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APPENDIX O – Environmental Impact Statement

Social impact assessment

Prepared for Lake Lyell Project Pty Ltd



Lake Lyell Pumped Hydro Energy Storage Project

Social impact assessment

Lake Lyell Project Pty Ltd

E221111 RP29

November 2025

Version	Date	Prepared by	Reviewed by	Comments
1	4 December 2024	Breannan Dent	Myf Jagger Alex Frolich	Draft for client review
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3	18 November 2025	Breannan Dent	Sam McCrea Alex Frolich	Final for client review
4	27 November 2025	Breannan Dent	Sam McCrea Alex Frolich	Final

Approved by

Samantha McCrea

Sam McCrea
Associate Director, Social Assessment and Performance
28 November 2025

Level 10 201 Pacific Highway
St Leonards NSW 2065
ABN: 28 141 736 558

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Executive Summary

ES1 Project background and description

EnergyAustralia Portfolio Holdings Pty Ltd (EnergyAustralia) in partnership with EDF power solutions Australia (EDFA), referred to as Lake Lyell Project Pty Ltd (LLP) as trustee, is developing the Lake Lyell Pumped Hydro Energy Storage (PHES) Project (the project). The project will have the capacity to store up to 3,080 megawatt hours (MWh) of energy and generate at 385 megawatts (MW) for 8 hours or generate up to around 440 MW for a shorter period. It will be located approximately 5 kilometres (km) west of Lithgow and 110 km west of the Sydney central business district, as shown in Figure 1.1. The project will utilise the advantageous topography of the area, as well as the existing man-made reservoir that is Lake Lyell, to generate electricity during periods of peak demand.

A temporary accommodation camp for approximately 500 workers will be required to house the project construction workforce. Two options are being considered:

- Lakeside camp near construction site at Lockyers Line (preferred location)
- Town camp in Lithgow near Valley Plaza shopping area (alternative location).

The preferred accommodation camp (Lakeside camp) and alternative accommodation camp (Town camp) have been separately assessed in this Social Impact Assessment (SIA). Only one of the camp locations will proceed. This will be determined by the outcome of the environmental impact statement (EIS) consultation and the detailed engineering design.

ES2 SIA study

This SIA has been prepared by EMM Consulting Pty Limited (EMM) on behalf of LLP as part of the project's EIS. The Secretary's environmental assessment requirements (SEARs) for the project, the *Social Impact Assessment Guideline for State Significant Projects* (SIA Guideline 2023) (DPIE, 2023a) and the *Technical Supplement: Social Impact Assessment Guideline for State Significant Projects* (SIA Technical Supplement 2023) (DPIE, 2023b) were updated by DPHI in July 2025. As the assessment and reporting for the project had been undertaken prior to the update, the SIA Guideline and Technical Supplement (DPE, 2023) are predominantly used for the assessment of the project, however, the 2025 guidelines have been considered and where possible, incorporated into this SIA (such as the use of the updated social impact significance matrix).

ES3 SIA study area and existing conditions

The SIA study area includes both a local and regional area. The local area is made of up the nearby communities most likely to experience direct social impacts from the project, including noise, air emissions, traffic and changes to land use.

The local area has been considered in two sections due to the location of alternative accommodation camp in Lithgow potentially affecting different communities to that of the main project.

The *rural local area* includes the suburbs of Rydal, Bowenfels, and South Bowenfels, and the locality of Marrangaroo. These communities are characterised by strong rural values and community cohesion.

The *urban local area* includes the localities of Pottery Estate, Sheedys Gully, Littleton, South Littleton and the suburb of Lithgow. These communities are characterised by their role in the region's rural urban centre, as well as values associated with the area's industrial heritage and scenic landscapes. Vulnerabilities such as employment insecurity and housing pressures are existing baseline challenges in the region. These findings are attributed to the planned closure of regional coal mines and transition to renewable energy. Lithgow City serves as a central hub for services and infrastructure, linking local and regional economies – it is identified as the key urban area within the SIA study area.

The *regional area* is the Lithgow local government area (LGA), which is the geographic area most likely to experience fewer direct and more indirect social impacts of the project. Indirect impacts are associated with use of infrastructure, employment, supply chains, roads, transportation of goods, materials and equipment and cumulative impacts.

ES4 Engagement informing the SIA

Engagement for the SIA was undertaken separately to the community and stakeholder engagement program for the project. However, broader community feedback on the project has been incorporated in the SIA where appropriate.

The SIA process involved extensive consultation, including 34 interviews conducted with 42 participants representing different perspectives from across the local and regional community, including Aboriginal stakeholders, nearby and regional residents, as well as local community services and regional businesses. The assessment is also informed by a survey of 34 recreational users of the Lidsdale State Forest 4WD area and Lake Lyell Recreation Park. Key considerations raised in consultation include:

- amenity for local residents and businesses, and related tourism business viability concerns
- quality of the local environment and associated recreational values
- community mental health
- significance of Mount Walker to Aboriginal people, and the cumulative impact of development in the region on cultural values
- road quality and safety
- property devaluation
- project consultation process.

ES5 Assessment of social impacts and benefits

As per the SIA Guideline, a social impact may be tangible or intangible and include fears and perceptions expressed by stakeholders. Social impacts have been assessed on a potential worst-case scenario initially and then the residual impact is assessed on the basis that proposed mitigation or enhancement measures are effectively implemented. A summary of the social impacts and benefits which have an assessed residual significance of medium or higher are presented in Table ES1 and Table ES2 respectively.

The full assessment of potential impacts and benefits is provided in Chapter 7. Five mitigated social impacts rated as a high residual risk have been identified for the project. Four social benefits have been identified with a high residual benefit rating.

Mitigation and management strategies have been proposed for each identified social impact which seek to avoid or minimise negative consequences and enhance social benefits for local communities as much as possible.

An adaptive approach is proposed which allows LLP to manage and respond to changing circumstances and new information over time through ongoing monitoring and periodic review of mitigation strategies allowing for modification as required.

Table ES1 Key social impacts

ID	Category	Impact	Affected parties	Duration	Extent	Unmitigated significance	Mitigated significance
D01	Decision-making systems	Community dissatisfaction with planning and approval process	Near neighbours	Project planning and approvals	Local area	High	Medium
Co01	Community	Alteration of community composition and character due to workforce influx	Local community Business operators – Regional area	Construction	Local area	Very High	High
Co02	Community	Loss of community cohesion due to distrust and conflicting views on the project	Local and regional community	Project planning and approvals Construction	Regional area	Very high	Medium
W01	Way of life	Visual impacts of the proposed upper reservoir and supporting infrastructure affecting community sense of place	Local communities Accommodation providers Traditional Owners and Aboriginal communities	Construction Operation	Local area/s Key urban area	Very high	High
W03	Way of life	Changes to amenities affecting way of life and rural lifestyle values	Near neighbours Service providers (Accommodation)	Construction	Local area	High	High
S01	Surroundings	Diminished enjoyment of the natural environment of Mount Walker	Local and Regional community Recreational users	Construction, operation	Local area	High	Medium
S02	Surroundings	Impact on scenic and environmental values due to construction activities in and around Farmers Creek	Local community Recreational users Special interest and environmental groups Traditional Owners and Aboriginal communities	Construction Operation	Local area	High	Medium
S04	Surroundings	Concerns regarding plans for site rehabilitation	Current and future regional community	Decommissioning	Regional area	High	Medium
Cu01	Culture	Direct impacts to Aboriginal cultural heritage value, including impacts to heritage items and sites	Traditional Owners and Aboriginal communities	Life of project	Local and regional area	High	High

ID	Category	Impact	Affected parties	Duration	Extent	Unmitigated significance	Mitigated significance
Cu02	Culture	Landscape changes and changes to access affecting cultural connections to place	Traditional Owners and Aboriginal communities	Construction Operation	Local area	High	Medium
A03	Access	Altered and reduced public access to Lake Lyell and Mt Walker	Regional community Recreational users of Mount Walker and Lake Lyell	Construction Operation	Regional area	High	Medium
HW01	Health and Wellbeing	Mental health of local stakeholders and First Nations people affected by uncertainty and potential for loss of livelihood, amenity, and personal agency	Near neighbours Traditional Owners and Aboriginal communities Local businesses	Project planning and approvals	Local area	High	Medium
HW03	Health and wellbeing	Community safety and wellbeing risks due to construction activities and road upgrade works	Regional community Recreational users	Construction	Local area, particularly near neighbour properties Key urban area	High	High
Co03	Community	Alteration of community composition and character due to workforce influx (at the Town camp)	Near neighbours (Town camp) Regional businesses – Regional area Urban local community, including service users, businesses and shopping centre	Construction Operation Decommissioning of the Town camp	Local area – Urban Regional area	High	Medium
W06	Way of Life	Reduced residential amenity associated with changing use of the Town camp land	Near neighbours in Silcock Street, Bent Street and Hill Street Local community	Construction Operation Decommissioning of the Town camp	Local area – Urban	High	Medium

Table ES2 Key social benefits

ID	Category	Benefit	Affected parties	Duration	Extent	Unenhanced significance	Enhanced significance
A04	Access	Continued access to Lake Lyell for recreation during project operation	Regional community	Operation	Regional area	High	High
A07	Access	Improved access, stability and sustainability of the energy network	Energy users connected to the grid	Operation	NSW	Medium	Medium
L04	Livelihoods	Construction employment and training opportunities for residents in the regional area	Regional community	Construction	Regional area	Low	Medium
L05	Livelihoods	Operational employment and training opportunities for residents in the regional areas	Regional community	Construction Operation	Regional area	Low	High
L06	Livelihoods	Indigenous employment, training and business opportunities	Aboriginal stakeholders and businesses	Construction Operation	Regional area	Low	High
L07	Livelihoods	Business opportunities for residents in the regional area	Regional community Local businesses	Construction	Key urban area Regional area	Low	High
L08	Livelihoods	Workforce influx potentially leading to inflation of local economy (Town camp)	Residents of the key urban area	Construction	Key urban area	Low	Medium

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1 Introduction

1.1 Background

EnergyAustralia Portfolio Holdings Pty Ltd (EnergyAustralia) in partnership with EDF power solutions Australia (EDFA), referred to as Lake Lyell Project Pty Ltd (LLP) as trustee, is developing the Lake Lyell Pumped Hydro Energy Storage (PHES) Project (the project). The project will have the capacity to store up to 3,080 megawatt hours (MWh) of energy and generate at 385 megawatts (MW) for 8 hours or generate up to around 440 MW for a shorter period. At a basic level, it will consist of upper and lower water reservoirs, a pipeline connecting them, and a hydro-electric power station connected to the national energy grid that is capable of generating or consuming electricity.

The project is located approximately 5 kilometres (km) west of Lithgow and 110 km west of the Sydney central business district, shown in Figure 1.1 and Figure 1.2. The project takes advantage of existing infrastructure (i.e. Lake Lyell) associated with Mt Piper power station which will be decommissioned in the coming decades and allows Lake Lyell to continue to serve a specific purpose in electricity generation (consistent with its existing use).

In June 2024, the Minister for Planning and Public Spaces declared the project to be critical State significant infrastructure (CSSI). Accordingly, approval for the project is required under Part 5, Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). This requires the preparation of an environmental impact statement (EIS) for the project in accordance with Secretary's environmental assessment requirements (SEARs) and the approval of the Minister. EMM Consulting Pty Limited (EMM) has been engaged by LLP to prepare the EIS.

This Social Impact Assessment (SIA) is an appendix to the project's EIS and should be read in conjunction with it. The SIA addresses the SEARs issued for the project.

1.2 Assessment guidelines and requirements

This SIA has been prepared with reference to relevant guidelines, policies and industry requirements, and following consultation with stakeholders, including relevant government agencies and the community. Guidelines and policies referenced are as follows:

- the *Social Impact Assessment Guideline for State Significant Projects* (SIA Guideline 2023; 2025) (DPIE, 2023a)
- the *Technical Supplement: Social Impact Assessment Guideline for State significant Projects* (SIA Technical Supplement 2023; 2025) (DPIE, 2023b)
- the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPHI, 2024).

The SIA Guideline and Technical Supplement were updated by DPHI in July 2025. As the social assessment and reporting for the project had been undertaken prior to the update, the SIA Guideline and Technical Supplement (DPE, 2023) are primarily used for the SIA methodology, however the risk assessment framework has been updated to reflect the updated 2025 Technical Supplement.

1.2.1 SEARs

This SIA has been prepared in accordance with the requirements of the NSW Department of Planning, Housing and Infrastructure (DPHI) and relevant agencies, which are set out in the SEARs for the project, issued on 17 November 2025. The SEARs identify matters which must be addressed in the EIS. Individual requirements relevant to this SIA and where they are addressed in this report are listed in Table 1.1.

Table 1.1 SEARs requirements – Social

Requirements	Section addressed
The EIS must address the following specific matters: • **Social** – including:	
• An assessment of the social impacts in accordance with *Social Impact Assessment Guideline* (DPIE, 2023), and the SIA Guideline – Technical Supplement (DPIE, 2023) and consideration of construction workforce accommodation, including impacts on:	• Chapter 7
– the locality;	• Chapter 7
– the demand for infrastructure and services in the Lithgow local government area,	• Chapter 7
– including consideration of construction workforce accommodation; and	• Chapter 7 • Chapter 8
– users of nearby National parks and reserves (including Marrangaroo National Park), conservation areas.	• Chapter 7 • Annexure D

1.2.2 Agency engagement

DPHI invited government agencies, including Lithgow City Council (Council), to recommend matters to be addressed in the EIS. These matters were considered by the Secretary for DPHI when preparing the SEARs. Comments made by agencies relating to the assessment of social impacts and where they are addressed in this report are listed in Table 1.2.

Table 1.2 Agency comments on SEARs

Agency	Comments	Section addressed
Lithgow City Council	12. Social. Council is satisfied that an assessment of social impacts in accordance with Social Impact Assessment Guideline (DPE, July 2021) will be prepared and submitted with the EIS.	Throughout. Revised to updated SIA guideline 2023, and 2025
DPI fisheries	ABORIGINAL CULTURAL AND RECREATIONAL FISHING AND ACCESS Lake Lyell is recognised as providing an important recreational fishery, particularly for trout and bass. Aboriginal cultural fishing is also important for the health and wellbeing of Aboriginal communities. The EIS must address potential impacts on the recreational and aboriginal cultural fisheries, including potential impacts on recreational fishing opportunities and recreational fishing access during construction works and subsequent project operation. Engagement with these stakeholders is recommended.	Aboriginal Cultural Heritage Assessment, and Sections 6.3.2, 7.4.2, 7.5.1, 7.5.2, 7.6.2, 7.7.1, 7.7.3 and Annexure D of this report.

1.3 Limitations and assumptions

Limitations of the SIA are detailed in the methodology in Section 3.2 of this report.

Where the terms ‘planning and assessment’, ‘construction’, ‘operation’ and ‘decommissioning’ are used in framing social impacts of the project, the following timeframes are assumed, based on information provided in Chapter 2 of the EIS:

- Planning and assessment: period from first community notification of the project in 2021, to the timeframe construction commences (potentially late 2026).
- Construction: 4 to 5 years from construction commencement.

- Operation: period during which the project infrastructure is operational, anticipated to be 80 to 100 years from completion of construction.
- Decommissioning: period following the end of the project's operational life, which includes restoration of the project area. Timeframes to be confirmed through detailed planning.

1.4 Authorship and SIA declarations

1.4.1 Authorship

This report has been prepared by a suitably qualified and experienced author and social scientist, Breannan Dent, and reviewed by suitably qualified and experienced practitioners, Myf Jagger and Sam McCrea, consistent with SIA Guideline requirements. All contributors hold appropriate qualifications and have the relevant experience to carry out the SIA for this project. The curriculum vitae for the author is provided in Annexure A.

1.4.2 SIA declarations

The author declares that this SIA report:

- was completed in November 2025
- has been prepared in accordance with the EIS process under the *Environmental Planning and Assessment Act 1979* (EP&A Act)
- has been prepared in accordance with the SIA Guideline 2023 and Technical Supplement, and updated to reflect the social impact significance matrix and language outlined in the 2025 Guideline and Technical Supplement
- contains all reasonably available project information relevant to the SIA
- as far as EMM Consulting Pty Limited (EMM) is aware, contains information that is neither false nor misleading.

