospital if required. Thereby, the Project will be self-sufficient, minimising the impact to community health and wellbeing by reducing access to community health services.

The magnitude of this impact is considered to be **minor** for residents within nearby communities, given the Project is not located close to Overall, the likelihood of this impact occurring will be **unlikely**. As such, the overall social significance in relation to community cohesion and sense of place will be **low** (negative) impact.

5.6 Surroundings

5.6.1 Local amenity

Amenity refers to the quality of a place, its appearance, feel and sound, and the way its community experiences the place. Amenity contributes to a community's identity and its sense of place. Aesthetic qualities are an important part of amenity, but the broader concept of amenity is also determined by the physical design of a place and the human activity that takes place within it. A place that has 'amenity' is regarded as pleasant and attractive, as well as convenient and comfortable.

Impacts upon amenity include factors that affect the ability of a resident or visitor to enjoy their home and daily activities. For example, traffic, noise, vibration, changes to views or changes to air quality will be considered amenity impacts. Changes in amenity may also conflict with community values, contributing to a loss of or change in a community's sense of place, and subsequently a community's perceived identity.

Construction of the Project will affect amenity as a result of changes to traffic, noise and vibration, air quality (i.e. dust), and landscape and visual amenity. This may occur through temporary changes to the physical design of places or by introducing construction workers, vehicles and equipment to the Project Area.

Traffic and access

Traffic and access has been considered in Chapter 6.5 (Traffic and transport) of the EIS. The assessment outlines the nature of likely impacts, and the mitigation measures to be implemented to minimise impacts. This section considers the social implications of potential traffic and access impacts.

Temporary increase in traffic on the roads surrounding the Project Area will occur during construction of the Project. The presence of construction vehicles accessing the Project Area as well as shuttle bus movements may adversely affect local amenity. Whilst, this is not expected to substantially differ from the existing environment at the Golden Highway it may impact other key roads surrounding the Project Area such as Spring Ridge Road which does not currently accommodate high volumes of traffic, particularly heavy vehicles.

There is an increased risk associated with construction traffic interacting with general traffic especially where construction vehicles are entering Spring Ridge Road from the Golden Highway. However, considering the low crash rate in the vicinity of the Project Area and availability of appropriate turning treatment at the Golden Highway / Spring Ridge Road intersection, the impacts on road safety as a result of additional Project traffic is likely to be minimal. The intersection is also being upgraded by ACERZ which will likely increase the overall safety of this intersection.

Noise and vibration

Noise and vibration has been considered in Chapter 6.7 (Noise and vibration) of the EIS. The assessment outlines the nature of likely impacts, and the mitigation measures to be implemented to minimise impacts. This section considers the social implications of potential noise and vibration impacts.

Exposure to noise and vibration has the potential to create nuisance, intrude on daily activities or the enjoyment of activities, interfere with conversation and memory, disrupt sleep and rest patterns and create or exacerbate health concerns.

There are up to seven residential receivers (the nearest which is 68 metres away) which have been modelled to experience noise levels above the noise management level during a worst-case construction scenario. This scenario is only expected to occur intermittently and at locations more central to the Project Area (further from receivers) than has been modelled.

Construction traffic noise generated by the Project will be minimal. The daytime average and peak construction traffic scenario were modelled and found not to result in relative increases in traffic noise of more than 2 dB(A).

No vibration impacts are anticipated for any receiver during construction of the Project.

Air quality

Air quality has been considered in Chapter 6.14 (Other issues) of the EIS. The air quality assessment outlines the nature of likely impacts, and the mitigation measures to be implemented to minimise impacts. This section considers the social implications of potential air quality impacts.

Construction activities such as demolition and earthworks have the capacity to increase airborne emissions such as dust and vehicle emissions. This has the potential to reduce the amenity of an area and generate dust or odour related impacts. Impacts associated with dust may particularly affect people who experience respiratory issues.

Potential dust, odour and exhaust impacts are likely to be short-term and localised to the Project Area. Considering the distance of the Project Area from social infrastructure and residents, it is considered appropriate that potential air quality impacts be addressed by the implementation of conventional management measures for construction and operations.

Visual

Visual amenity has been considered in Chapter 6.6 (Visual amenity) of the EIS. The assessment outlines the nature of likely impacts, and the mitigation measures to be implemented to minimise impacts. This section considers the social implications of potential visual amenity impacts.

Visual impacts will arise primarily from the presence of the construction areas, , and temporary accommodation. These facilities will be located in the central portion of the Project Area, adjacent to Spring Ridge Road which is sited away from nearby residences. The potential impact of these facilities will likely be limited to motorists travelling along the local road network but will likely be minimised by roadside vegetation fragmenting the views.

Overall impact to local amenity

Overall, there will be minor changes to amenity in the social locality during the construction of the Project. These will be limited to traffic and transport, visual and noise impacts. These are considered to be **minor** magnitude. The likelihood of this impact will be **possible**. The overall significance of the social impact will therefore be **medium** (negative).

5.6.2 Crime, safety and security

The presence of construction sites, construction workforce and increase in construction traffic may result in changes to perceptions of safety in an area. The Project Area is located away from the townships and urban centres and are unlikely to be targets for crime or substantially change the presence of passive surveillance in these areas. Some community members may however experience some concern about a potential reduction in safety and security.

Potential safety concerns will be manageable through the application of the principles of Crime Prevention Through Environmental Design (CPTED) at construction sites. Regular communication with the community and stakeholders throughout construction will also allow residents to understand construction plans and therefore be better prepared for the temporary changes to the area.

Based on the nature of the potential safety impacts, and location of the construction sites away from urban centres, the magnitude of impact is considered to be **minimal**. The likelihood of the construction site substantially changing the security of the surrounding area is **unlikely**. As such the overall significance of impact will be a **low** (negative).

5.7 Livelihoods

5.7.1 Business impacts

Businesses across the social locality may be affected during construction by temporary changes in passing trade, access and travel time (for employees, customers, and deliveries), and impacts to local

amenity. Potential impacts to the operation and viability of businesses can in turn affect people's livelihoods, including their ability to sustain themselves through employment or business opportunities.

The Project is located far away from businesses in a rural setting and the nearest concentration of businesses is in Dunedoo, approximately 20 km east of the Project. It is likely that the businesses that will be directly affected by the Project will be limited to the farming businesses that the Project will replace.

Up to 734 FTE construction workers will be required at the busiest peak of construction, for a period of about 6 months. Outside of this peak time (approximately 30 months), an average of about 390 FTE workers a day will be required. Following this, there will be 11 months of commissioning where there will be less than 50 people on-site. These workers will be preferentially sourced locally where appropriate skill sets are available. However, it is likely that most will be from outside of the area.

There is likely to be limited movement by workers between the accommodation camp and nearby urban centres, as catering will be provided at the accommodation camp. However, these workers may choose to travel to nearby urban centres and contribute to the local economy, particularly through hospitality for food and beverage purchases services in the surrounding regional towns such as Dunedoo, Dubbo and Wellington. Local businesses required to support the development of on-site accommodation such as catering businesses, cleaning businesses etc. will also likely be required.

Additionally, local businesses will benefit from services related to construction such as tree removal, fencing and other ancillary services which will be required for the Project.

Based on the nature of business impacts, the magnitude of impact is considered to be **moderate** due to the large number of workers. The likelihood of the receptors being affected by the impact are considered to be **likely**. As such the overall significance of impact will be a **high** (positive) impact.

5.7.2 Economic impacts

Construction activity can benefit the local economy with associated economic stimulus from increased expenditure at local businesses through purchases made by construction workers, and indirect employment and expenditure through the provision of goods and services required for construction.

The Project will have approximately 390 FTE staff (outside of peak times) and 734 FTE staff (during peak times) who will be commuting to Dubbo Airport for their fortnightly flight which will likely generate economic benefits for the region such as for businesses including those at the airport and bus companies.

The overall magnitude of economic benefits during construction in the social locality will be considered **minor**, given that the benefits will likely be dispersed across the broader region. The likelihood of these impacts being experienced within the social locality will be **unlikely**, resulting in a **low** (positive) social impact.

5.8 Cumulative impacts

Cumulative social impacts may arise from other projects occurring at the same time in the social locality. Information about each of the projects can be found in Chapter 6.15 (Cumulative Impacts) of the EIS. This assessment has only included a few potential Projects on the assumption that construction for all Projects outlined in Chapter 6.15 will not occur at the same time. This is likely due to the differing environmental stages each Project is in.

The projects nearby to the Project that may cause cumulative social impacts during construction are as follows:

- Spicers Creek Wind Farm – development of a 700 MW wind farm, 400 MW BESS and associated infrastructure
- Sandy Creek Solar Farm – development of a 700 MW solar farm, 700 MW BESS and the associated infrastructure
- Tallawang Solar Farm – development of a 500 MW solar farm with 500 MW / 1200 MW BESS and associated infrastructure

- Birriwa Solar Farm –development of a 600 MW solar farm, 600 MW BESS and associated infrastructure
- Central West Orana REZ Transmission (Elong Elong Energy Hub) - development of a new twin double circuit 500 kV transmission lines between Wollar and the proposed substations at Merotherie and Elong Elong, and connections from these lines to renewable energy generation and storage projects in the CWO REZ

Potential cumulative social impacts during construction could include safety risks arising from increased traffic, increased amenity impacts as a result of noise, visual change and dust emissions, and health and wellbeing impacts from construction fatigue. Cumulative traffic and access impacts leading to delays in travel time or change in access arrangements during construction could also lead to indirect social impacts such as anxiety and concern during the construction period.

Cumulative social impacts from nearby projects may include:

- Noise and vibration – The noise and vibration generated from other nearby projects will increase the cumulative effect. However, due to the large sizes of land which the nearby Projects are being constructed on, it is likely that this impact will be limited. The Projects that may cause noise and vibration impacts will be limited to Dapper Solar Farm, Sandy Creek Solar Farm, Spicers Creek Wind Farm and Elong Elong Energy Hub.
- Air quality – There is potential for cumulative air quality impacts to occur where construction activities (such as demolition, earthworks, use of construction vehicles and equipment, and waste management) occur at the same time as the Project. This will include impacts from dust and air emissions. Due to limited information available about which Projects will be constructed at the same time, it is likely that there may be multiple during construction at the same time impacting air quality. However, due to the large sizes of land which the nearby Projects are being constructed on, it is likely this impact will be limited.
- Visual – Visual amenity impacts from the Project are anticipated to predominantly affect motorists travelling along the Golden Highway and Spring Ridge Road. Although nearby projects are likely to have construction hoarding due to the large sizes of land which the nearby Projects are being constructed on it is likely to be in different locations to those affected by the Project, therefore limiting cumulative visual impacts
- Traffic - Traffic generated from other project construction activities will increase congestion and travel times. This will likely be notably for construction vehicles using Golden Highway, which is an important connecting road for the community.
- Livelihoods – Nearby projects will also provide employment opportunities to the local area through labour for trades people, and business opportunities from supplying materials or renting construction equipment
- Construction fatigue – Several of the projects noted above will be under construction at the same time as the Project. This could induce construction fatigue in people living and working in the area. This may be due to the combined impacts of different projects (e.g. traffic impacts from one project and noise impacts from another), or simply from the concurrent or consecutive nature of disruptions in the area. Noting the proposed construction start and duration for each, as well as their proximity, this impact is likely to be most felt by residents and businesses in the proximity of the township of Cobbora. Construction contractors will seek to address construction fatigue through the following means:
 - Coordination of construction – communication with other projects to understand specific project timeframes and to avoid concurrent or immediately consecutive construction activities in close proximity, where feasible
 - Communication – clear and frequent communication with the community, coordinated with other projects to ensure that similar projects retain consistent messaging and complaint mechanisms.

Overall, the likelihood of these impacts occurring will be **possible**. The magnitude of this effect is considered to be **moderate** mainly due to potential construction fatigue and traffic impacts. As such the overall social significance in relation to construction cumulative impacts will be a **medium** (negative).

5.9 Summary of social impacts during construction

A summary of the initial significance of social impacts during construction is provided in **Table 5-2**. Overall, the most substantial impacts during construction relate to temporary changes to local amenity (noise, traffic and visual) during construction that will change the quality of people's surroundings.

Section 7.2 provides detail on how these impacts will be managed, and the residual significance rating following the implementation of mitigation and management measures.