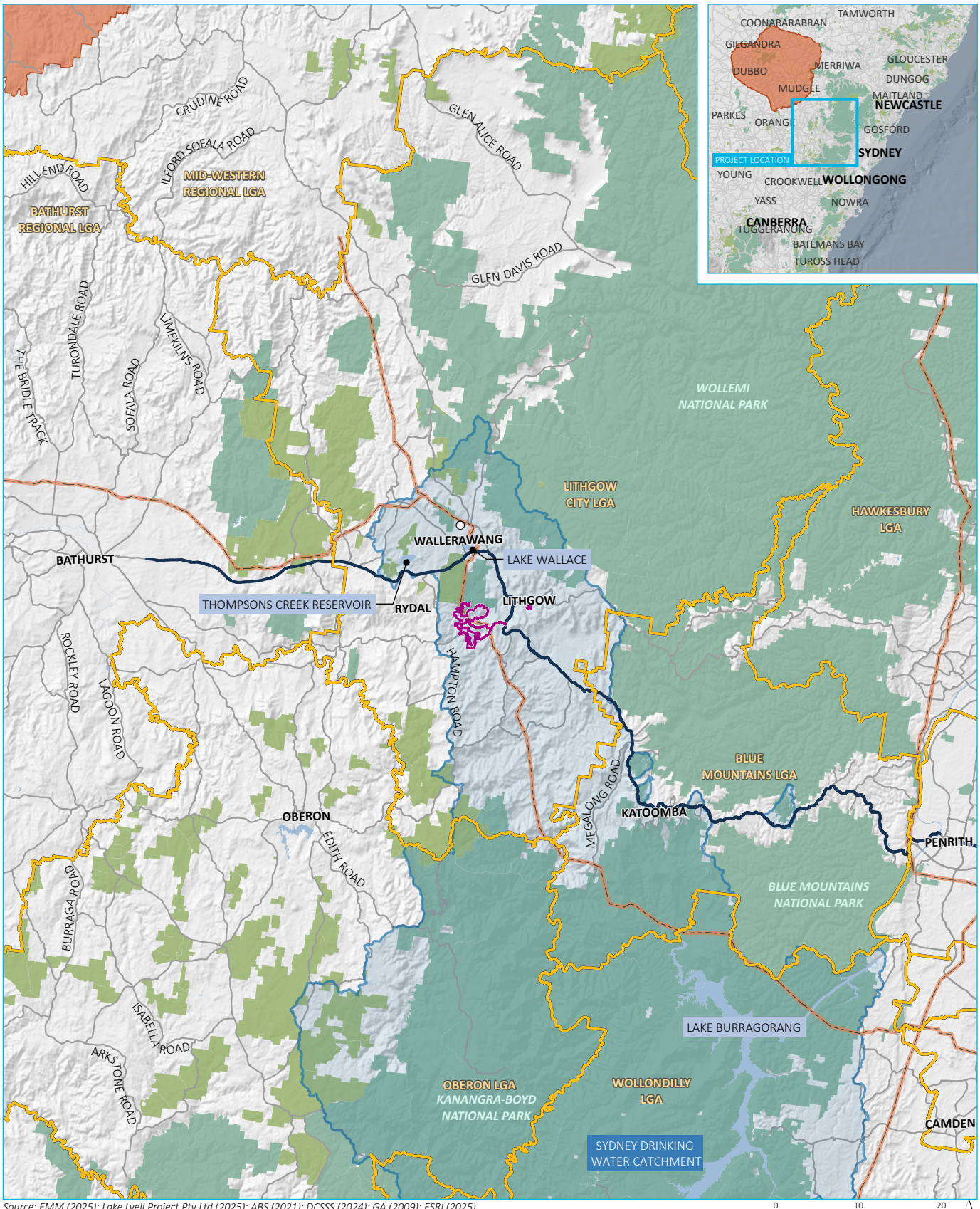
Assumptions and limitations of this report are outlined in Section 1.3.

Author: Breannan Dent



Signed:

Date: 28/11/2025



Source: EMM (2025); Lake Lyell Project Pty Ltd (2025); ABS (2021); DCSSS (2024); GA (2009); ESRI (2025)

0 10 20 km

GDA2020 MGA Zone 56

N

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KEY

- Project area

Existing environment

- Mt Piper Power Station
- Major road
- Great Western Highway
- 330 kV transmission line
- Named waterbody
- NPWS reserve
- State forest
- Local government area
- Sydney Drinking Water Catchment
- Central West Orana Renewable Energy Zone

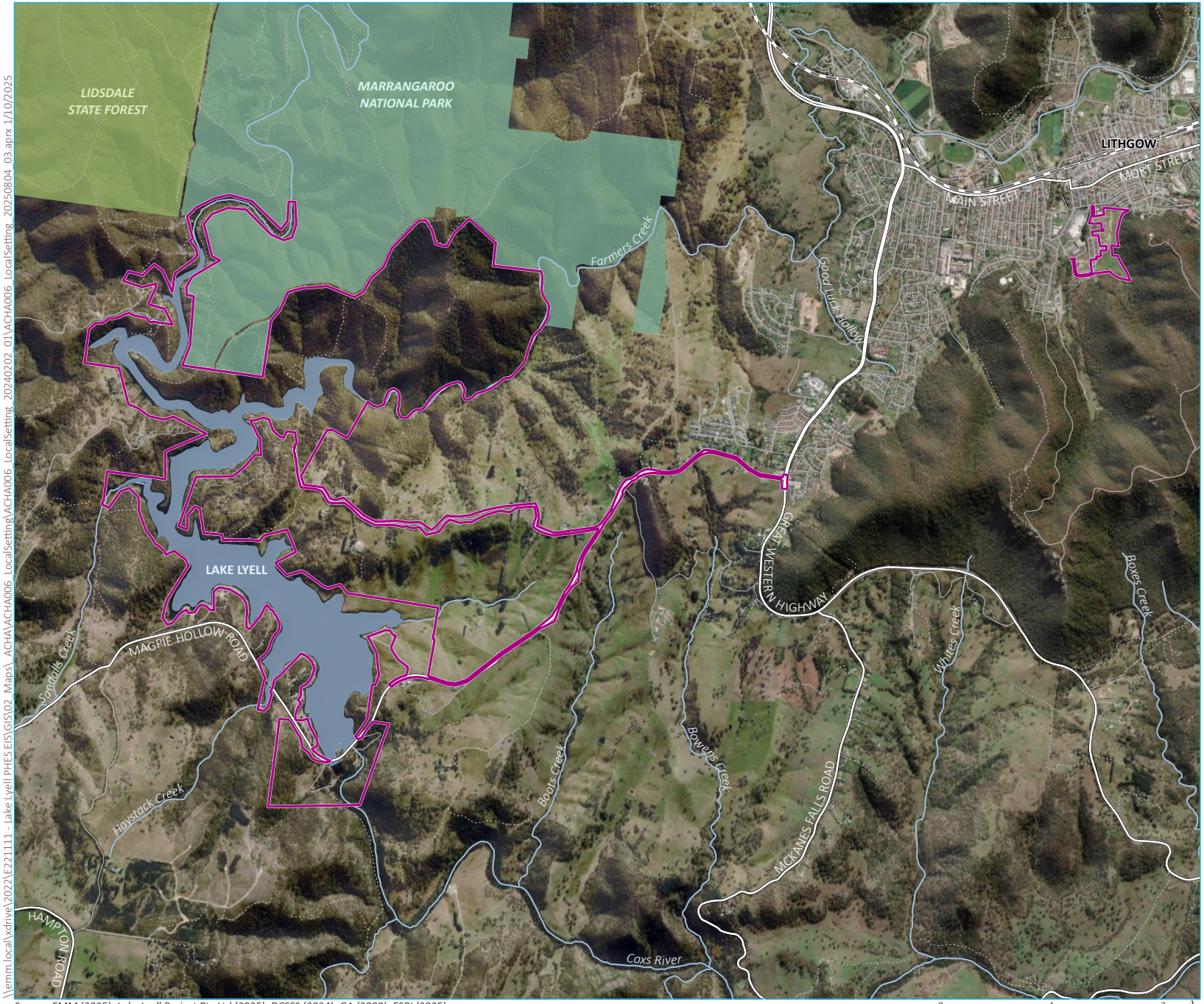
INSET KEY

- Major road
- NPWS reserve
- State forest
- Central West Orana Renewable Energy Zone

Regional context

Lake Lyell PHES
Social Impact Assessment
Figure 1.1

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KEY

- Project area

Existing environment

- Rail line
- Major road
- Minor road
- Vehicular track
- Named watercourse
- Named waterbody
- NPWS reserve
- State forest

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Source: EMM (2025); Lake Lyell Project Pty Ltd (2025); DCSSS (2024); GA (2009); ESRI (2025)

0 1 2 km

GDA2020 MGA Zone 56

N

Local context

Lake Lyell PHES
Social Impact Assessment
Figure 1.2

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2 Description of the project

A detailed description of the project, including an overview of its design, construction and operation is provided in the project's EIS. The EIS (specifically Chapter 3 and Appendix B) should be read in conjunction with this report. A summary of the project's key elements is provided below.

The project design, as shown in Figure 2.1, can be broadly categorised into:

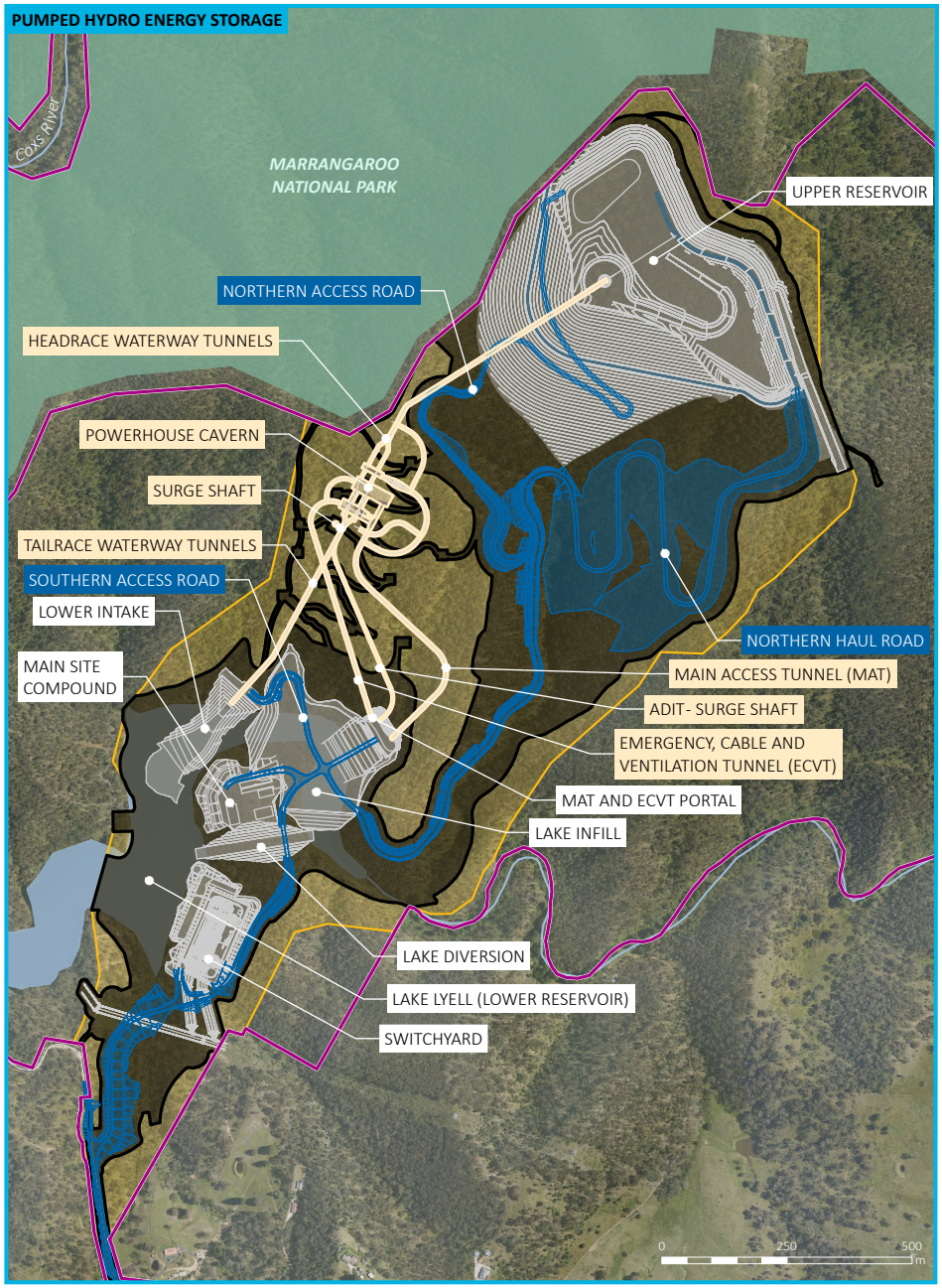
- pumped hydro generation components – including a 5.3 gigalitre (GL) upper reservoir to be constructed behind the southern ridge of Mount Walker, a 33.5 GL lower reservoir (existing Lake Lyell), inlet / outlet structures, and an underground powerhouse, surge shaft and waterway tunnels
- transmission connection components – including a new high voltage switchyard and connection to the existing 330 kilovolt (kV) transmission line that runs through the site
- site access and ancillary facilities – including upgrade of existing and construction of new access roads and bridges, a diversion and infill of a section of Lake Lyell, administration and utilities
- other construction components or works – including geotechnical investigations, temporary workforce accommodation, site work pads, laydown areas and facilities, and spoil management.

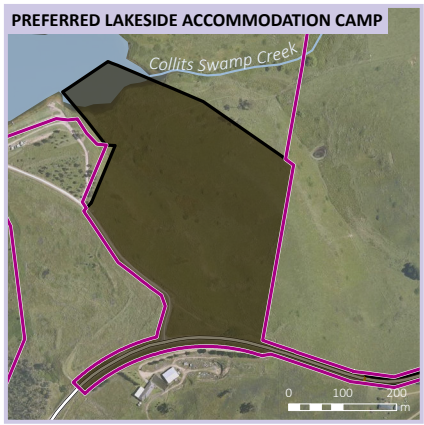
Construction will be completed in stages, including:

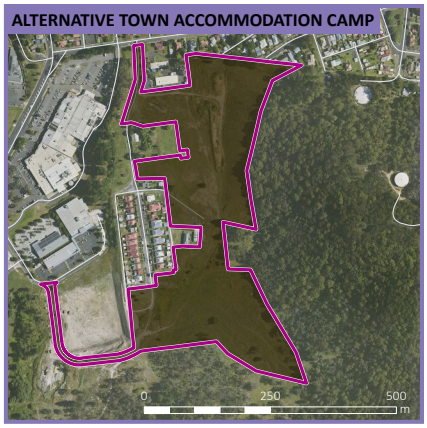
- pre-construction / enabling works – consisting of initial access works (internal and external roads), geotechnical investigations, site establishment and preparation of the worker's accommodation camp
- main works – consisting of all other construction activities needed to enable operation of the project.

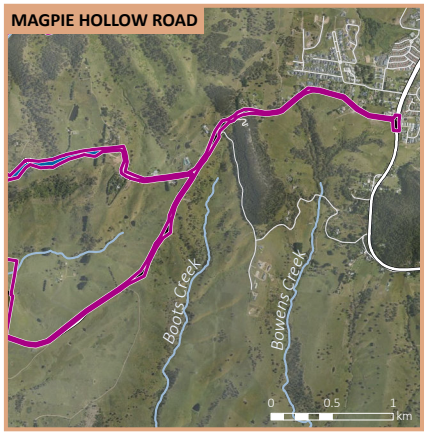
During operation, the project will act as an electrical energy storage system through the conversion of electrical to kinetic energy to gravitational energy and back via water as it is transferred from the elevated upper reservoir to a lower reservoir. The project will provide services to the wholesale 'spot' market on the National Electricity Market (NEM), and support ancillary services used to manage the power system reliably.