Table 5-2 Summary of social impacts – construction

Potential impact category	Pre-mitigation impact significance
Way of life	
Changes to how people move around	Minor + unlikely = low (negative)
Property impacts	Minor + Likely = medium (positive)
Access to accommodation	Minimal + very unlikely = low (negative)
Community	
Demographics and community composition	Moderate + possible = medium (negative)
Social cohesion and sense of place	Minor + unlikely = low (negative)
Accessibility	
Access to infrastructure, services and facilities	Minor + unlikely = low (negative)
Culture	
Aboriginal culture and heritage	Moderate + possible = medium (negative)
Non-Aboriginal heritage	No impact
Health and wellbeing	
Community health and wellbeing	Very minor + unlikely = low (negative)
Surroundings	
Local amenity	Minor + possible = medium (negative)
Crime, safety and security (construction sites)	Minimal + unlikely = low (negative)
Livelihoods	
Business impacts	Moderate + likely = high (positive)
Economics impacts	Minor + unlikely = low (positive)
Cumulative impacts	
Cumulative impacts	Moderate + possible = medium (negative)

6.0 Operational impact assessment

6.1 Way of life

6.1.1 Changes to how people move around

Amenity impacts arising from the operation of the Project will be minimal, given the low number of operational workers, vehicle movement, noise and visual impact.

Limited staff will be required to operate the Project and it is the Proponent's intention to source these staff locally. Due to the limited staff required during operation of the Project and the Project's location it is likely operation of the Project will not affect the way that residents move around their community or access social infrastructure.

As identified in Appendix H (TTIA) of the EIS, the local roads including Golden Highway and Spring Ridge Road have been identified as having the capacity required for this Project.

Based on the nature of the above impacts, the magnitude of impact is considered to be **minor**. The likelihood of the receptors being affected by the impact are considered to be **unlikely**. As such the overall significance of impact will be a **low (negative)**.

6.1.2 Utilities and digital access

The Project will directly contribute to supporting the National Electricity Market. The Project will increase electricity supply reliability and thereby supporting a more stable electricity market and energy affordability, with greater capacity for renewable energy storage and input into the grid. When operational, the Project will produce 700 megawatts (AC) of energy, enough to power 280,000 homes.

Based on the nature of utilities and digital access, the magnitude of impact is considered to be **major**. The likelihood of the receptors being affected by the impact are considered to be **almost certain**. As such the overall significance of impact will be a **very high** (positive).

6.2 Surroundings

6.2.1 Local amenity

Traffic and access

Traffic impacts associated with the Project are expected to be negligible during the operational phase. The Project will require 20 full-time workers and internal roads and a carpark within the Project Area will be available for workers. As such the Project will not result in noticeable traffic generation or local parking impacts.

Noise and vibration

Assessment of noise impacts associated with operation of the Project were completed in Appendix I (Noise and Vibration Assessment). The predicted operational noise emissions from the Project comply with the most stringent (evening time) operational noise criteria at all locations except for three receivers. It is expected that the inverters (which have been modelled at 100% load and fan speed), will operate at a reduced load in the evening compared to during the daytime and as such the noise emission levels will be reduced.

The Project will not result in vibration impacts during the operational phase of the Project.

Air quality

There will be no air quality impacts from the Project during the typical operation of the Project.

If maintenance activities are required that may lead to airborne dust or other emissions, construction phase mitigation measures will be implemented. Given the construction phase air quality impacts are considered acceptable with respect to their social impact, this will remain true for operational maintenance activities, noting these are likely to be a much smaller scope and magnitude of impact.

A key environmental benefit of the Project is the generation of electricity without the emissions of greenhouse gases that will otherwise be generated from alternative non-renewable power generation

options. The reduction in greenhouse gas emissions will have a positive impact on regional air quality and climate change.

Visual amenity

Detailed assessments using photomontages found that all non-associated dwellings resulted in a 'low' visual impact rating from the Project. During operation, the Project may impact the visual amenity of the locality, primarily due to night lighting and potential glint and glare impact to Spring Ridge Road and Golden Highway. Additionally, the Project footprint is large in size, at 1,600 ha which may impact the character of the area as a large area that is currently primarily used for grazing will be replaced with the Project.

Overall impact to local amenity

Based on the visual and noise impacts to three receivers, the magnitude of impact is considered to be **minor**. The likelihood of the receptors being affected by the impact are considered to be **likely**. As such the overall significance of impact will be a **medium (negative)**.

6.2.2 Crime, safety and security

The Project will be located away from prominent public areas. The Project Area will be adequately secured, including security lighting and will be designed with consideration of CPTED principles. This will support safety and security in areas with a public interface.

The magnitude of impact will be **minimal**. Given the nature of the Project, with limited security-related risks, adverse impacts to crime, or a deterioration in security in the community is considered **unlikely** to occur. The overall significance of the impact will be **low** (negative).

6.3 Livelihoods

6.3.1 Business impacts

The Proponent will look to source employees locally for operational roles for the Project. The introduction of these jobs can positively influence the local community's capacity to earn an income in the area.

Based on the nature of the above impacts, the magnitude of impact is considered to be **moderate**. The likelihood of the receptors being affected by the impact are considered to be **possible**. As such the overall significance of impact will be a **medium (positive)**.

6.3.2 Economic impacts

The NSW Government has supported businesses and the local economy in diversifying from a reliance on coal-fired generators, as detailed in the Central West and Orana Regional Plan 2041 (NSW Department of Planning and Environment, 2022). The Project presents an opportunity to further diversify local industries and enhance the resilience of the economy by promoting new renewable projects across the CWO REZ and the (NEM) more broadly.

As outlined in Appendix P (Soils, Land and Agriculture Impact Assessment), the Project will reduce primary productivity of agricultural businesses in the areas by up to \$291,732 annually. This is representative of 0.1% of the industry gross value for Dubbo Regional LGA and Warrumbungle Shire LGA respectively. Whilst this is a small impact to agricultural businesses nearby, the Project will be generating economic benefits for the LGAs, primarily through several key drivers, including:

- Supporting and securing the National Electricity Market
- Bolstering the Renewable Energy Zone
- Creating 20 new jobs.

The Project will also be maintaining a level of agricultural activities on the site through the sheep that will be grazing throughout the Site.

While the overall magnitude of economic benefits within the social locality is considered **minor**—due to the likely dispersion of benefits across the broader region—the potential for these impacts to be experienced locally will be **possible**, resulting in a **medium** (positive) social impact.

6.4 Culture

Aboriginal heritage

There are no anticipated impacts to Aboriginal heritage associated with the operation of the Project.

Based on the above, impacts to Aboriginal heritage and values are considered to a **minimal** magnitude and **very unlikely** in terms of likelihood. As such the overall significance of impact will be a **low** (negative).

Non-Aboriginal heritage

There are no anticipated impacts to non-Aboriginal heritage associated with the operation of the Project.

Based on the above, the likelihood of negative impacts to non-Aboriginal heritage and values is considered to a **minimal** magnitude and will be **very unlikely**. As such the overall significance of impact will be a **low** (negative).

6.5 Decision making systems

A specific email address, dedicated phone number and online forum will be set up to receive and address any expressions of concern from the community during the construction and operation of the Project.

Taking into account the decision-making systems in relation to the operation of the Project, the magnitude of impact is considered to be **minimal**. The likelihood of the receptors being affected by the impact are considered to be **very unlikely** considering community inputs will have been considered during the detailed design and mitigation measures will have been put in place. As such the overall significance of impact will be a **low (positive)**.

6.6 Cumulative impacts during operation

The cumulative impact of the Project with other projects during operation is expected to result in a some benefit for the community. Considered together with these other projects, the Project will provide:

- Air quality – the reduction in greenhouse gas emissions

Potential adverse cumulative impacts of the Project are:

- Traffic and transport – It is likely that there will be limited need for access to the Project Area throughout operational activities. As the neighbouring sites are also Solar Farms, Wind Farms or Elong Elong Energy Hub which often run with little staff it is expected that the impact to traffic and transport in the area will be minimal.
- Visual – The location of the Project and neighbouring Solar Farms, Wind Farms and Elong Elong Energy Hub is likely to have a cumulative visual impact. Whilst it is likely that vegetation screening of the Project Area from Golden Highway will minimise the visual impact for road users, it is likely that nearby residents will have a cumulative visual impact from nearby Projects.
- Noise - Operational noise emissions from the Project have been modelled using worst-case conditions (e.g. adverse meteorological conditions, inverters modelled at 100% load and fan speed). Based on this worst-case scenario, operational noise associated with the Project was found to have the potential to result in minor exceedances of daytime and evening noise criteria. Noise generated by the BESS during the night-time period is predicted to be compliant for all receivers, this is because the solar farm will not be operational during the night-time period. There is the potential for these exceedances to worsen, or exacerbate impacts, from nearby projects i.e. these receivers may experience a cumulative noise impact.

Overall, the magnitude of cumulative impacts is considered to be **moderate**. The likelihood of the receptors affected by the impact are considered to be **possible**. As such the overall significance of impact will be a **medium (negative)**.

6.7 Summary of social impacts during operation

A summary of the initial significance of social impacts during operation is provided in **Table 6-1**. Overall, the most substantial impacts during operation relate to the benefit of the Project to livelihoods and the economy due to the move towards a resident economy through renewable energy.

Section 7.2 provides detail on how social impacts will be managed, and the residual significance rating following the implementation of mitigation and management measures.

Table 6-1 Summary of social impacts – operation

Potential impact category	Pre-mitigation impact significance
Way of life	
Changes to how people move around	Minor + unlikely = low (negative) impact
Utilities and digital access	Major + almost certain = very high (positive) impact
Surroundings	
Local amenity	Minor + likely = medium (negative) impact
Crime, safety and security	Minimal + unlikely = low (negative) impact
Livelihoods	
Business Impacts	Moderate + possible = medium (positive) impact
Economic Impacts	Minor + possible = medium (positive) impact
Culture	
Aboriginal Heritage	Minimal + very unlikely = low (negative) impact
Non-aboriginal heritage	Minimal + very unlikely = low (negative) impact
Decision making systems	
Decision making systems	Minimal + very unlikely = low (negative) impact
Cumulative impacts	
Visual cumulative impacts	Moderate + possible = medium (negative) impact

7.0 Mitigation and management measures

7.1 Performance outcomes

The performance outcomes for social impacts for the Project are as follows:

- Adverse social impacts are minimised through the implementation of standard and Project specific reasonable and feasible mitigation measures as well as ongoing consultation with the community to document, address and develop strategies to address community concerns.

The Project will be designed, constructed and operated with the aim of achieving these performance outcomes.

7.2 Mitigation and management measures

The mitigation and management measures for social impacts are described in **Table 7-1** and have been identified to address the impacts identified as a direct result of the assessment undertaken in this report. These measures will be incorporated into existing environmental management plans where they have not been accounted for already.

The management of other environmental impacts (such as noise and vibration, traffic and other amenity-related impacts) will contribute to the management of social impacts, due to their interrelated nature. Other mitigation measures identified in the EIS which are relevant to the management of potential social impacts include:

- Chapter 6.2 which specifically outlines measures regarding biodiversity
- Chapter 6.3 which specifically outlines measures regarding Aboriginal heritage
- Chapter 6.4 which specifically outlines measures regarding non-Aboriginal heritage
- Chapter 6.5 which specifically outlines measures regarding geology, soil and land use
- Chapter 6.6 which specifically outlines measures regarding landscape and visual impact assessment
- Chapter 6.7 which specifically outlines measures regarding noise and vibration
- Chapter 6.8 which specifically outlines measures regarding traffic and transport
- Chapter 6.9 which specifically outlines measures regarding flooding
- Chapter 6.10 which specifically outlines measures regarding surface water, groundwater and water use
- Chapter 6.11 which specifically outlines measures regarding hazard and risk
- Chapter 6.12 which specifically outlines measures regarding bushfire risk
- Chapter 6.14 which specifically outlines measures regarding other issues (including waste, air quality)
- Chapter 6.15 which specifically outlines measures regarding cumulative impacts.