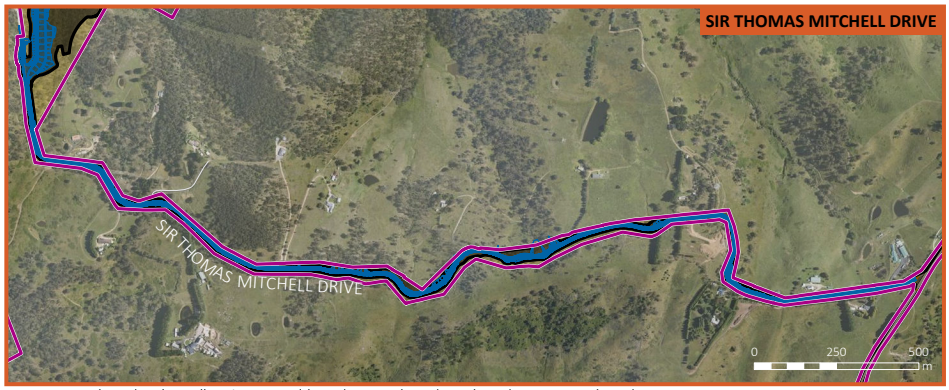
After the 80 to 100-year design life of the project, the asset may remain viable for a plant refurbishment and extension of life as has been seen for other older assets globally. Following the plants final refurbishment or once it has reached the end of its serviceable life then the project would look to return the site to a more natural state and encourage community beneficial use.

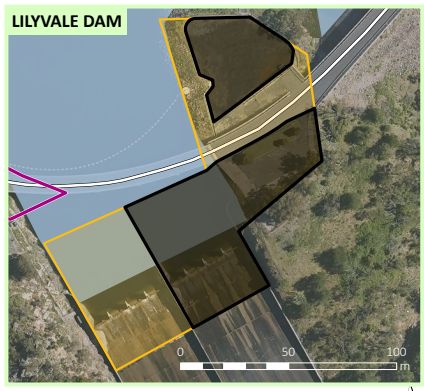










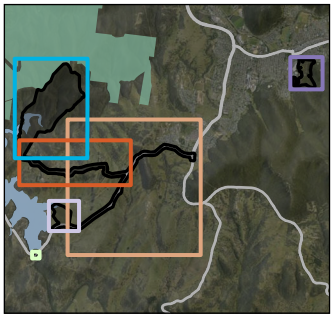


Source: EMM (2025); Lake Lyell Project Pty Ltd (2025); DCSSS (2024); GA (2009); MetroMap (2025)

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KEY

- Project area
- Permanent road
- Above ground design
- Underground design
- Construction envelope
- Disturbance footprint

Existing environment

- Major road
- Minor road
- Named watercourse
- Named waterbody
- NPWS reserve

Project overview

Lake Lyell PHES
Social Impact Assessment
Figure 2.1

EMM
creating opportunities

3 Methodology

This chapter presents the methodology which guided completion of the SIA. The methodology was specifically tailored to meet the requirements of the SEARs, in particular the SIA Guideline (DPIE, 2023a) and Technical Supplement (DPIE, 2023). It should be noted that this assessment was undertaken prior to the release of an updated SIA Guideline (DPHI, 2025) and Technical Supplement (DPHI, 2025).

As such, this SIA predominantly addresses requirements of the SIA Guideline 2023 and where practicable, the SIA significance evaluation has been updated to reflect the social impact significance matrix, terminology and definitions consistent with the latest SIA guidance (DPHI, 2025). The following sections describe the methodology completed for this SIA.

This SIA has also been informed by best practice guidance and standards set out by the International Association for Impact Assessment (IAIA) and the International Finance Corporation (IFC).

Figure 3.1 below illustrates the phases of the SIA methodology which reflects the SIA process outlined in the SIA Guideline.

The SIA report, which is the output of Phase 2, will be placed on public exhibition with the EIS, with submissions received and responded to in Phase 3.

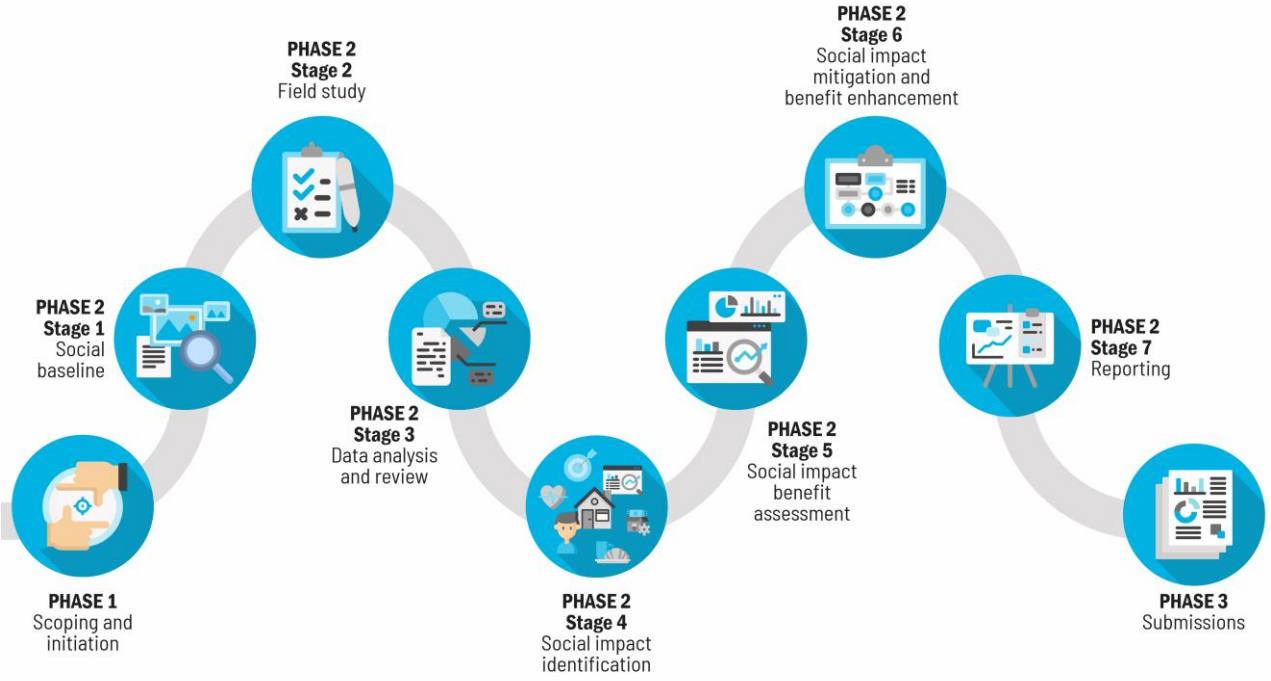


Figure 3.1 Phases of the SIA methodology

3.1 Phase 2 methodology

3.1.1 Stage 1 – Social baseline

Building upon the understanding of the existing social environment attained in Phase 1 (Scoping and initiation), a social baseline study was completed. Key sources of information included existing demographic, health, and socio-economic data from the Australian Bureau of Statistics (ABS), government agencies, and local government, published literature and social research, government policies and plans, and documents relating to similar projects. A wide range of social indicators were reviewed and assessed for relevance.

The selection of social baseline indicators was informed by the social impact categories provided in the SIA Guideline, the outcomes of initial scoping and the review relevant background materials and literature. The social baseline study provides a community profile, including a socio-economic profile and analysis of social infrastructure within the local and regional study areas.

The social baseline study provides a benchmark against which potential social impacts are identified and assessed. The social baseline study is presented in Chapter 5 and Annexure C.

3.1.2 Stage 2 – Field study

SIA engagement activities were conducted in accordance with Appendix A of the SIA Guideline which prescribes key engagement objectives and how community engagement may be conducted (DPIE, 2023a). The specific methods and outcomes of community engagement are presented in Chapter 6.

Social research methods were utilised to collect primary data specifically to inform the SIA, which included in-depth stakeholder interviews and SIA team attendance at community information sessions. Qualitative and quantitative data was also used to:

- validate baseline data and assumptions
- identify / test impacts that may be experienced by nearby neighbours and the broader community
- confirm identified impacts and determine potential management strategies
- provide communities with an opportunity to express any concerns.

3.1.3 Stage 3 – Data analysis and review

Primary and secondary data collected throughout the SIA was analysed to identify community values strengths and vulnerabilities. Data analysis provides a basis to identify and develop social impact themes and confirm potential social impacts.

3.1.4 Stage 4 - Social impact identification

With a clear understanding of the scope of the project and baseline characteristics of potentially affected communities, feedback generated through engagement processes was drawn upon by suitably qualified social scientists (see Section 1.4) to identify the project's potential social impacts.

The assessment of social impacts was conducted with reference to the 2025 SIA Guideline which refers to potential changes to peoples':

- **way of life**: how people live, work, play and interact
- **community**: its composition, cohesion, character, how it operates and sense of place
- **accessibility**: how infrastructure provided by public, private or not for profit organisations, including services and facilities is accessed and used
- **culture**: shared beliefs, customs, values and stories, and connection to Country, land, places, waterways and buildings, both Aboriginal and non-Aboriginal
- **health and wellbeing**: physical and mental health
- **surroundings**: access to and use of ecosystem, public safety and security, access to and use of natural and built environment, aesthetic value and/or amenity

- **livelihoods:** how people sustain themselves through employment or business, their capacity to do so and whether disadvantage is experienced
- **decision-making systems:** extent community can have a say in decisions that affect their lives, access to complaint, remedy and grievance mechanisms.

Identification of the project's potential social impacts and benefits was completed through several complementary approaches to triangulate the findings and confirm accuracy. These approaches included consideration of:

- environmental impacts – review of similar projects in the area, as well as available academic and grey literature to identify potential impacts
- local plans and policies – findings from the review aided to contextualise and understand the local priorities as well as to identify local values
- the existing social environment – demographic and social analysis in the form of a social baseline study
- feedback generated through project stakeholder engagement including findings from SIA engagement activities along with broader engagement undertaken as part of the EIS process
- findings from other relevant technical disciplines that contributed to the EIS were reviewed and potential social impacts defined. These included:
    - Biodiversity Development Assessment Report (BDAR) (EMM, 2025)
    - Aboriginal Cultural Heritage Assessment (ACHA) (EMM, 2025)
    - Air Quality Assessment (AQA) (EMM, 2025)
    - Greenhouse Gas Assessment (GGA) (EMM, 2025)
    - Soil, Land Use and Rehabilitation Assessment (SLURA) (Minesoils, 2025)
    - Landscape and Visual Impact Assessment (LVIA) (EMM, 2025)
    - Noise and Vibration Impact Assessment (NVIA) (EMM, 2025)
    - Traffic Impact Assessment (TIA) (EMM, 2025)
    - Aquatic Ecology Assessment (AEA) (Austral, 2025)
    - Bushfire Risk Assessment (BRA) (Waratah Bushfire, 2025)
    - Economic Assessment (Gillespie Economics, 2025)
    - Surface Water Assessment (EMM, 2025)
    - Groundwater Impact Assessment (EMM, 2025)
    - Statement of Heritage Impact (SoHI) (EMM, 2025)
- consideration of cumulative impacts – review of publicly available documentation from other existing projects in the study area.

A full description of each social impact is provided in Chapter 7 of this report.

3.1.5 Stage 5 – Social impact / benefit assessment

This stage involved the systematic assessment of each identified social impact to predict the nature and scale of social risk associated with construction and operation of the project. The risk approach assesses the magnitude and likelihood of potential positive and negative social impacts with and without mitigation.

The social risk assessment stage evaluates each identified potential social impact and benefit across each phase of the project. Evaluating potential positive and negative impacts considers both subjective (experiential) and objective (technical) components of 'likelihood' and 'magnitude'. Dimensions of magnitude are outlined in Figure 3.2. Once established, these levels of 'likelihood' and 'magnitude' are then interpreted through the social impact 'significance matrix'.

The social risk assessment matrix is provided in the SIA Guideline Technical Supplement (DPHI, 2025) and presented in Figure 3.3. This process is applied to potential social impacts to understand the significance level of impacts before mitigation/enhancement measures. The process is applied again assuming the adoption of mitigation/enhancement measures, which determines the residual significance level.

Table 5 Defining magnitude levels for social impacts

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.

Source: SIA Guideline Technical Supplement 2025, Social impact significance matrix

Figure 3.2 Social impact significance matrix

Magnitude level					
	1	2	3	4	5
Likelihood level	**Minimal**	**Minor**	**Moderate**	**Major**	**Transformational**
A Almost certain	Low	Medium	High	Very high	Very high
B Likely	Low	Medium	High	High	Very high
C Possible	Low	Low	Medium	High	High
D Unlikely	Negligible	Low	Low	Medium	High
E Very unlikely	Negligible	Negligible	Low	Medium	Medium

Source: SIA Guideline Technical Supplement 2025, Social impact significance matrix

Figure 3.3 Social impact significance matrix

3.1.6 Stage 6 – Social impact mitigation and benefit enhancement

Findings from Stages 1 to 5 were used to distil and analyse recommendations for mitigation and enhancement measures for the identified social impacts and benefits. A mitigation and management framework was prepared with consideration of all potential social impacts and benefits to allow for the identification of:

- required impact mitigation measures
- enhancement measures to maximise potential benefits
- partnership opportunities.

As stated above, other relevant technical studies undertaken as part of the EIS were considered for impact evaluation. This stage assesses how proposed mitigation measures from these studies may manage social impacts as identified by this SIA, and where necessary, proposes additional, complimentary social mitigation measures.

3.1.7 Stage 7 – Reporting

Development of this SIA technical report and internal peer review were conducted by EMM's social and environmental scientists.

3.2 Limitations of this study

3.2.1 Primary data

Although a robust and representative engagement method was applied, the data collected through the SIA engagement activities may not capture the full spectrum of perspectives of all community members in the SIA study area. Landowner participants in the SIA field study program were primarily selected based on proximity to the study area and willingness to participate. As key stakeholders it is important to capture the perceptions of these people; however, it may not be fully representative of broader community sentiment. This is somewhat balanced by community sentiment surveys presented in Section 6.1.2. Further, many key stakeholders approached by the project opted not to participate in engagement for the SIA, or did not respond despite various attempts made to contact them. This means primary data available for some matters, such as capacity of certain services, is not available.

3.2.2 Secondary data

A key source of data describing social conditions is the ABS Census of Population and Housing, the latest of which was in 2021. There may have been changes to social characteristics since this census event. A consideration is that the 2021 Census occurred during the height of COVID epidemic restrictions which may have impacted upon socio-economic trends and characteristics as recorded.

Social infrastructure reviewed in the social baseline predominantly considers government-provided facilities or services. In some instances, it is possible that local communities access services through private providers for which data is not available.

3.2.3 Other limitations

The SIA assessment is based on the current project design (as depicted in Appendix B of the EIS). It has been noted that while project components are generally fixed, some refinements to the physical layout or design of certain components of the project may be required following further investigation and design. The objective is to ensure that the final design can meet construction requirements while continuing to minimise social and environmental impacts and deliver benefits.

The SIA engagement program was undertaken in 2024. Since this SIA engagement, the project design has been refined. The project refinements were developed following further design and engineering optimisation and in response to community feedback. As a result, an alternative accommodation camp option located within the Lithgow township has been identified (referred to as the Town camp). Findings from the 2024 SIA engagement have been supplemented with engagement performed and recorded by LLP in 2025, including engagement focused on the community and neighbours near the Town camp.

4 Social locality

This chapter provides a summary of key features of the area within which the project would be developed, the policy and planning context, describes the SIA study area and key project impact pathways.

4.1 SIA context

Key features in and around the project area are shown in Figure 1.1 and include:

- Lake Lyell, which has a capacity of approximately 32.1 GL and a catchment area of 380 kilometres squred (km^2)
- Mount Walker, a mountain located approximately 1.2 km north of the Farmers Creek arm of Lake Lyell to the peak. With a peak of approximately 1,190 metres (m), there is about a 350 m elevation gain from the Lake Lyell shoreline to the Mount Walker peak
- Farmers Creek, a tributary of Lake Lyell which meets the Lake at an eastern boundary of the project area
- Coxs River, the main tributary of Lake Lyell, located to the west of the project area
- Line 76/77 Sydney South – Wallerawang – Ingleburn, a 330 kV electricity transmission line that passes through the project area
- Marrangaroo National Park, located to the north of the project area
- Lithgow, with the closest residential areas being South Bowenfels (approximately 2.3 km east) and Bowenfels (approximately 2 km east) of the project area, when measured to the nearest medium density residential development.

Other residential areas relevant to the project include South Bowenfels, Lithgow, and Littleton located east of the project area, and Rydal to the west. Several residential properties are located more sparsely in the rural areas surrounding the project as well as tourism operators and agricultural properties. These receptors near to the project are generally shown in Figure 1.2. Not all receptors are expected to experience impacts from the project.

The values of the Marrangaroo National Park as listed by the statement of management intent (Office of Environment and Heritage, 2014) include the water catchment of Marrangaroo Creek, Farmers Creek and the Coxs River, potential for native plants and scenic quality of Mt Walker and recreation activities, and Aboriginal heritage.

4.2 Policy and planning context

The project is classified as State significant infrastructure (SSI) and critical State significant infrastructure (CSSI) pursuant to Schedule 5 of the *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP). Accordingly, approval for the project is required under Part 5, Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).

Details regarding the strategic direction of each planning instrument, and how it relates to this project's development has been provided in Annexure B. The following section summarises how this projects' development aligns to applicable policy guidance at the National, State and local level.

4.2.1 National and State policy objectives

The project's consistency with relevant policies and plans is addressed in Section 2 of the EIS, including:

- *2024 Integrated System Plan* (AEMO, 2024)
- *NSW Electricity Strategy* (DPIE, 2019)
- *NSW Electricity Infrastructure Roadmap* (DPIE, 2020)
- *First Nations Guidelines* (Office of Energy and Climate Change, 2022a)
- *State Infrastructure Strategy 2022-2042* (Infrastructure NSW, 2022)
- *NSW Pumped Hydro Roadmap* (DPE, 2018).

4.2.2 Local and regional planning objectives

Key areas of project alignment to local and regional policy guidance are summarised below. They include:

- Lithgow Regional Economic Development Strategy – 2023 Update (DRNSW, 2023): The project aligns to the strategy by fostering economic diversity associated with the emerging renewable energy sector, supporting the development and upskilling of a local workforce, and by leveraging the site's proximity to major centres and existing energy infrastructure.
- Central West and Orana Regional Plan 2041 (DPE, 2022c): The project aligns with this plan's objectives by contributing to emission reductions, providing local employment, administration of community benefit grants, and with initiatives that seek to preserve recreation values and opportunities at Lake Lyell.
- Our Place Our Future Community Strategic Plan 2035 (Lithgow City Council, 2022a): The project's community and stakeholder consultation activities align with Lithgow City Council's goals for community engagement, while contributing to the localised shift towards net zero for current and future generations.
- *Lithgow 2040 Local Strategic Planning Statement* (Lithgow City Council, 2020)*:* The project contributes to Council planning priorities by working with the community and Lithgow City Council to minimise and mitigate the potential for land-use conflict at the Lake Lyell.
- *Our Place, Our Future Delivery Program 2022/23-2025/26 & Operational Plan 2024/25* (Lithgow City Council, 2022b) (Delivery Program and Operational Plan): Through work with Lithgow City Council and community to preserve recreation areas and enhance facilities at Lake Lyell, the project will contribute to overall sustainable planning objectives. Additionally, LLP will establish an accommodation camp available for up to 500 workers for the duration of site construction to prevent additional pressure on housing availability.
- *Our Place, Our Future Workforce Management Strategy 2022-2026* (Lithgow City Council, 2022f)*:* The Lake Lyell PHES will attract workers to the region during project construction, enabling skill sharing, as well as provide local opportunities which will aid in the diversification of Lithgow's workforce. The project will also help to fill gaps in the market created by the closure of nearby mines and power stations, and the five-year construction period is likely to provide a stopgap for those looking for employment.

- *Lithgow Land Use Strategy 2010-2030* (Lithgow City Council, 2010)*:* As a significant development within a valued natural and recreational site, the project has involved a number of design changes to better address land use and social impacts. The project's upper reservoir has already been moved from the original design from the Mount Walker ridge to reduce potential visual amenity and cultural impacts for the community and tourism. LLP will continue to work closely with the community to mitigate impacts and prevent land use conflicts, including through establishing a community benefits program.

4.3 SIA study area

The SIA study area (referred to as 'social locality' in the SIA Guideline 2025) is defined with reference to stakeholders who could potentially be directly or indirectly affected by the project. This includes landowners, nearby neighbours, community members, businesses, service providers and indigenous groups who may have an interest in the project or could be directly or indirectly impacted. The SIA study area identifies the social and geographical areas for the SIA, and considers:

- the nature and scale of the proposed project, including associated infrastructure
- the scope of the potential social impacts throughout the project lifecycle
- the location and characteristics of potentially affected communities
- land use patterns, infrastructure and urban / rural centres.

The local area and nearby townships consist of the communities that are likely to experience direct social impacts from the project (i.e. impacts related to local social infrastructure and services, road infrastructure, amenity, workforce, local business and industry, local housing and accommodation, and community health and wellbeing).

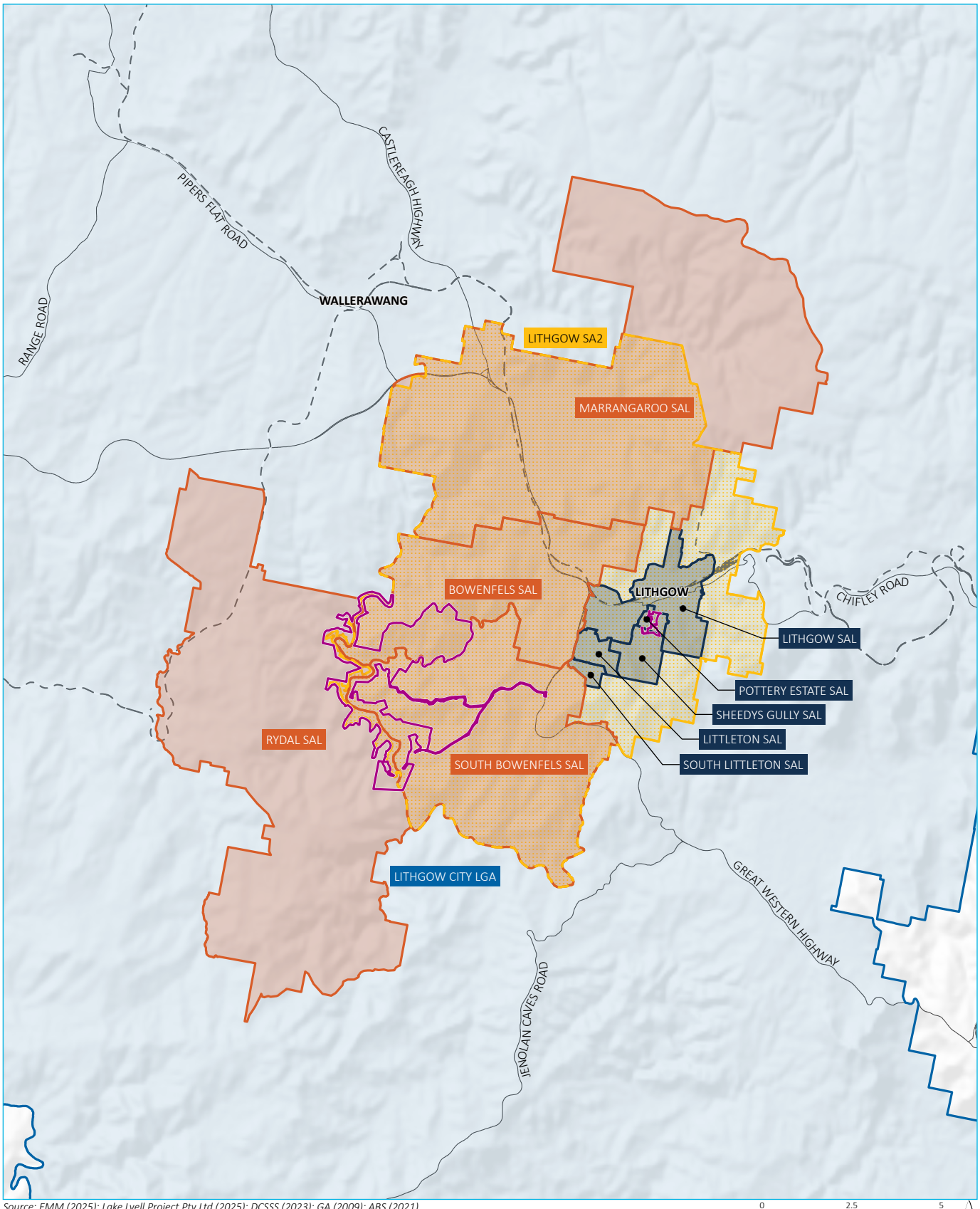
The regional study area includes the geographic areas likely to experience fewer direct and more indirect social impacts of the project. Indirect impacts are associated with use of infrastructure, supply chains, roads, transportation of goods, materials and equipment, the movement of workers (some of which may operate on a drive-in-drive-out (DIDO) basis) and cumulative impacts arising from other projects in the area.

The SIA study area has been mapped to respective ABS statistical geographic areas (refer to Table 4.1). The SIA local area, key urban area and regional area are illustrated in Figure 4.1.

Table 4.1 Locations within the SIA study area mapped to ABS categories

Study area	Geographic area	ABS statistical geography	Relevance to the project
Local area – rural/rural residential	Rydal locality	Rydal SAL (SAL13467)	The rural local area is inclusive of residents in close proximity to the project site who may experience direct impacts and benefits associated with construction activities and operation. The rural local area is inclusive of the preferred Lakeside camp.
	Bowenfels locality	Bowenfels SAL (SAL10527)	
	South Bowenfels locality	South Bowenfels SAL (SAL13594)	
	Marrangaroo locality	Marrangaroo UC/L (UCL122083)	
Local area – urban	Pottery Estate locality	Pottery Estate SAL (SAL13266)	The urban local area is inclusive of residents located in proximity to the proposed alternate Town camp location who may experience impacts and benefits associated with operation of the Town camp.
	Sheedys Gully locality	Sheedys Gully SAL (SAL13546)	
	Lithgow suburb	Lithgow SAL (SAL12356)	
	Littleton locality	Littleton SAL (SAL12369)	
	South Littleton locality	South Littleton SAL (SAL13606)	

Study area	Geographic area	ABS statistical geography	Relevance to the project
Key urban area	Lithgow city	Lithgow SA2 (103031070)	The Lithgow township is located within approximately 8 km of the project site.
Regional area	Lithgow LGA	Lithgow LGA (LGA14870)	The project is located within the Lithgow local government area. Residents in the regional area may experience impacts relating to the use of infrastructure, supply chains, movement of workers and cumulative impacts.
NSW	State of NSW	New South Wales (S/T1)	The State (New South Wales) is used as a basis of comparison for some data sets.



Source: EMM (2025); Lake Lyell Project Pty Ltd (2025); DCSSS (2023); GA (2009); ABS (2021)

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KEY

- Project area
- Rural local area
- Urban local area
- Key urban area
- Regional area

Existing environment

- Rail line
- Major road

INSET KEY

- Major road
- NPWS reserve
- State forest

Social locality

Lake Lyell PHES
Social Impact Assessment
Figure 4.1

EMM
creating opportunities

4.4 Key project activities and impact pathways

The nature of key project activities informs the identification and evaluation of potential changes to the social environment which could create impact or benefit pathways for the community. The table below forms the basis of further evaluation for the impact duration, stakeholders affected and the geographic extent of these changes. These are outlined in Table 4.2.

Table 4.2 Key project activities

Key project activity	Potential change to social environment	Stakeholder affected	Geographic extent of social change
Early works (included within construction timeframes)			
Workforce influx prior to construction and operation of accommodation camp	• Increased demand for short-term accommodation and strain on local services	• Landholder and surrounding neighbours • Local accommodation providers • Local government • Community organisations • Visitors	• Local area/s • Key urban area
	• Changes to community values and character	• Landholder and surrounding neighbours • Local communities • Traditional Owners and Aboriginal communities • Local government	• Local area/s • Key urban area
Upgrading external access roads	• Early site access preparations and external road upgrades temporarily impacting traffic conditions	• Landholder and surrounding neighbours • Local government • Visitors to Lake Lyell	• Local area/s • Key urban area
Building temporary infrastructure and geotechnical drilling activities • accommodation camp • storage and laydown • clearing drill pads and drilling	• Changes to amenity (visual, noise, vibration and dust), lifestyle and environmental values	• Landholder and surrounding neighbours • Local accommodation providers • Traditional Owners and Aboriginal communities	• Local area/s • Key urban area

Key project activity	Potential change to social environment	Stakeholder affected	Geographic extent of social change
Procurement and local business activity	• Economic benefits associated with generation of local and regional business supply opportunities • Increase in trade and revenue for local businesses in nearby townships due to workforce patronage	• Local businesses • Traditional Owners and Indigenous-owned businesses • Local economic and industry groups	• Local area/s • Key urban area • Regional area
Community and stakeholder engagement	• Increased community awareness and understanding of the planning and construction of major infrastructure projects including mitigations for impacts and benefits delivered	• Local communities • Local Government • Schools and training providers • Directly impacted landowners and surrounding neighbours	• Local area/s • Key urban area
Construction works			
Building permanent ancillary infrastructure • jetties • site control and communication infrastructure • spoil management areas • emergency provisions (fire water tanks for fire control)	• Changes to amenity (visual, noise, vibration and dust), lifestyle and environmental values	• Landholder and surrounding neighbours • Traditional Owners and Aboriginal communities • Local accommodation providers	• Local area/s
	• Change to landowner privacy and quiet enjoyment of place	• Directly impacted landowners and surrounding neighbours	• Local area/s
	• Increase in road usage and changes to traffic conditions and road safety	• Local and regional communities • Local government • Emergency service providers	• Local area/s
	• Changes to sites and landscape of cultural or historical heritage	• Local communities • Traditional Owners and Aboriginal communities	• Local area/s
	• Changes to access and connectivity during road upgrade construction	• Emergency service providers • Local and regional communities	• Local area/s
	• Local road upgrades and increase in road usage resulting in changes to traffic conditions and road safety	• Local and regional communities • Local government • Emergency service providers	• Local area/s • Key urban area

Key project activity	Potential change to social environment	Stakeholder affected	Geographic extent of social change
Building temporary infrastructure • storage and laydown • concrete plant • rock and aggregate crushing • water construction pad • administration and amenities buildings	• Changes to amenity (visual, noise, vibration and dust), lifestyle and environmental values	• Landholder and surrounding neighbours • Local accommodation providers • Traditional Owners and Aboriginal communities	• Local area/s • Key urban area
	• Change to landowner privacy and quiet enjoyment of place	• Directly impacted landowners and surrounding neighbours	• Local area/s
	• Change in non-resident workforce demand for short-term or local area accommodation	• Landholder and surrounding neighbours • Local government • Local accommodation providers and related stakeholders	• Local area/s • Key urban area
	• Changes to community values and cohesion during construction, associated with increased workforce visibility and/or workforce accommodation needs	• Landholder and surrounding neighbours • Local government • Community organisations, services and representative groups	• Local area/s • Key urban area
	• Increase in road usage and changes to traffic conditions and road safety	• Local and regional communities • Local government • Emergency service providers	• Local area • Key urban area
	• Changes to sites and landscape of cultural or historical heritage	• Local communities • Traditional Owners and Aboriginal communities	• Local area/s
Employment generation during construction (peak workforce of around 600 personnel)	• Increased competition for labour and reduced availability of skilled labour for local employers	• Local and regional communities • Local businesses • Local government	• Local area/s • Key urban area • Regional area
	• Potential strain on local health services, schools and emergency services due to workforce influx	• Local communities • Health service providers • Local Government	• Local area/s • Key urban area • Regional area

Key project activity	Potential change to social environment	Stakeholder affected	Geographic extent of social change
	• Generation of training and skills development opportunities, including for traditionally under-represented groups.	• Local communities • Vulnerable groups • Traditional Owners and Indigenous community members • Education and Training providers	• Local area/s • Key urban area
Operation of workforce accommodation camp hosting 500 personnel	• Change to landowner privacy and quiet enjoyment of place	• Directly impacted landowners and surrounding neighbours • Local accommodation providers • Visitors	• Local area/s
	• Change in non-resident workforce demand for local area accommodation, including short-term accommodation	• Landholder and surrounding neighbours • Local government • Local accommodation providers and related stakeholders • Visitors	• Local area/s • Key urban area
	• Changes to community values and cohesion during construction, associated with increased workforce visibility and/or workforce accommodation needs	• Landholder and surrounding neighbours • Local government • Community organisations, services and representative groups	• Local area/s • Key urban area
General business opportunities	• Economic benefits associated with generation of local and regional business supply opportunities, including opportunities for capacity development of small-medium enterprises and Indigenous businesses	• Local businesses • Traditional Owners and Indigenous-owned businesses • Local economic and industry groups	• Local area/s • Key urban area • Regional area
	• Increase in trade and revenue for local businesses in nearby townships due to workforce patronage	• Local businesses • Traditional Owners and Indigenous-owned businesses • Local economic and industry groups	• Local area/s • Key urban area • Regional area