Table 7-1 Mitigation and management measures

ID	Mitigation and management measure	Timing
SE1	A Community and Stakeholder Engagement Plan will be prepared to foster consistent, transparent and proactive consultation with nearby and adjacent landholders, local councils, the local Aboriginal community, Project RAPs and other key stakeholders. This will include: • methods for collaboration and coordination with relevant stakeholders in responding to community issues relating to REZ establishment • methods and timing for connecting with the community, and principles that will be applied to the engagement • guidance on communication protocols with nearby residents to share information and generate awareness about construction activities and potential periods of disruption, including a responsive and easy-to-access community grievance mechanism.	Construction, Operation and Decommissioning
SE2	An Aboriginal participation plan (APP) will be developed in consultation with First Nations stakeholders to optimise local capacity and aspirations through targeted participation initiatives within the regional area. The APP will sit under the Proponent's Industry and Aboriginal Participation Plan (IAPP). The IAPP will be contractually binding upon award of Access Rights. Agreed commitments will be measurable, and a report of progress to the local First Nations community will contribute to the measurement of outcomes.	Construction and Operation
SE3	An Accommodation, Employment and Procurement Strategy (AEPS) will be developed in consultation with Warrumbungle Shire Council and Dubbo Regional Council. The AEPS will include targeted measures to maximise local employment and sourcing from local communities such as training, up-skilling and capacity building support, in collaboration with local stakeholders and training providers.	Construction
SE4	The recruitment of local workers for the construction workforce will be maximised where possible.	Construction
SE5	In relation to health services, engagement with Dubbo Regional Council and Warrumbungle Shire Council will be undertaken to identify potential service limitations.	Construction
SE6	A Community Shared Benefit Strategy (CSBS) will be developed in collaboration with Warrumbungle Shire Council and Dubbo Regional Council in accordance with the Benefit-Sharing Guidelines.	Construction and Operation
S2	Prepare and implement an Agrisolar Grazing Plan in consultation with the landowner, in line with the Agrisolar Strategy	Construction, Operation and Decommissioning

7.3 Residual impacts

Residual social impacts of the Project are those that remain after mitigation measures are implemented. A summary of the potential residual social impacts is included in **Table 7-2** (for construction related impacts) and **Table 7-3** (for operational impacts). This has been presented to illustrate the effect of the proposed mitigation measures, and to align with the requirements of the SIA Guideline.

The impact assessment, as presented in **Section 5.0** and **Section 6.0**, considered the significance of impacts *assuming that standard mitigation measures were already applied*. That is, unmitigated impacts were not assessed, as there is no realistic project scenario where this will be deemed appropriate or permissible (by the proponent or regulators). As such the impact assessment in these sections already represents the residual impact significance. As such, the 'potential impact significance' presented in both tables takes into account the impact with the standard mitigation measures applied.

Several impacts have been assessed as having a low unmitigated impact. Following the implementation of standard mitigation and management measures or design refinement, the residual impact of these have been assessed as either being so small that they do not warrant further consideration or as having no residual impact.

Table 7-2 Residual social impact significance – construction

Impact description	Potential impact significance	Mitigation measures/monitoring approach	Residual impact significance
Community			
Potential impacts to the makeup and identity of the local community may arise from the introduction of significant numbers of workers to the social locality, which may be of concern to existing residents	Moderate + possible = medium (negative)	A Community and Stakeholder Engagement Plan will be prepared to foster consistent, transparent and proactive consultation with nearby and adjacent landholders, local councils, the local Aboriginal community, Project RAPs and other key stakeholders. This will include: • methods for collaboration and coordination with relevant stakeholders in responding to community issues relating to REZ establishment • methods and timing for connecting with the community, and principles that will be applied to the engagement • guidance on communication protocols with nearby residents to share information and generate awareness about construction activities and potential periods of disruption, including a responsive and easy-to-access community grievance mechanism. An Accommodation, Employment and Procurement Strategy (AEPS) will be developed in consultation with Warrumbungle Shire Council and Dubbo Regional Council. The AEPS will include targeted measures to maximise local employment and sourcing from local communities such as training, up-skilling and capacity building support, in collaboration with local stakeholders and training providers. The recruitment of local workers for the construction workforce will be maximised where possible.	Minor + unlikely = low (negative)
Culture			
Potential impacts to elements of the landscape which are valued by Aboriginal communities, which could lead to cultural or spiritual loss for these communities	Moderate + possible = medium (negative)	• The proponent will develop an Aboriginal Cultural Heritage Management Plan (ACHMP), in consultation with the Registered Aboriginal Parties (RAPs) and DPHI (with input from Heritage NSW). The ACHMP will include an unanticipated finds protocol, unanticipated skeletal remains protocol, and heritage inductions.	Minor + unlikely = low (negative)

Impact description	Potential impact significance	Mitigation measures/monitoring approach	Residual impact significance
		The ACHMP will include protocols for the long-term management of the Aboriginal sites salvaged for the Project, as well as any additional artefacts discovered during construction and operation. The ACHMP must be approved by the DPHI prior to salvage and construction activities occurring. • A protocol will be developed for long-term management of stone artefacts, in consultation with the RAPs, including: - The reburial of artefacts at a location outside of the development footprint. This could include reburying the artefacts near the location of site 36-2-0490 (Cobbora artefact reburial loc) which contains artefact recovered during previous test excavations - Movement of the objects from the development footprint to a location within the site extent which will not be impacted by the project (where applicable) or nearby to the original site location outside of the development footprint - A RAP group (normally the LALC) nominating themselves to apply for a Care Agreement to be entered into between the group and Heritage NSW. • Employees, contractors and subcontractors will be made aware during site inductions of the unanticipated finds protocol, and that it is an offence under the National Parks and Wildlife Act 1974 to harm or desecrate an Aboriginal object unless that harm has been subject to approval as part of the necessary approvals process. • A test excavation program will be developed following detailed design and prior to construction for potentially impacted PADs, in consultation with RAPs. The methodology for the excavation will be finalised following the preparation of a written assessment methodology which will undergo consultation with RAPs following ACHCR protocols. • Where avoided sites are located within 20 m of the Development Footprint, the site will be protected during construction using high-visibility temporary fencing (such as bunting) and marked as 'no-go'	