Key project activity	Potential change to social environment	Stakeholder affected	Geographic extent of social change
Construction on Mount Walker, including tunnels, upper reservoir, access roads. This activity also includes vegetation clearing	• Changes to amenity (visual, noise, vibration and dust), lifestyle and environmental values	• Local communities • Traditional Owners and Aboriginal communities • Local accommodation providers • Visitors	• Local area/s • Key urban area
	• Change to landowner privacy and quiet enjoyment of place	• Directly impacted landowners and surrounding neighbours • Local accommodation providers • Visitors	• Local area/s
	• Increase in road usage and changes to traffic conditions and road safety	• Local and regional communities • Local government • Emergency service providers	• Local area/s • Key urban area
	• Changes to sites and landscape of cultural or historical heritage	• Local communities • Traditional Owners and Aboriginal communities	• Local area/s • Key urban area
	• Biodiversity impacts and change to local environment values	• Landholder and surrounding neighbours • Local communities • Traditional Owners and Aboriginal communities • Local government	• Regional area
	• Changes to community values and character	• Landholder and surrounding neighbours • Local communities • Traditional Owners and Aboriginal communities • Local government	• Local area/s • Key urban area
	• Perceived change to nearby property values	• Landholder and surrounding neighbours • Local accommodation providers	• Local area/s
Constructing intake structure, lake diversion, bridge crossing, transmission lines and substation area	• Changes to amenity (visual, noise, vibration and dust), lifestyle and environmental values	• Local communities • Directly impacted landowners and surrounding neighbours • Traditional Owners and Aboriginal communities • Visitors to Lake Lyell and Farmers Creek	• Local area/s • Key urban area

Key project activity	Potential change to social environment	Stakeholder affected	Geographic extent of social change
	• Change to landowner privacy and quiet enjoyment of place	• Directly impacted landowners and surrounding neighbours	• Near neighbour properties
	• Changes to sites and landscape of cultural or historical heritage	• Local communities • Traditional Owners and Aboriginal communities	• Local area/s • Key urban area
	• Reduced access to Farmers Creek access and potential impacts on water quality and aquatic biodiversity	• Local communities • Visitors • Downstream water users • Traditional Owners and Aboriginal communities	• Local area/s • Key urban area
	• Perceived change to adjoining property values	• Landholders and surrounding neighbours	• Local area/s
	• Increase in road usage and changes to traffic conditions and road safety	• Local and regional communities • Local government • Emergency service providers	• Local area/s • Key urban area
Operation			
Long-term employment (around 20 operations personnel)	• Creation of long-term direct and indirect local employment opportunities as well as transferrable skills in renewable energy and other complementary industry sectors	• Local communities • Education and training providers • Indigenous community members	• Local area/s • Key urban area • Regional area
Rehabilitation of construction sites.	• Changes to the local environment and concerns related to land restoration strategies	• Landholder and surrounding neighbours • Traditional Owners and Aboriginal communities	• Local area • Key urban area
	• Opportunity to align rehabilitation strategies with community objectives, enhancing local environmental and recreational spaces	• Landholder and surrounding neighbours • Traditional Owners and Aboriginal communities • Local government	• Local area/s Key urban area
Operation of project (PHES and transmission infrastructure)	• Increased community awareness and education of renewable energy processes and benefits	• Local and regional communities	• Local area/s • Key urban area regional area

Key project activity	Potential change to social environment	Stakeholder affected	Geographic extent of social change
	• Concerns around long-term health and safety related to electromagnetic field (EMF) exposure, dam break and fire risk	• Landholder and surrounding neighbours • Local and regional communities	• Local area/s Key urban area
	• Community concerns regarding water quality and availability during and after construction	• Local and regional communities	• Local area/s • Key urban area • Regional area
	• Changed public access arrangements and recreational use of Lake Lyell	• Local and regional communities • Tourism and accommodation stakeholders	• Local area/s • Key urban area
	• Perceived change to nearby property values	• Local and regional communities • Tourism and accommodation stakeholders	• Local area/s • Key urban area
	• Ongoing effect on sites and landscape of cultural or historical heritage.	• Local communities • Traditional Owners and Aboriginal communities	• Local area/s • Key urban area
Decommissioning			
Decommissioning of the project	• Uncertainty associated with decommissioning approaches for project's 80 to 100-year lifespan	• Local community	• Local area/s • Regional area

5 Social baseline

This chapter provides a summary of baseline social conditions relevant to the SIA, based on ABS Census data and analysis (ABS, 2021; ABS, 2016; ABS, 2011) and the study areas geographies previously defined in Section 4.3. It outlines existing social characteristics with reference to specific and relevant social indicators across the following key themes:

- population and demography
- vulnerabilities and vulnerable groups
- labour market and income
- local business and industry
- educational attainment
- housing and accommodation
- community health and wellbeing
- social infrastructure and services.

A key source of baseline information is data collected through ABS.

The following sections provide a summary of the SIA baseline. The detailed SIA baseline is provided in Annexure C, and should be referred to accordingly for supporting detailed data and statistics.

5.1 Community profile

Lithgow LGA is located west of the Blue Mountains in central NSW in the Central West and Orana Region, about a 2 hours' drive from Sydney. Covering an area of 4,550 km^2, the LGA comprises a population of over 20,724 people spread over several towns such as Lithgow, Wallerawang, and Bowenfels among others (.idcommunity, 2024).

The traditional custodians of the land and water that comprise Lithgow LGA are the Wiradjuri People of the Wiradjuri Nation, with the Gundungarra nation to the south and the Darug nation to the east (Lithgow City Council, 2022a). The language group is Wiradjuri language, previously the Wiradhuri language, and the spelling "Wiradyuri" is preferred by some members of the language community (AIATSIS, n.d.). Many National parks contain Aboriginal sites, places, and relics such as engravings, carved trees, and spiritual sites which provide a direct link to traditional Aboriginal culture. Further, Mount Walker in Lithgow is one of the highest peaks in the district and has been identified as a culturally important site (Lithgow Tourism Information, 2023) (EMM, 2025).

Currently the region is predominately rural, with nearly two-thirds of Lithgow LGA being National park or State forest (.idcommunity, 2024). In Lithgow LGA, the rural land is mainly used for farming, grazing, and mining, in particular, coal mining (.idcommunity, 2024). However, there are rural-residential and residential areas in several townships as well as some industrial land use (.idcommunity, 2024). The Lithgow City Council's Community Strategic Plan (CSP) identified the region as "previously perceived to be an inland mining and industrial centre", however the area has been recognised as an important tourism destination, heritage centre and a desirable residential area due to recent developments (Lithgow City Council, 2022a).

Since 1868, Lithgow's economic and social growth had been supported and sustained by regional industrial activities, namely coal mining (Della Bosca, 2018). An example of this is the Lithgow Industrial Co-operative Society, a community welfare initiative "which connected pharmacies, grocers, and other retail operations with smaller mining communities throughout the region" (Della Bosca, 2018, p. 737). Furthermore, in the early mining days of Lithgow, houses were often provided for workers "resulting in spatial clusters of families with historical mining ties" (Della Bosca, 2018, p. 737). The connection between the mining industry and the Lithgow community continues today through local employment and the mines' involvement in local sporting organisations and charitable causes (Della Bosca, 2018).

The social baseline shows a high proportion of voluntary work in the suburbs and localities (SALs) of Rydal and South Bowenfels, which indicates a cohesive and engaged community. Volunteering organisations in the area include the RFS and HammondCare, which is an independent organisation that provides volunteer services in the aged and palliative care sector. Residents can also apply for volunteer work through the Council website. Many residents of the broader area are associated with sporting and recreational organisations, as well as business interest groups.

Further indications of community cohesion are provided in the Lithgow City Council Community Strategic Plan (2022), where community consultation identified "sense of community and friendly people" as one of the most valued aspects of living in Lithgow.

Many stakeholders in Rydal and South Bowenfels also identified that willingness to help each other was a key value of local residents, and that community strengths include a sense of connection to place and community.

Existing risks affecting community cohesion in the Lithgow area include a lack of employment opportunities resulting in young people moving away from the Lithgow area.

5.2 Demographic profile

5.2.1 Population trends and projections

In 2021, the local study area had a total population of 3,835 people, of which the majority (53.4%) resided within Bowenfels SAL (refer to Annexure C, Table C.1). The urban local area had a population of 6,258 residents, of which most (79.1%) lived in Lithgow SAL.

The local study area experienced a higher growth rate between 2016-2021 than the urban local area, which experienced a small decline. A population decline also occurred in the key urban and regional areas. When examining the growth rate between 2011-2021, the data shows that the local study area experienced the greatest growth compared to the key urban and regional areas. In contrast, the urban local area experienced a population decline of -7.7% in the ten-year period, which is likely related to overall population decline in Lithgow. Population decline in Lithgow can largely be attributed to the decline of the coal mining industry, with the closure of the Angus Place Colliery leading to approximately 800 jobs lost in the region (Gregory, 2021). Across the study areas, South Bowenfels SAL saw the greatest population growth in the ten-year period, and Rydal SAL had the greatest population decline.

Population projections by the DPHI suggest that the projected population in Lithgow LGA will increase to 21,603 people in 2041, representing an increase of 3.6%. Projected population growth is lower in the region than in NSW, where there is a predicted increase of 24.3% (DPHI, 2024).

Table 5.1 Population projections, 2021 to 2041

Study area	2021 population	2041 projected population	2021–2041 change	2021–2041 percentage change (%)
Lithgow LGA	20,855	21,603	748	3.6
NSW	8,097,095	10,070,500	1,973,405	24.3

Source: DPHI population projects (DPHI, 2024)

Review of ABS population mobility, a measure of migration within a population, shows that overall there are high levels of stability in the local area.

5.2.2 Socio cultural characteristics

The age and socio-cultural indicators in Annexure C, Table C.2 show that the local study area has higher proportions of people aged 14 years or under and people aged 65 years or over as well as a higher proportion of couples with no children and lone person households relative to NSW. In the local study areas, there was a lower proportion of people who speak a language other than English at home or people who do not speak English well or not at all, compared to NSW.

The local areas have a significantly higher proportion of Aboriginal and/or Torres Strait Islander people than the proportion across NSW, with a proportion of 8.7% in the local area and 6.9% in the urban local area. This can be attributed to particular suburbs and localities which are home to larger populations of Aboriginal and/or Torres Strait Islander people, such as Bowenfels SAL.

5.3 Labour market and income

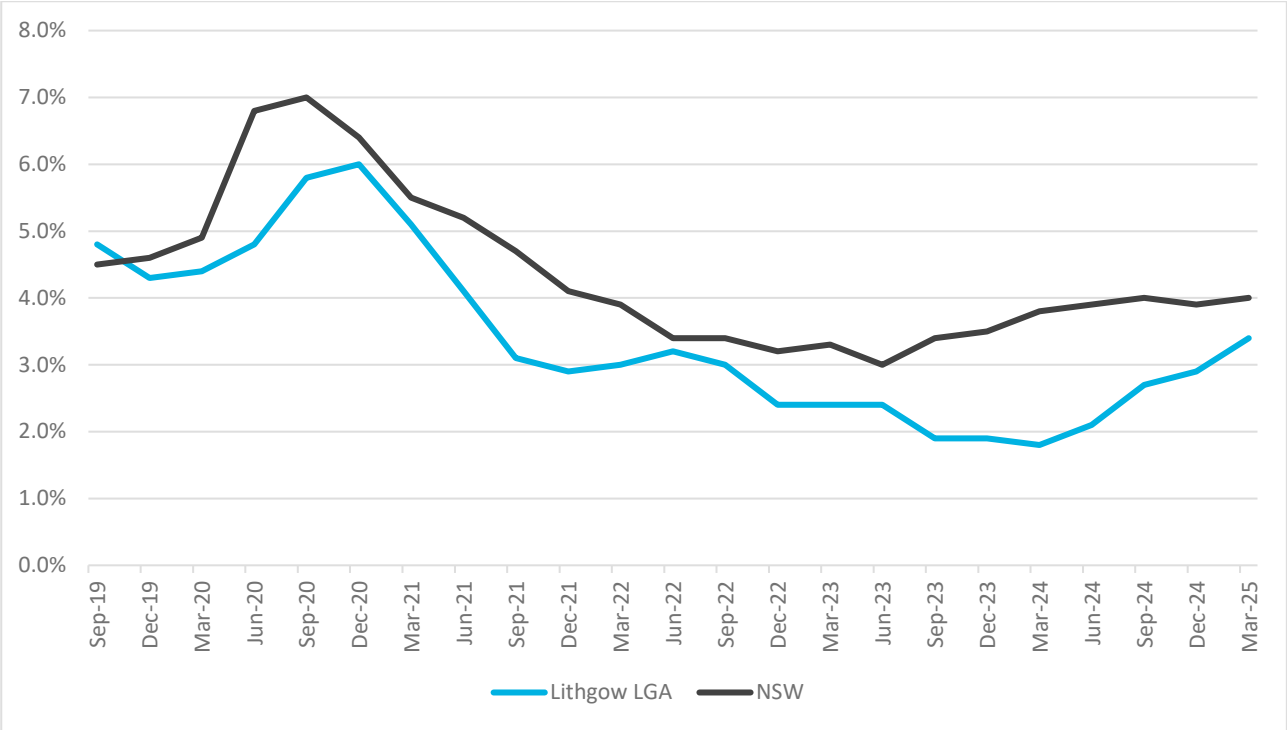
5.3.1 Labour force characteristics, employment and industries

Labour force participation rates are a measure of those over 15 years who are employed or actively seeking work as a proportion of the total population (ABS, 2022). Labour force participation rates are similar in the local study and the key urban areas, but lower than the regional study area and NSW.

At the time of the 2021 Census, the local areas and key urban area had higher unemployment rates compared to the regional area and NSW, with unemployment rates highest in Bowenfels SAL and South Littleton SAL. There are also higher levels of youth unemployment in all areas compared with the overall unemployment rate except in Rydal SAL and Marrangaroo UCL. The lower level of youth unemployment in these localities is consistent with a lower proportion of people aged 14 years or under.

The rural local study area has the highest rates of Aboriginal and/or Torres Strait Islander unemployment compared to the key urban area, the regional study area, and NSW. The urban local area had a lower prevalence of Aboriginal and/or Torres Strait Islander unemployment. Aboriginal and/or Torres Strait Islander unemployment could not be calculated in some areas of the local and urban local areas due to the small population and limited publicly available data.

Figure 5.1 shows the quarterly unemployment rate for Lithgow LGA and NSW from September 2019 to March 2025. In recent years, unemployment in NSW has been slowly increasing, rising from 3.4% in September 2023 to 4.0% in March 2025, with Lithgow following this trend, with unemployment increasing between March 2024 to March 2025 (DERW, 2025).



Source: Small Area Labour Markets, National Skills Commission, Australian Government – March quarter 2025.

Figure 5.1 Unemployment rate, September 2019 to March 2025

The top occupations of the local study area are technicians and trades workers, community and personal service workers, and professionals. This is similar for the urban local area and regional area.

Coal mining is the top industry of employment across the local area, parts of the urban local area, key urban area, and regional area. Other top industries include aged care residential services, which is the second top employing industry. In the urban local area, other top industries of employment include takeaway food services and State government administration. The key urban area has the highest proportion of retail trade and accommodation and food services, likely indicative of a regional centre.

Retail and accommodation are the second highest industries after mining, and both have higher proportions than the NSW average, unlike other industries. In the context of closing mines, this industry plays a role in bolstering the local economy, and potentially in smoothing the transition. Despite a traditional mining focus, economic data indicates a slow shift to tourism and repositioning the region.

5.3.2 Workforce availability and income

The workforce availability in the study area for industries of employment relevant to the project include:

- electricity, gas, water, and waste services
- transport, postal and warehousing
- construction
- professional, scientific, and technical services.

The Australian construction industry faces a critical workforce shortage of more than 100,000 workers (Australian Constructors Association, 2022). A report published by Infrastructure Australia (2021a), estimates the anticipated demand for infrastructure workers will/has outstripped supply by up to 48% in 2023. The construction industry in NSW is facing an unprecedented amount of work with increased volatility in the levels of staffing, due to reliance on immigration for key trades. This has been exacerbated by the effects of COVID-19, with skilled migrant workers being delayed coming to Australia to fulfil this labour demand.

The study area demonstrates a further restriction within the construction industry, demonstrating minimal or negative growth over five years to 2021 compared to NSW. In contrast, the transport, postal and warehousing industry has shown robust growth, particularly in Bowenfels SAL and South Bowenfels SAL.

Overall, the local study area experienced the greatest total growth of employment in industries relevant to the project by 15.4% from 2016 to 2021. Employment in these industries grew by 13.4% in NSW as a whole. Thus, there could be workforce available in the industries of transport, postal and warehousing as well as professional, scientific and technical services in the local study area. However, there is a limited construction workforce in the local study areas, key urban area, and regional study area.

At the time of the 2021 Census, most areas had a median individual weekly income lower than the NSW average of $813. For median weekly household income, most of the study areas were also lower than the NSW average of $1,829.

5.4 Business and industry

5.4.1 Local and key urban area business and industry

In 2024, there were a total of 624 businesses in the Lithgow SA2, which is inclusive of the urban local area and rural local area (excluding Rydal). A majority of these businesses (347) were non-employing, with a further 168 with 1 to 4 employees (ABS, 2024).

There were 125 construction businesses in Lithgow SA2, which was the most prominent businesses industry, followed by retail trade (63 businesses), rental, hiring and real estate services (53) and transport, postal and warehousing (51 businesses) (ABS, 2024). Businesses in Bowenfels and South Bowenfels included house building, construction equipment providers and removalist businesses.

Desktop research showed that within the local area, the most common type of businesses are accommodation businesses. In particular, Rydal had a high proportion of accommodation businesses. However, there are a number of construction businesses within the local area, focusing on building, removalists and equipment providers. Hospitals were also a prominent industry in the local area due to the Lithgow Hospital being located in South Bowenfels.

Detailed analysis of the role of tourism and recreation in local business and industry is provided in Annexure D.

5.4.2 Regional business and industry

Data from the ABS (ABS, 2024) recorded 1,398 registered businesses in the Lithgow LGA, of which the most common industry was construction with 295 businesses in the regional area (approximately 21% of registered businesses). The second most common industry was agriculture, forestry and fishing (accounting for approximately 17% of registered businesses). Most businesses were low employing, with 878 businesses with no employees, and 495 businesses with 1 to 19 employees. As such, only 32 businesses in the Lithgow LGA had over 20 employees.

Lithgow has historically showed a relatively high number of closures and slow growth, and its principal income is derived from the mining industry, through it has a relatively low share of locally registered businesses.

Figure 5.2 shows the numbers of businesses in each industry within Lithgow LGA.

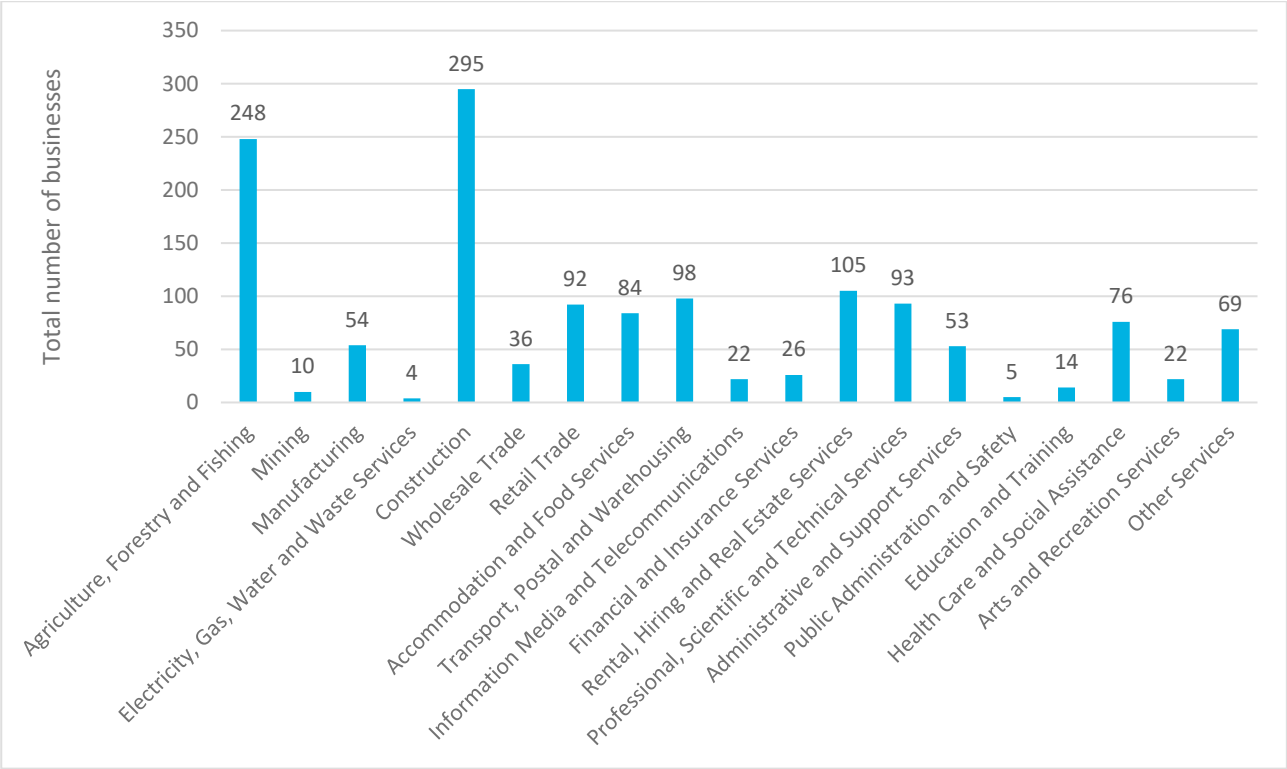


Figure 5.2 Total number of businesses by industry

5.4.3 Aboriginal and/or Torres Strait Islander people business and industry

A search for Aboriginal and/or Torres Strait Islander businesses in the study area on Supply Nation found five businesses within a 30 km radius from Lithgow (Supply Nation, 2024). These comprised one construction business and the other Indigenous-run businesses were in counselling and arts and culture.

5.5 Educational attainment and qualifications

For the local area, of the highest schooling achievement groups, Year 12 or equivalent had the highest proportion. Year 12 completion is slightly higher in the local (rural and urban) study areas than the key urban area and the regional study area but is much lower than NSW. Completing school at Year 10 is a more common occurrence in the local study areas compared to the key urban area and the regional study area.

Across the local study areas, key urban, and regional study area, persons with certificates comprises the largest proportion of non-school qualifications held by people over 15 years, with both the local area and urban local area. The high proportion of persons with certificate qualifications could be indicative of trades and technical workers as a prominent occupation in the study area (refer to Annexure C, Table C.11). This contrasts with NSW proportions which has the majority of non-school qualifications as a bachelor's degree followed closely by certificates. In the local study areas, Marrangaroo UCL has the higher proportion of peoples with certificates.

5.6 Housing and short-term accommodation

Access to safe, adequate and affordable housing is a critical pillar in enabling the physical, mental and social health of communities. While housing is generally provided in the private market, a distinct lack of affordable and appropriate housing options available for various income and cultural groups within the community it can result in a greater demand for housing assistance (Infrastructure Australia, 2019).

The Australian Government's Centre for Population estimated a net shift in migration away from capital cities in favour of regional areas from 2020 (Centre for Population, 2020). This has contributed to increased rents and lower rental availability (particularly affordable housing) in regional areas of Australia, including Lithgow LGA. In facilitating increased migration from urban centres to more regional areas of Australia, COVID-19 has increased the number of people at risk of housing instability and homelessness for persons experiencing financial hardship (Anglicare Australia, 2021).

Evidence indicates that COVID-19 generated similar impacts to those experienced during the Global Financial Crisis in Australia, with housing prices increasing in 2021 after a period of uncertainty (Verdouw, Yanotti, De Vries, Flanagan, & Haman, 2021). Rising prices within the private housing market generally work to further exclude those who have low income and other vulnerable groups from the property market, leading to housing stress and insecurity (Verdouw, Yanotti, De Vries, Flanagan, & Haman, 2021). Data in the following section shows the residual impacts of COVID-19, and how the housing market has fluctuated. Data presented by ABC news reveals that the Lithgow housing market has experienced a 52.8% increase in value since March 2020 (ABC News, 2025)

5.6.1 Housing characteristics and affordability

The most common housing type was separate houses across all areas.

Annexure C, Table C.13 shows 2021 Census data on the type of tenure within the study area. Within the local study areas, dwellings owned outright had the highest proportion out of all the categories. This is similar to the key urban area and regional study area which also had the highest proportion being dwellings owned outright.

Rates of renting are lower in the local study area than the key urban area and NSW. However, Bowenfels had a significantly higher proportion of those renting. A subset of renters is in social housing, where 70.2% of renters in Bowenfels SAL are using social housing.

Annexure C, Table C.14 demonstrates unoccupied dwellings in 2016 and 2021, along with the change between the five-year period. In 2021, the local study area had the lowest proportion of unoccupied dwellings compared to the Town camp local area key urban area, regional area, and NSW. This could indicate a restriction of housing available within the local study area. Overall, the local study area had a higher percentage change of unoccupied dwellings than the key urban area and NSW. This is contradicted by the urban local area, which experienced a decrease in unoccupied dwellings in the same period. Lithgow LGA demonstrated a significantly higher percentage change of unoccupied dwellings of 20.0%, which indicates that there could a growing availability of housing for the project workforce across the Lithgow region more broadly.

Housing stress is considered to occur when more than 30% of household income is spent on rental payments (rental stress) or mortgage repayments (mortgage stress). This may indicate that local people with lower-paying jobs may be unable to afford local rents which can be pushed up by those with higher salaries.

In terms of rent stress, median rent is lower in Bowenfels SAL and Rydal SAL. However, despite the low median rent, over a quarter of renters in Bowenfels SAL experience rental stress. Rent stress was extremely high in the urban local area, with 80.0% of renters in Sheedys Gully experiencing rental stress, and 45.2% in Pottery Estate. Lithgow SA2 and Lithgow LGA demonstrate the highest proportion of low-income households experiencing rental stress.

Rates of homelessness in Lithgow are under half the rate of NSW (46.8 persons per 10,000).

5.6.2 Short-term accommodation

The local areas provide a range of accommodation options including hotels / motels, bed and breakfasts, apartments, and homestays along with camping/cabin options. An overview of short-term accommodation within the local area and key urban area is provided in Annexure C. A web search conducted on 11 November 2025 found that the primary form of tourist accommodation is bed & breakfast / cottage / retreat as well as hotels / motels (13 types with approximately 29 rooms for bed & breakfast / cottage / retreat). There were also two caravan parks / camping grounds and five farm stays/homestays.

Visitor data for Lithgow is unavailable for the 2023/2024 period, but data indicates 609,169 domestic visitor nights in the 2022/2023 period (.id Community, 2024). This represents an average of 1,668 visitors per night.

Engagement with the Seven Valleys Information Centre run by Lithgow Council indicated a 75 to 80% occupancy rate for accommodation within the LGA, supported year-round by contract workers and overflow associated with wedding operators. Lithgow also accommodated overflow visitors for Bathurst Motor sports and the Blue Mountains.

AirDNA indicates an average occupancy of 45% for short-term rental listings, with a peak in July at 54% and a low in February at 34%. Average occupancy indicates availability of approximately 372 short-term accommodation (AirBnB, Vbro or Stayz) rooms for use by the project.

5.7 Housing and rental market trends

5.7.1 Median property prices

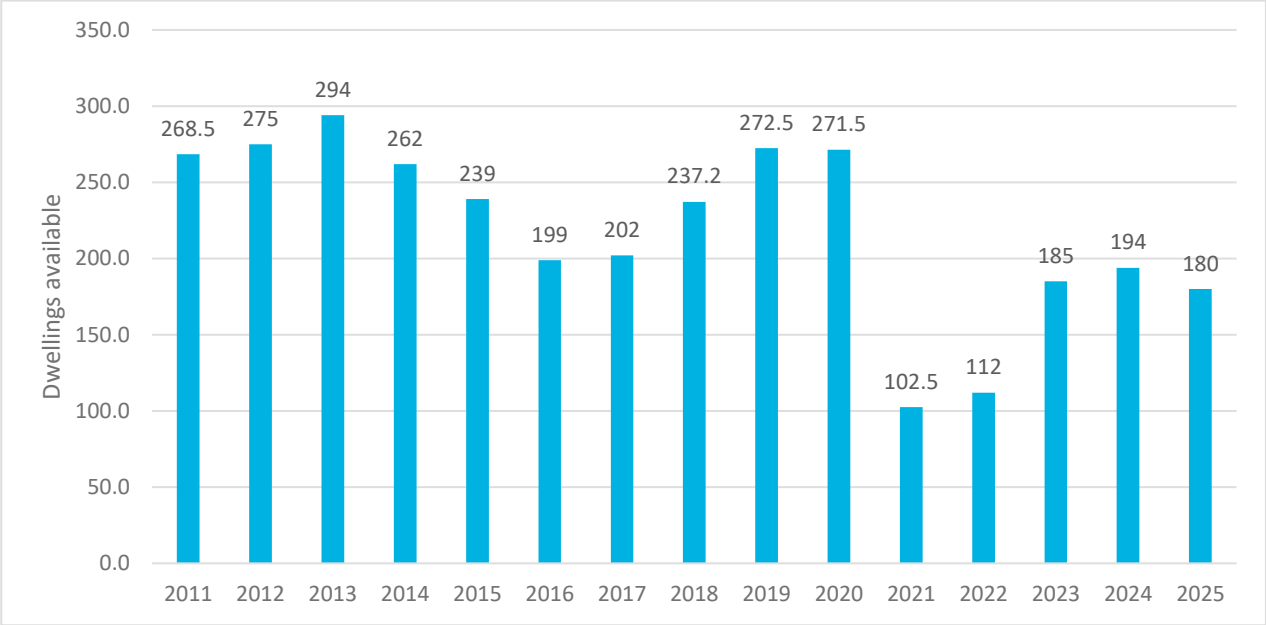
Analysis of trend data shows a steady increase in housing prices across all areas, with South Bowenfels experiencing higher median housing prices overall.

Over a six-year period between 2019 to 2025 median housing prices in Lithgow increased by $197,150, from $317,000 to $514,150, before falling to $502,250 in mid-2025. This data represents an average annual house price increase of 8.3% in Lithgow. South Bowenfels had the highest increase of $225,000 from $580,00 in 2019 to $805,000 in 2024, with the locality consistently having the highest median housing price. Bowenfels had the lowest asking prices, with an increase of $127,000 between 2019 and 2023. Despite having the lowest asking prices, Bowenfels had the highest average annual increase of 13.7%, with property prices increasing by 42.6% between 2024 and 2025. Fluctuations in the Bowenfels housing market can be attributed to the mixed character of available dwellings, with more established dwellings selling for significantly less than newer or renovated houses.

In New South Wales, the average annual property price increase was 8.6% for the 2019-2025 period. Thus, majority of the study area was in line with state-wide property prices, with the exception of Bowenfels which experienced uncharacteristically high sale prices in 2025.

5.7.2 Housing availability

Figure 5.3 shows the median yearly total property listings for postcode 2790. The figure shows from 2011 to 2015, total property listings were consistently above 200 before decreasing in 2016 to 199 listings. There was further growth in property listings with another peak in 2019 with a median of 272.5 listings. In particular, November 2019 had the highest number of property listings out of the time series with 340 listings. However, there was a significant decline in property listings in 2021 to a median of 102.5 listings. This continued in 2022, with a median of 112 listings as well as having the lowest number of listings out of the time series with 56 listings in January 2022. However, by December of 2022 property listings had slightly recovered with 159 properties listed, with this increase continuing slowly throughout 2023 and 2024. In terms of property types, houses were roughly above 80% of the type of stock on the market across the time series and units were roughly under 20%.



Source: SQM Research 2025, Total Property Listings https://sqmresearch.com.au/total-property-listings.php

Note: Median number of dwellings for 2025 is only inclusive of data available in July 2025 (January-July), whilst all other data is reflective of a 12-month period (January-December).

Figure 5.3 Median yearly total property listings in postcode 2790, 2011-2025

5.7.3 Residential vacancy rates

According to Real Estate Institute New South Wales (REINSW), rental vacancy rates are traditional market indicators that "measure the proportion of residential properties vacant and available for rent at any point in time" (REINSW, 2021). Vacancy rates under 3.0% are low and indicate a tight rental market with an undersupply of rental options while vacancy rates above 3.0% indicate an oversupply of rental options. A higher vacancy rate also indicates a higher proportion of unoccupied dwellings in that area. A rental market with a vacancy rate of about 3% is considered balanced (Brewsters Property Group, n.d.).