Impact description	Potential impact significance	Mitigation measures/monitoring approach	Residual impact significance
		areas on all maps. The temporary fencing must be installed prior to construction commencing and will be supervised by a qualified archaeologist and a representative from the RAPs. • A protocol for ongoing consultation with RAPs will be included in the ACHMP, outlining triggers for consultation and for obtaining agreement in relation to ACH issues arising on the project. This protocol will be developed in consultation with the RAPs. • Where avoidance of Aboriginal sites is not practicable, recording and salvage of information and artefacts will be undertaken. The methodology for the collection before construction in a particular area commences, will be finalised after the approvals process as part of the ACHMP, and will include the following measures: - All visible surface artefacts will be flagged in the field - The sites will be photographed after flagging and before recording - artefact information will be recorded and photographed - An Aboriginal Site Impact Recording Form (ASIRF) will be submitted by the archaeologist detailing the salvage process at the sites.	
Surroundings			
Adverse impact to the way in which residents and visitors experience their surroundings due to temporary reductions in local amenity (notably noise impacts)	Minor + possible = medium (negative)	• A Construction Noise and Vibration Management Plan (CNVMP) will be prepared as part of the CEMP • Sensitive receivers likely to be affected will be notified at least five days prior to commencement of any works associated with the scenario that may have an adverse noise or vibration impact. The notification will include details of construction work, construction period and construction hours, contact information for proposal management staff and complaint and incident reporting and how to obtain further information • All employees, contractors and subcontractors working on site must undertake an environmental site induction prior to commencement of works. The detail of the induction will be developed as part of the	Minor + unlikely = low (negative)

Impact description	Potential impact significance	Mitigation measures/monitoring approach	Residual impact significance
		CEMP, OEMP and Decommissioning Plan. Specific environmental aspects to be covered by the induction are outlined under respective environmental mitigation measures. Cultural awareness training will also be included as part of the induction - Construction will be carried out during the standard daytime working hours (as defined in the NSW Interim Construction Noise Guideline). Works generating high noise and/or vibration levels will be scheduled during less sensitive time periods - Non-tonal reversing beepers (or an equivalent mechanism) will be fitted and used on all construction vehicles and mobile plant regularly used on site. - For deliveries to and from the Project Area: - Loading and unloading of materials/deliveries will occur in designated loading or unloading points. Where this is not feasible loading and unloading will take place in areas away from sensitive receivers as far as practicable - Construction sites near sensitive receivers will be designed to minimise the need to reverse vehicles (and hence trigger reversing alarms)	
Livelihoods			
Economic benefits to the social locality during construction associated with increased expenditure at local businesses and employment opportunities, resulting in benefits to livelihoods for local businesses and their employees	Minor + possible = medium (positive)	- Employment of local businesses where possible - Clear, frequent and inclusive communication with the community and businesses - Encourage construction workers to shop locally.	Moderate + possible = medium (positive)
Cumulative			
Cumulative impacts of multiple Projects being constructed at the same time, notably through construction fatigue experienced by residents	Moderate + possible = medium (negative)	Clear branding will be used by the Proponent for the Project, to minimise the impacts of construction fatigue as residents are aware of the Project and its differences between neighbouring Projects	Minor + unlikely = low (negative)

Impact description	Potential impact significance	Mitigation measures/monitoring approach	Residual impact significance
		Communication channels where stakeholders can raise enquiries regarding the Project will be established	

Table 7-3 Residual social impact significance – operation

Impact description	Potential impact significance	Mitigation measures	Residual impact significance
Utilities and digital access			
Positive changes to utilities and digital access for the National Electricity Market	Major + almost certain = very high (positive)	Alignment of the Project with relevant NSW plans for the diversification and resilience of energy supply and storage within NSW.	Major + almost certain = very high (positive)
Surroundings			
Adverse changes in surroundings associated with the operation of the Project (notably visual impacts)	Minor + likely = medium (negative)	- Lighting will be designed and installed in accordance with AS4228-1997 - Control of Obtrusive Effects of Outdoor Lighting and will follow best practice lighting principles identified within the Dark Sky Planning Guidelines (DPHI, 2023). - Non-reflective surface treatments will be applied to buildings and structures where practical to minimise reflection. Ancillary components of the Project will be designed to minimise visual impact as much as possible.	Minor + unlikely = low (negative)
Livelihoods			
Job opportunities during operation	Moderate + possible = medium (positive)	<i>No mitigation measures identified</i>	Moderate + possible = medium (positive)
Positive economic benefit for the region	Minor + possible = medium (positive)	<i>No mitigation measures identified</i>	Minor + possible = medium (positive)
Cumulative impacts			
Visual effects on the primary impact area due to the interface with other Projects and potential construction fatigue.	Moderate + possible = medium (negative)	- Lighting will be designed and installed in accordance with AS4228-1997 - Control of Obtrusive Effects of Outdoor Lighting and will follow best practice lighting principles identified within the Dark Sky Planning Guidelines (DPHI, 2023). - Non-reflective surface treatments will be applied to buildings and structures where practical to minimise reflection. Ancillary components of the Project will be designed to minimise visual impact as much as possible.	Minor + unlikely = low (negative)

Impact description	Potential impact significance	Mitigation measures	Residual impact significance
		Ancillary components of the Project will be designed to minimise visual impact as much as possible.	

8.0 Conclusion

The SIA has been prepared to support the EIS and to address the relevant SEARs issued for the EIS. Specifically, this report has been prepared to assess the potential social impacts of construction and operation of the Project that may affect residents, businesses and other key stakeholders, and to identify appropriate mitigation and management measures to address the impacts identified and/or enhance potential benefits.

Key potential social impacts and benefits of the project will include:

- During construction
 - Potential minor impacts on the makeup of the local community which will arise from the introduction of a significant number of workers to the social locality to the region
 - Minor impacts to elements of the landscape which are valued by Aboriginal communities
 - Local amenity issues arising from noise during construction of the Project
 - Economic benefits to the social locality during construction from increased expenditure at local businesses
 - Cumulative impacts of construction fatigue from multiple projects being constructed at the same time.
- During operation
 - Benefits of providing more renewable energy to the National Electricity Market
 - Potential adverse changes in the surroundings (notably due to visual impacts)
 - Cumulative impacts of visual impacts from multiple projects being constructed at the same time.

Appropriate forms of mitigation and management, identified in **Section 7.0** and the EIS, will allow negative impacts of the Project to be addressed to an acceptable level. The implementation and ongoing monitoring of these impacts will support delivery of social benefits associated with the Project.