In September 2019, residential vacancy rates in Lithgow rose to above to 3.3%, before falling below the benchmark in June 2020. Vacancy rates have increased and decreased since 2020 however have remained low, with the latest vacancy rate of 1.3% in June 2025.

5.8 Health and community wellbeing

Social determinants of health, described as "the circumstances in which people grow, live, work, age, and the systems put in place to deal with illness…which are shaped by political, social, and economic forces" (AIHW 2022), indicate the health of a population. These include factors such as conditions of employment, provision of social services and support, and socioeconomic position.

5.8.1 Vulnerability and vulnerable groups

Vulnerability refers to an individual or group's capacity to adapt to, or cope with changes in their environment, and is influenced by a range of socio-economic factors operating at different scales (Spielman et al., 2020). Some individuals or groups may be more vulnerable than others due to certain existing socio-economic characteristics. Common indicators of vulnerability include:

- age, such as the very young and the elderly who are more likely to require care and may by financially dependent on the working population (people aged 15 to 64)
- socio-economic status, such as people who are recipient of welfare, reside in social housing, or who are unemployed
- people with a need for assistance, such as those people requiring assistance in the core activities of self-care, mobility or communication because of disability, long-term health condition, or old age
- culturally and linguistically diverse (CALD) populations, such as those who live in households where a non-English language is spoken.

The local area has a notably higher proportion of people experiencing health conditions compared to NSW, including arthritis (13.1% vs 8.4%), mental health conditions (10.2% vs 8.0%), and asthma (9.9% vs 7.8%). The same is true for the urban local area, which had a high proportion of residents with arthritis (16.3%), mental health conditions (13.2%) and asthma (11.1%).

Prevalence of asthma is an indicator of respiratory health within communities as well as signalling a vulnerability to dust and other air impacts. Asthma can decrease resilience of the respiratory system against poor air quality that may result from construction activities (dust and other particulate matter).

Some groups of people experience higher rates of mental illness and psychological distress than others (AIHW, 2022a). In rural areas, these groups often consist of younger men, elderly men, and Indigenous people (RANZCP, n.d.). Furthermore, management of mental health conditions can be impacted by the ability to access mental health services, which is further discussed in Section 5.9.

All health indices, except for instances of kidney disease (which are lower or similar), are higher in the local area, key urban area, and regional area, than in NSW. The study area also has lower rates of people with no condition than NSW, which can indicate a vulnerability in the study area's population.

The proportion of those with a need for assistance is higher in the local area than the proportion of people identified as having a need for assistance in both the key urban area and the regional area. This indicator is important to consider in relation to the project as any changes to Lake Lyell may affect the quality of the service that the Lake currently provides as a free recreational activity, such as reduced access to swimming areas for disabled peoples.

The 2021 census of population and housing also identified the number of people who identified as having provided unpaid assistance to a person with a disability, health condition, or due to old age. In the local area, 11.2% of the population (or 428 people) identified as aiding people in need, which is comparable to the urban local area (10.8%), in the key urban area (10.8%) and regional area (11.1%). This indicator is significant for identifying its impact on labour force participation rates and can also reflect the levels of care which are provided to disabled or elderly people outside of social services.

5.8.2 Socio-economic advantage and disadvantage

The levels of disadvantage and advantage in the population can be indicated by the Socio-Economic Indexes for Areas (SEIFA). Using ABS Census data, these indexes measure aspects such as low-income earners, relatively lower education attainment, high unemployment, and dwellings without motor vehicles. SEIFA provides four summary measures including:

- the Index of Relative Socio-Economic Disadvantage (IRSD)
- the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD)
- the Index of Economic Resources (IER)
- the Index of Education and Occupation (IEO).

Each index is a summary of a different subset of Census variables and focuses on a different aspect of socio-economic advantage and disadvantage. Low rankings are deemed most disadvantaged and high rankings least disadvantaged within a decile ranking system where the lowest 10% of areas within Australia are given a decile number of 1 and the highest 10% of areas are given a decile number of 10.

The SEIFA index for the SALs in the local area, (Rydal SAL, Bowenfels SAL, and South Bowenfels SAL), the urban local area (Pottery Estate SAL, Sheedys Gully SAL, Lithgow SAL, Littleton SAL, and South Littleton SAL) the key urban area (Lithgow SA2) and the regional area (Lithgow LGA) are shown respectively in Figure 5.4.

This may indicate that these areas may have higher numbers of households with low income, fewer people with tertiary qualifications, more people in low skilled occupations, and/or fewer people with high income or skilled occupations.

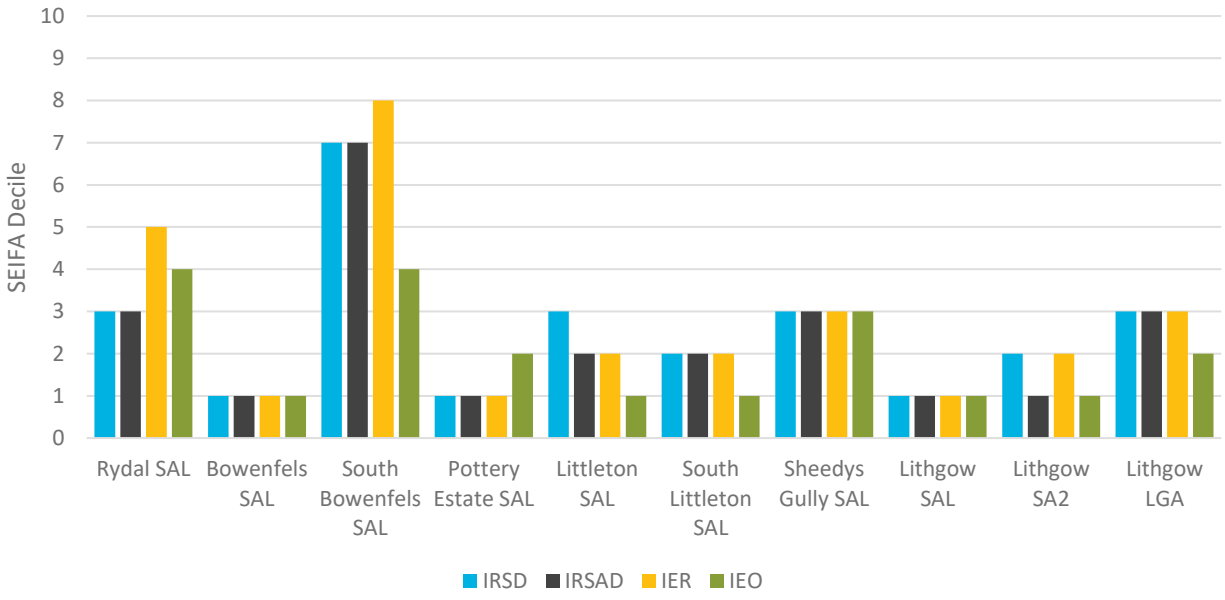


Figure 5.4 SEIFA deciles for the local study area and regional study area, 2021

5.8.3 Voluntary work/Volunteerism

An indicator of community strength and cohesion is the level of participation in volunteering, which reflects people's willingness to be involved in their local community. Overall, the regional study area recorded higher rates of volunteering compared to NSW as a whole.

5.8.4 Community safety

Analysis of reported rates of criminal offence contributes to a holistic understanding of the project's social environment and existing levels of community safety and wellbeing. Crime rates may also signal underlying social complexities, such as economic hardship, lack of social cohesion, or limitations in local access to social infrastructure and services.

Annexure C shows the rate of offences per 100,000 population in Lithgow. In April 2024 to March 2025, Lithgow had higher rates of assault, sexual offences, theft, malicious damage to property, against justice procedures, drug offences and disorderly conduct compared to the NSW rates. However, NSW had higher rates of homicide and robbery than Lithgow LGA. In 2025, Lithgow's rate of offences was 8,705.02 compared to NSW's rate of 5,799.0.

The elevated rates of both personal and property crime in Lithgow LGA may be affecting local residents' quality of life and could influence perceptions of safety within the community. However, reported offences may be more concentrated in the regional centre, as consultation with local area stakeholders did not identify existing levels of community safety as a concern or a risk to their quality of life.

5.9 Social infrastructure

Social infrastructure refers to community facilities, services, and networks that help individuals, families, groups, and communities meet their social needs, maximise their potential for development and enhance community wellbeing. Deficient social infrastructure can have adverse impacts on a town or region's ability to attract inward migration and to retain a permanent population to contribute to community development and economic growth. Due to the increased workforce that will be brought by the project it is important to determine the capacity for service provision and social infrastructure in the study area.

Annexure C, Table C.21 outlines the social infrastructure and community facilities available in the nearby communities as of July 2025.

As smaller urban areas, the local study areas of Rydal SAL, Bowenfels SAL, South Bowenfels SAL and Marrangaroo UCL comprise of limited social infrastructure and community facilities. This is also true for the urban local area, including Pottery Estate SAL, Sheedys Gully SAL, Littleton SAL, and South Littleton SAL. The social infrastructure and community facilities in the local areas include childcare centres, community services, fire stations, schools and medical services. On the other hand, Lithgow SA2 and SAL comprise of numerous social infrastructure and community facilities due to consisting of a population of greater than 10,000 people.

5.9.1 Health and emergency services

As indicated in Annexure C, there is limited availability of health services in the local area, and a vast majority are provided in Lithgow, which is home to key service providers such as:

- Lithgow Hospital
- Lithgow Community Health Centre
- Lithgow Valley Medical Practice
- NSW Ambulance – Lithgow
- Ochre Medical Centre – Lithgow and Bowenfels
- Lithgow Police Station.

5.9.2 Social services

Social infrastructure refers to community facilities, services, and networks that help individuals, families, groups and communities meet their social needs, maximise their potential for development and enhance community wellbeing. Recreation assets are addressed in more detail in Annexure D of this SIA.

Lithgow is a service hub that is home to most of the childcare centres, primary schools, secondary schools, tertiary institutions and arts and cultural community facilities in the Lithgow LGA. Key social services available include:

- Centrelink
- Lithgow Library
- The University of Notre Dame Australia - Lithgow Clinical School
- Stride NDIS Support
- Lithgow Employment Service
- OCTEC Lithgow
- Lithgow Medical Clinic
- Lithgow High School
- Lithgow Primary School
- TAFE NSW – Lithgow
- Western Sydney University, Lithgow Campus
- Lithgow Information and Neighbourhood Centre.

5.9.3 Transport and connectivity

Transport and connectivity are important elements for regional communities. Regionally significant road networks near to the project site include the Great Western Highway and Chifley Road which connects in Lithgow. The Great Western Highway is a major thoroughfare through the Blue Mountains from Bathurst. Chifley Road connects to the town of Bell before turning into Bells Line of Road which also goes through the Blue Mountains. Major regional towns connected to Lithgow include Bathurst and Orange. Bathurst is a 49-minute drive from Lithgow and Orange is 1 hour and 39 minutes away.

Based on the 2021 Census, the predominate mode of travel to work in the local study area is by car, either as a driver or passenger (73.3%) which is higher than the key urban area (68.5%), the regional study area (67.1%), and NSW (46.3%). There was lower prevalence of people traveling by car in the urban local area (66.2%), however this proportion remains higher when compared to the State.

There is a public transport network around Lithgow including a train station that connects to Sydney and Bathurst. It also has a stop for bus and coach services to Dubbo, Bathurst, and Broken Hill. Overall, there are five bus services around Lithgow, connecting Bowenfels, South Bowenfels, and Marrangaroo. There is a train station at Rydal which is part of the train route that connects Dubbo and Sydney.

The closest airport to the study area is Bathurst Airport.

6 Community and stakeholder engagement

This section summarises the community engagement activities which have informed the SIA and the stakeholder feedback which was generated. The SIA has drawn upon engagement which was:

- undertaken by LLP as part of the EIS community and stakeholder engagement program
- undertaken by EMM consulting as part of the Aboriginal Cultural Heritage Assessment process
- undertaken by EMM, designed specifically to collect data to inform the SIA.

6.1 Summary of LLP project engagement

From 2021 to 2025 EnergyAustralia (now as part of LLP) implemented a structured, transparent and evolving engagement program to guide the development of the project. The approach was designed to meet the NSW Government's *Undertaking Engagement Guide for State Significant Projects* (DPHI 2021, updated 2024) and to ensure that community, stakeholder and government input directly shaped project design, assessment and benefit-sharing outcomes. The phases of engagement were as follows:

- **2021–2022 Preliminary phase:** Early consultation including public announcements, town-hall meetings and EnergyAustralia Lithgow Regional Community Consultative Committee briefings identified community priorities such as recreation access, visual impacts, property values, noise, and transparency.
- **2022–2023 Feasibility and EIS scoping phase:** This phase was aimed at improving project awareness and accessibility to information and included pop-up sessions, newsletters and online engagement, a dedicated website, Facebook page and briefings about geotechnical investigations. A bespoke *Neighbour Benefit Guide* and mitigation framework was developed following one-on-one outreach with neighbours and collaboration with the Australian Energy Infrastructure Commissioner.
- **2023–2025 EIS preparation phase:** Engagement expanded through the opening of a permanent *Project HQ* in Lithgow, webinars and five rounds of community pop-ups. Feedback was sought from community and stakeholders who contributed with particular interest on platypus, visual design, traffic and heritage. Government agency engagement was also undertaken for the project, including discussions on the methods and results of the EIS technical studies. Design refinements incorporated into the project, such as relocating the upper reservoir behind Mount Walker and proposing an in-town worker accommodation, have occurred as a result of feedback received. During this engagement phase, co-design workshops were also held to inform a *Shared Benefit Program*.

A Consultation and Engagement Report has been prepared by LLP and describes the consultation activities undertaken to date for the project, the community and stakeholder views and feedback received, and how these activities and feedback have informed the development of the project. The report is provided at Appendix D of the EIS and has been referred to in this SIA where relevant to understanding specific views and perceptions of project impacts, or where they differ from the feedback received by EMM as direct input to the SIA.

Key forums, initiatives and outcomes from project engagement worth noting as key inputs to the SIA impact assessment and mitigation considerations are summarised in Table 6.1. Some of these are noted separately as they have occurred after the SIA engagement was completed in 2024 (refer to Section 6.3) and are purported to increased project awareness and sentiment overall. The key themes of the project engagement relevant to the SIA have also been summarised and are provided in Section 6.1.3.

Table 6.1 Key project engagement inputs to SIA

Engagement Forum / Program	Description
Community and stakeholder engagement program	As described in this Section, community engagement has been carried out since 2021 using many methods and forums. The key themes have been considered in the SIA and are further described in Section 6.1.3.
EnergyAustralia Lithgow Regional Community Consultative Committee (CCC)	The project team has shared some preliminary findings with community members through the CCC throughout the preparation of the EIS. This group was initially established as part of the consents for the operations of the Mt Piper power station - of which Lake Lyell is an asset as it was built for water supply for the power stations. Lake Lyell remains an asset of Mt Piper power station and thus the project is discussed through this independently chaired forum. Presentations have been provided to the CCC at key stages of the project development to obtain feedback. The project was first introduced to the CCC in December 2021, with project updates occurring regularly since the first introduction. Membership of the CCC includes members of the Concerned Lithgow Community Group, Lithgow Environment Group and Other representatives.
Development of Community Benefit Sharing Program Co-design program	In mid-2024, engagement activities increased to support co-design of the community benefit sharing program which aims to provide investment and reward to the local community. This included several co-design workshops with 50 people from the Lithgow and Central West regions. This included representatives of local businesses and tourist operators, environmental and recreational community groups, Traditional Owners, schools and education providers, employment and support service providers and Council. Participants identified investment opportunities, workshops were held with a range of stakeholders, including local businesses, tourism operators, heritage and environmental organisations, training and education providers and service delivery organisations. As a result, the *Lake Lyell Pumped Hydro Energy Storage Shared Benefit Public Report* was released in February 2025.
Concerned Lithgow Community Group (CLCG) and Council opposition	In May 2024, the CLCG held a community-led town hall meeting to discuss and outline opposition to the project, with approximately 100 people in attendance. Following the town hall meeting, YouTube videos were released by the CLCG detailing concerns residents raised at the townhall meeting. Concerns expressed in the town hall meeting included visual impacts, batteries as an alternative to pumped hydro, impacts on platypus in and around Lake Lyell, near neighbour impacts, business impacts and an Aboriginal perspective which detailed cultural impacts. In October 2024, the Council voted in opposition to any pumped hydro within the Lithgow LGA. This followed the election of a new council in September 2024 which saw the election of councillors directly impacted by the project. In December 2024, EnergyAustralia provided a briefing for the new Council on the project and all other initiatives, assets and operations in the Lithgow area.
Neighbour Agreement Guide	Engagement associated with Neighbour Agreements has taken place since July 2023 and is ongoing. This has included doorknocking of properties associated with potential visual impacts, as well as mailouts and meetings with near neighbours and businesses. From February to March 2025, further pop-up engagement activities were conducted at community events, and the updated *Neighbour Agreement Guide* made available via mail out to neighbours in March 2025.
Consultation on proposed alternative workers' accommodation site	In April 2025, an alternative site for the workers accommodation village was released to the community for comment, including a large-scale doorknock, additional pop-up engagements and significant feedback received through social media.
Project website	The project website has provided a forum for access to information able to be shared with the community about progress of the project. It includes access to newsletters, events, and more. In late 2025, the project website added information about the project to support community consultation prior to the submission of the EIS. This includes. • six explainer videos outlining Project impacts and mitigations • online feedback forms • dedicated webpages for specific areas of project impacts such as recreation, water and biodiversity • information sheets for the various key project impacts. • feedback forms designed to ensure the community has accessible, round-the-clock ways to formally provide feedback that can be captured.