9.0 References

- Australian Bureau of Statistics. (2021). *Socio-Economic Index for Areas*. Retrieved from <https://www.abs.gov.au/census/find-census-data>.
- Australian Bureau of Statistics. (2024). *Count of Australian businesses, including entries and exits*. Retrieved from <https://www.abs.gov.au/statistics/economy/business-indicators/counts-australian-businesses-including-entries-and-exits/latest-release>.
- Australian Government. (2021). *Australia's Long Term Emissions Reduction Plan*.
- Back to Basics. (2022). <https://backtobasics.edu.au/news/the-australian-construction-industry-facts-and-stats-for-2022>>. Retrieved from The Australian Construction Industry: Facts and Stats for 2022.
- Commission for Occupational Safety and Health. (2022). *Code of Practice: Workplace behaviour*.
- Department of Planning, Industry and Environment. (2021). *Technical Supplement: Social Impact Assessment Guideline for State Significant Projects*.
- Department of Planning, Industry and Environment. (2023). *Social Impact Assessment Guideline for State Significant Projects*.
- Dubbo Regional Council. (2020). *'Towards 2040' Community Strategic Plan*.
- Handy, S. L. (2002). Amenity and severance. In K. Button, & D. Hensher, *Handbook of transport and the environment*. Oxford: Elsevier Science.
- Heritage NSW. (2010). *Aboriginal Cultural Heritage Consultation Requirements for Proponents*.
- NSW Environmental Protection Authority. (2020). *Draft Construction Noise Guideline*.
- NSW Government. (2021). *NSW Renewable Energy Action Plan*.
- Office of Energy and Climate Change. (2023). *First Nations Guidelines: Increasing Central-West Orana income and employment*.
- Office of Environment and Heritage. (2016). *NSW Climate Change Policy Framework*.
- Parliament of the Commonwealth of Australia. (2013). *Cancer of the bush or salvation for our cities? Fly-in, fly-out and drive-in, drive-out workforce practices in Regional Australia*.
- Remplan. (2025). *Dubbo Regional Economy, Jobs, and Business Insights*. Retrieved from Remplan: <https://app.remplan.com.au/dubboregionalcouncil/economy/summary>
- Remplan. (2025). *Warrumbungle Shire Economy, Jobs, and Business Insights*. Retrieved from Remplan: <https://app.remplan.com.au/warrumbungle/economy/summary>
- Warrumbungle Shire Council . (2022). *Community Strategic Plan 2022-2037*.

Appendix A – Certification page

I, Jamie McMahon, certify that this social impact assessment contains all information relevant to the social impact assessment for this project, and that the information is not false or misleading. The SIA Author's qualifications and experiences are listed below.

- Experience in social science methodologies and demonstrated social impact assessment skills in government and private settings. The author is a social impact specialist and has managed social impact assessments for numerous transport infrastructure, and energy projects in NSW, including State Significant Projects
- Bachelor of Environmental Science (Honours)
- Certified Environmental Practitioner – Impact Assessment Specialist (IA11004)
- Member of Environment Institute of Australia and New Zealand
- NSW Division Committee member, Environment Institute of Australia and New Zealand
- EIANZ Impact Assessment Special Interest Section committee member
- NSW Registered Environmental Assessment Practitioner.

Date: 28 May 2025

Signature:



Appendix B – SIA Guideline assessment review questions

The following table has been extracted from Appendix C of the SIA Guideline (2023). These review questions are used to confirm that the requirements of the SIA Guideline (2023) have been fulfilled when considering the scale of social impacts of the Project.

Table B-1 Assessment review questions

Review questions		Reference within this SIA
General		
1	Does the lead author meet the qualification and experience requirements?	Appendix A
2	Has the lead author provided a signed declaration?	Appendix A
3	Will a reasonable person judge the social impact assessment report to be impartial, transparent, and suitably rigorous given the nature of the project?	Appendix A
Project's social locality and social baseline		
4	Does the social impact assessment report identify and describe all the different social groups that may be affected by the project?	Section 3.0 Section 4.0
5	Does the social impact assessment report identify and describe all the built or natural features that have value or importance for people, and explain why people value those features?	Section 3.0 Section 4.0
6	Does the social impact assessment report identify and describe historical, current, and expected social trends or social changes for people in the locality, including their experiences with this project and other major development projects?	Section 3.0 Section 4.0
7	Does the social baseline study include appropriate justification for each element, and provide evidence that the elements reflect both relevant literature and the diversity of views and likely experiences?	Section 3.0 Section 4.0
8	Does the social baseline study demonstrate social-science research methods and explain any significant methodological or data limitations?	Section 2.0 Section 3.0 Section 4.0
Identification and description of social impacts		
9	Does the social impact assessment report adequately describe likely social impacts from the perspectives of how people may experience them, and explain the research used to identify them? When undertaken as a part of social impact assessment scoping and initial assessment, has the plan for the social impact assessment report been detailed?	Section 5.0 Section 6.0
10	Does the social impact assessment report apply the precautionary principle to identifying social impacts, and consider how they may be experienced differently by different people and groups?	Section 4.0 Section 5.0 Section 6.0
11	Does the social impact assessment report describe how the preliminary analysis influenced project design and Environmental Impact Statement engagement strategy?	Section 1.0
Community engagement		
12	Were the extent and nature of engagement activities appropriate and sufficient to canvass all relevant views, including those of vulnerable or marginalised groups?	Section 3.0
13	How have the views, concerns, and insights of affected and interested people influenced both the project design and each element of the social impact assessment report?	Section 5.0 Section 6.0

Review questions		Reference within this SIA
Predicting and analysing social impacts		
14	Does the social impact assessment report impartially focus on the most important social impacts to people at all stages of the project, without any omissions or misrepresentations?	Section 5.0 Section 6.0
15	Does the social impact assessment report analyse the distribution of both positive and negative social impacts, and identify who will benefit and who will lose from the project?	Section 5.0 Section 6.0
16	Does the social impact assessment report identify its assumptions, and include sensitivity analysis and alternative scenarios? (including 'worst-case' and 'no project' scenarios where relevant)	Section 5.0 Section 6.0
Evaluating significance		
17	Do the evaluations of significance of social impacts impartially represent how people in each identified social group can expect to experience the project, including any cumulative effects?	Section 5.0 Section 6.0
18	Are the evaluations of significance disaggregated to consider the likely different experiences for different people or groups, especially vulnerable groups?	Section 5.0 Section 6.0
Responses, monitoring and management		
19	Do the evaluations of significance of social impacts impartially represent how people in each identified social group can expect to experience the project, including any cumulative effects?	Section 5.0 Section 6.0
20	Are the evaluations of significance disaggregated to consider the likely different experiences for different people or groups, especially vulnerable groups?	Section 5.0 Section 6.0
21	Do the evaluations of significance of social impacts impartially represent how people in each identified social group can expect to experience the project, including any cumulative effects?	Section 5.0 Section 6.0

Appendix C – ABS Data Tables

Table C-1 Key demographic characteristics of the social locality and NSW

Key Demographic	Mudgee Surrounds – West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
Total Resident Population (no. persons)	11,072	5,963	74,078	8,097,062
Median age	45	42	38	39
Population aged <15 (no. persons)	683 (6.2%)	1,257 (21.1%)	15,141 (20.4%)	1,493,689 (18%)
Population aged 15+ (no. persons)	8,947 (80.8%)	4,697 (78.8%)	59,938 (79.6%)	6,603,373 (81%)
Population aged 65+ (no. persons)	2,322 (21.0%)	1,062 (17.8%)	14,292 (19.3%)	1,393,673 (17%)
Population aged 85+ (no. persons)	194 (1.8%)	69 (1.2%)	69 (0.1%)	179,983 (2%)
Aboriginal and Torres Strait Islander population (no. persons)	747 (6.7%)	499 (8.4%)	11,947 (16.1%)	278,043 (3%)
Speaks only English at home (no. persons)	9,822 (88.7%)	5,362 (89.9%)	561,432 (82.9%)	5,950,982 (73%)
Has a need for assistance (no. persons)	593 (5.4%)	239 (4.0%)	4,551 (6.1%)	464,712 (6%)

Table C-2 Labour force characteristics of the social locality

Key Demographic	Mudgee Surrounds – West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
Total Labour Force	5,021	3,095	34,355	6,602,157
Employed	4,829 (96.2%)	3,028 (97.8%)	32,973 (96.0%)	3,684,158 (95%)
Unemployed	19 (3.9%)	64 (2.1%)	1,368 (4.0%)	189,852 (5%)

Table C-3 Residential dwelling characteristics (number of dwellings)

Category	Mudgee Surrounds – West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
Separate House	3,872 (80.6%)	1,860 (90.4%)	22,926 (78.9%)	1,902,734 (65.6%)
Semi-detached, townhouse or terrace house	42 (0.9%)	20 (1.0%)	1,655 (5.7%)	340,582 (11.7%)
Flat or apartment	23 (0.5%)	0	1,322 (4.6%)	630,030 (21.7%)
Other dwelling (caravan, cabin, tent, flat attached to a shop)	35 (0.7%)	3 (0.1%)	158 (0.5%)	19,374 (0.7%)
Dwelling structure not stated	11 (0.2%)	16 (0.8%)	111 (0.4%)	7,754 (0.5%)
Total occupied private dwellings (no.)	3,975	1,900	26,168	2,900,468

Table C-4 Home ownership and household structure

	Category	Mudgee Surrounds – West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
Home Ownership	Owned outright	1,790 (45.0%)	796 (41.9%)	8,495 (34.2%)	914,537 (31.5%)
	Owned with a mortgage	1,388 (34.9%)	822 (4.3%)	8,297 (31.7%)	942,804 (32.5%)
	Rented	588 (14.8%)	178 (9.4%)	7,610 (29.1%)	944,585 (32.6%)
	Other tenure type	129 (3.2%)	58 (3.1%)	766 (2.9%)	55,931 (1.9%)
	Tenure type not stated	82 (2.1%)	38 (2.0%)	556 (2.1%)	42,613 (1.5%)
Household Structure	Family household	2,855 (71.8%)	1,541 (81.1%)	17,989 (68.7%)	2,065,107 (71.2%)
	Single (or lone)	1,035 (26.0%)	324 (17.1%)	7,36 (28.2%)	723,716 (24.95%)
	Group households	87 (2.2%)	324 (1.7%)	806 (3.1%)	111,646 (3.85%)
	Total households	3,975	1,900	26,168	2,900,468

Table C-5 Journey to work (Single Method only)

Transport method	Mudgee Surrounds – West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
Train	0	0	0	62,460 (3.16%)
Tram/light rail	0	0	0	1,351 (0.07%)
Bus	12 (0.3%)	7 (0.3%)	139 (0.5%)	34,408 (1.74%)
Ferry	0	0	5	1,189 (0.06%)
Car (as driver)	2,993 (85.8%)	1,971 (88.1%)	21,987 (84.4%)	1,587,613 (80.41%)
Car (as passenger)	183 (5.2%)	122 (5.5%)	1,885 (7.2%)	117,143 (5.93%)
Taxi/ ride-share services	0	0	71 (0.3%)	4,775 (0.24%)
Truck	69 (2.0%)	55 (2.5%)	416 (1.6%)	26,390 (1.34%)
Motorbike/scooter	18 (0.5%)	16 (0.7%)	168 (0.6%)	14,917 (0.76%)
Bicycle	4 (0.1%)	0	106 (0.4%)	14,466 (0.73%)
Other	24 (0.7%)	12 (0.5%)	170 (0.7%)	17,233 (0.87%)
Walked only	188 (5.4%)	53 (2.4%)	1,105 (4.2%)	92,368 (4.68%)
Total one method (no.)	3,489	2,237	26,056	1,974,324

Table C-6 Vehicle ownership count of private occupied dwellings

Number of Automobiles	Mudgee Surrounds – West SA2	Dubbo Surrounds SA2	Dubbo SA3	NSW
No motor vehicles	104 (2.6%)	20 (1.1%)	1,386 (5.3%)	262,031 (9.0%)
One motor vehicle	992 (24.9%)	295 (15.6%)	8,868 (33.9%)	1,096,761 (37.8%)
Two motor vehicles	1,485 (37.3%)	768 (40.5%)	9,704 (37.1%)	989,258 (34.1%)
Three or more motor vehicles	1,318 (33.1%)	782 (41.5%)	5,699 (21.8%)	1,745,924 (18.8%)
Number of motor vehicles not stated	82 (2.1%)	31 (1.6%)	519 (2.0%)	187,380 (1.5%)

Note on data quality: Tables of Census data are subject to perturbation to protect the confidentiality of individuals, in accordance with the *Census and Statistics Act 1905* (ABS, 2017). Perturbation is a technique which has been developed to randomly adjust count values. When the technique is applied, counts and totals are slightly adjusted to prevent any identifiable data being exposed. These adjustments result in small introduced random errors. However, the information value of the table as a whole is not impaired. Due to this process, percentage calculations for statistics may not total to 100 per cent in some instances. Notwithstanding, the quality of the data is considered suitable for this assessment.