6.1.1 Project refinements due to early project engagement

Information gathered through consultation with local and regional communities, landowners and stakeholders has directly influenced the design and refinement of the project. This feedback was considered alongside technical studies including geotechnical, aquatic ecology, Aboriginal cultural heritage and land use assessments to refine design and minimise potential impacts.

Key project refinements and commitments that have resulted from this feedback are summarised in Table 6.2.

Table 6.2 Response to feedback

Date	Stakeholders	Feedback	Influence/response
December 2021	Community	Need more information about the project and greater transparency	Accessible information and engagement opportunities: • Engagement promotion • Communication tools and resources • Project HQ and engagement activities
June – July 2023	Community Near neighbours	Responses to the visual impact and supporting imagery of the initial upper reservoir	Change to location of the upper reservoir and design to minimise visual impact
July 2023 – February 2025	Near neighbours	Identify a range of property impacts and potential mitigations to be tailored to each property	Developed and socialised the Neighbour Benefit Guide and Mitigation Framework June 2024 Revised with additional feedback to be the Neighbour Agreement Guide released March 2025
July 2024	Council	Perspectives on proposed location of the workers accommodation village adjacent to Lake Lyell and in close proximity to project	Proposed alternative site for workers accommodation village
May - July 2024	Community Near neighbours		
November 2023 – December 2024	Community	Platypus study - Observational input on habitat, population and behaviour	Enhances EnergyAustralia's understanding of the local environment, potential issues and opportunities to be considered in preparing impact assessments Considered in development of mitigations
November 2023 – June 2025	First Nations	Aboriginal Cultural Heritage Assessment - Cultural knowledge and oversight of assessment	
October – November 2024	Community	SIA - Perspectives on the impacts of the project	
8 December 2021	Community	Request to create jobs, use local suppliers, contractors and materials	Shared Benefits Program Interest in a worker accommodation village in town Informs performance requirements for construction and operations
13 December 2023	Community	Request to create jobs, use local suppliers, contractors and materials	
2021 -2025	All	Input on opportunities for job creation, use of local suppliers, contractors and materials and social impact support from long term benefit sharing	

Date	Stakeholders	Feedback	Influence/response
February - September 2024	Businesses and service providers	Insights on priorities and implementable opportunities for social, environmental and economic benefit. Including First Nations; Skills, Training, Services and Infrastructure; Tourism, Recreation, Heritage and Environment.	
February – March 2025	Community	Adequacy of the Shared Benefit Program and additional ideas for investment	What we heard report – Shared Benefit Program Informs a change to revenue sharing arrangements
April 2025	Community	Alternative worker accommodation village in town	What we heard report – workers accommodation sites Considered in locating infrastructure

Source: Lake Lyell Pumped Hydro Engagement Outcomes Report, LLP, provided as EIS Appendix D

6.1.2 Quantified project awareness, knowledge and issues

LLP commissioned sentiment research to determine overall awareness of the project in the community, and to understand changes in sentiment over time and to ascertain the effectiveness of community engagement. The data is referenced within the Consultation and Engagement Report (LLP, 2025) in Appendix D of the EIS. The findings of the report noted:

- As of August 2025, 96% of stakeholders interviewed claimed to be aware of the project, although most said they only know a little (62%) or nothing (6%) about the project. This represents a 5% rise in project awareness from 91% in August 2024.
- The percentage of people who claimed to know a lot about the project rose from 19% in August 2024 to 28% as of August 2025.
- Among those aware, initial sentiment towards the project is more negative than positive. Before prompting with information, 30% said they felt positive about the project, while slightly more (46%) said they feel negative, also similar to 2024.
- Positive responses were driven by the potential for job creation, the belief the project is a good solution, a boost for the local economy and being a 'good thing' for the community.
- Negative responses were related to risks to the environment, negative impact upon the local community and businesses, and the threat to wildlife.

The Consultation and Engagement Report (LLP, 2025) also provides an overview of activities and outcomes from the most recent pre-EIS engagement campaign that concluded in November 2025. This campaign involved attendance at community events and meeting places in the Lithgow region. Based on the feedback at these events, some expressed they were 'not for it [the project]', however more expressed they were 'for it'. The remainder were undecided. Most respondents were from the Lithgow region, though some visited from outside the area, such as residents of the Blue Mountains visiting local markets and festivals attended by the project engagement team.

6.1.3 Themes raised in project engagement

The Consultation and Engagement Report (LLP, 2025) categorises the themes raised in feedback. An overview of the key themes raised during stakeholder engagement that are relevant to the SIA are summarised in Table 6.3 (near neighbours and local area) and Table 6.4 (regional area). They have been summarised to align with the SIA guidelines where possible.

Table 6.3 Themes raised in project engagement relevant to SIA by near neighbours and residents of the rural and urban local areas

Theme	Matter raised
Lakeside camp (within the project area) – feedback from local area residents and near neighbours near the Magpie Hollow area	
Way of life and amenity	Raised concerns about noise, lighting, and visual impacts, particularly at night, and the potential for the camp to detract from the lake's recreational and tourism appeal.
Livelihoods	People worried about the effect on Airbnb and wedding businesses, visitor perception, and the sense of tranquillity associated with the area.
Surroundings	Environmental concerns were regarding wastewater management, water use, and bushfire safety at the lakeside location.
Accommodation site option analysis	Some neighbours preferred this site over the town option, citing its distance from established residential areas, while others felt it would have greater ecological and landscape implications.
Town camp – feedback from local area residents and near neighbors around the Pottery Estate site	
Visual and landscape Impact	Some felt that locating the workforce close to town could alter local amenity and character, particularly if the camp operated at full capacity during construction peaks.
Access to services.	Concerns about potential pressure on local services such as shops, schools, and healthcare.
Traffic, transport and roads	Residents living near the Pottery Estate site were concerned about increased traffic, noise, and parking demand in a residential area.
Livelihoods	Potential economic benefits, such as increased local spending and trade for nearby cafes, supermarkets, and service providers.
Community safety and cohesion	Need for a strong workforce Code of Conduct, well-managed accommodation facilities and security measures to ensure positive community integration.
Project area – near neighbours and residents and businesses in the rural local area	
Mental health and resilience	Potential for project changes and uncertainty to affect mental health. Stakeholders identified the need for management of this issue, and most were receptive to the support payment program outlined in the *Neighbour Benefits Guide (2024)* and the *Neighbour Agreement Guide (2025)*
Noise	Concern about how construction noise may affect daily lives and amenity from noise travel through the valley and across Lake Lyell. Stakeholders proposed targeted solutions like responsive mitigation and management measures onsite, as well as on-property solutions and respite.
Dust, air quality and vibration, including blasting	Concern about dust, air quality, and vibration impacts during construction, particularly from blasting, tunnelling, heavy vehicle movements, and spoil placement. Concerns these may be enhanced by weather conditions, and could affect homes, water tanks, gardens, and livestock. Suggested mitigations were management of works programs, information sharing, reporting and management frameworks, and independent oversight of monitoring to minimise disruption to livestock, pets, and amenity.

Theme	Matter raised
Property access, safety and traffic management	Concerns about property access, road safety, and increased traffic during construction in areas close to site entrances, haulage routes, and work compounds due to heavy vehicles using small roads. Concerns this could damage road surfaces and conflict with school buses, farm machinery, and local commuters. Stakeholders emphasised the need for safe and reliable property access, especially during harvest, livestock movements, or school transport. Mitigations suggested included early notice of temporary road closures or changed traffic conditions and clear signage and communication to ensure safety for residents, visitors, and workers.
Visual and amenity	Concern about changes to outlook, property amenity, and the night-time environment. Residents are sensitive to loss of natural landscape character, scenic views, construction lighting and the long-term visibility of project infrastructure (embankments, access roads, night lighting and power facilities). Suggested mitigations included early consultation on landscaping options and for lighting systems to comply with dark-sky principles, and use screening, vegetation buffers, and sympathetic design.
Tourism and visitor amenity	Some tourism, accommodation, and wellness business operators (e.g. short-stay accommodation, wedding venues, and a bathhouse) expressed concern about construction noise, dust, traffic, or visual disturbance during construction affecting their operations, guest experience, and reputation through impacts to the natural landscape, quiet setting, and lake views. Some also raised concerns about access routes, signage, and the impact of heavy vehicle movements on visitor safety and comfort. Businesses sought early and reliable information on construction schedules, road closures and potential disruptions to manage guest expectations and adjust operations where needed. Businesses suggested opportunities for the project to work collaboratively on visitor information and tourism messaging, to ensure Lake Lyell remains viewed as an attractive and accessible destination during construction.
Water access and quality	Concerns residential, recreational and agricultural water use may be affected by project activities through contamination, reduced availability or quality impacts. Neighbours requested monitoring and testing, and clarity on how the project would manage surface runoff and sediment to prevent contamination of roof-fed tanks, creeks, and dams on rural properties.
Property values	Concerns the development could affect their property values and long-term confidence in the local housing market, resulting in impacts to sale and refinancing of properties. Mitigations included requests for long term certainty and transparency, and clarity around eligibility for compensation or support, including how the *Neighbour Agreement Guide and Engagement Program* would recognise personal or financial impacts beyond the construction phase.
Communication and engagement	Neighbours supported the project's existing communication efforts but emphasized the need for clear, timely, and personalised updates throughout its duration. They requested early notice of disruptive activities, a consistent point of contact for issue resolution, and transparent, accountable reporting on monitoring results, progress, and any challenges or changes.

Table 6.4 Themes raised in project engagement relevant to SIA by residents of and visitors to tue regional area

Theme	Matter raised
Lakeside camp (within the project area) and town camp (in Lithgow) – feedback from the Lithgow regional area community	
Community analysis of workforce accommodation camp options	Some residents supported a town-based location, noting it could bring economic benefits to local businesses and reduce potential environmental and visual impacts near Lake Lyell. Others preferred a lakeside location, citing proximity to the work site and reduced daily traffic movements. Across both options, people sought assurance that the workforce camp would be well-managed, with clear expectations around behavior, noise, and traffic, and that its design, screening, and scale would fit sensitively within the surrounding landscape and community context.

Theme	Matter raised
Workforce management – feedback from the Lithgow regional area community	
Employment and training	Community members stressed that local employment and training are key ways the project can provide lasting regional benefits, supporting jobs, apprenticeships, and school partnerships to involve young people and existing workers. They were concerned that reliance on FIFO or temporary contractors limits long-term opportunities and sought clarity on local job numbers, procurement, and skills pathways. Genuine local participation with measurable targets and transparent reporting was seen as essential for trust, skills development, and regional economic resilience.
Procurement	Local businesses expressed strong interest in participating in the project and economic opportunities it could bring. There is a need for clear information on how to register for work, supply, or service contracts, including catering, accommodation, transport, and construction support. Mitigations suggested were prioritisation of regional procurement and employment, and enhancing procurement opportunities through creation of a local supplier database or information sessions to help small businesses understand tenders, workforce requirements, and compliance expectations.
Cost of living	Concerns that during construction project workforce demand could inflate the costs of local goods and affect affordability for residents, particularly for housing, rent, groceries, and fuel. Previous large-scale projects in regional areas have generated impacts due to limited rental markets and local services. Mitigation suggestions were for the project to plan workforce accommodation, supply logistics, and local procurement carefully to avoid impact and share benefits with the community, potentially with local councils and regional development bodies to monitor cost-of-living trends and measures to ease demand for housing and essential goods in peak construction.
Community safety	Residents expressed concern that a large influx of non-local construction workers could disrupt community character, safety, and social cohesion, especially in smaller or rural areas. Some pointed to past projects where antisocial behaviour, noise, and strain on local services had occurred. To minimise impacts, they suggested measures such as a Workforce Code of Conduct, behaviour and alcohol guidelines, and community engagement initiatives to support positive integration. Increasing local employment was also viewed as a way to enhance social connection and community acceptance.
Access to health and community services	Concern that an influx of temporary construction workers could place pressure on potentially limited local services, particularly healthcare, hospitals, and emergency response capacity in Lithgow and surrounding areas. Suggested resolutions included coordination with local service providers and government agencies to plan for access to general practitioners, urgent care, and mental health support, and provision of dedicated on-site health services, such as first aid and medical facilities. The project may also support community investment initiatives to strengthen local service capacity during construction.
Project area – feedback from the Lithgow regional area community	
Road safety and traffic management	Concern about road safety, congestion during peak travel times, and potential damage to local road surfaces associated with increased construction traffic, particularly movement of heavy vehicles on local roads, and interactions with school buses, cyclists, and farm machinery on narrow rural roads. The community asked for timely communication on traffic management, designated haulage routes, and scheduling heavy vehicle movements outside school and commuter peak periods to minimise safety risks and disruption. They also sought clarity on responsibilities, timing, and funding of road upgrades and repairs, emphasising works should be planned and delivered collaboratively with Council and Transport for NSW to leave roads safer and in better condition than before construction.
Way of life	Residents are concerned that the project could disrupt their daily lives—particularly for those living near homes and farm, due to 24-hour operations, long construction periods, and activities that generate noise, dust, vibration, and light. They recommended measures such as monitoring, dust and noise controls, clear reporting channels for issues, options for respite, and consistent communication about construction stages and impacts to help reduce disruption. They also identified that the long-term nature of the project created the potential for ongoing noise, lighting, and visual impacts.

Theme	Matter raised
Landscape and restoration values	The community is concerned about how construction spoil will be stored, transported, and rehabilitated, with a focus on reducing visual impacts, dust, noise, truck movements, and runoff. Many prefer the land to be restored to its natural form and want transparency about opportunities to reuse spoil for local benefit. Residents also highlighted risks of pests and weeds spreading if spoil areas are poorly managed. Overall, they emphasised the need for clear, effective, and transparent rehabilitation to ensure disturbed areas are properly restored.
Environmental values associated with biodiversity	Community members were concerned about vegetation clearing and its impacts on local biodiversity, especially threatened species and important habitats such as native woodlands, riparian corridors, and aquatic environments connected to Lake Lyell. They questioned whether biodiversity offsets would be effective, genuinely replace lost habitat, and be managed and monitored long-term, with many seeking transparency about where offsets would be located and how their success would be reported. Maintaining fauna corridors and habitat connectivity for species like wallabies, wombats, and birds, particularly along forested ridgelines and waterways, was seen as critical, with a preference for design approaches that avoid impacts and prioritise ecological restoration.
Water quality in Lake Lyell	Residents were concerned that construction activities, including excavation, tunnelling, and earthworks, could affect water quality, causing sediment runoff, erosion, or chemical spills that might harm aquatic life including fish and local water supplies. In particular, they were worried about impacts on platypus populations in Lake Lyell, Coxs River, and associated creeks, given the species' sensitivity to water level changes, bank disturbance, and pollution. They sought assurance that strict controls, monitoring, and contingency measures would prevent harm, and recommended partnering with local experts or universities to track and publicly report on platypus and broader aquatic health over time.
Tourism and visitor economy	Concerns about how the project may affect tourism and the local visitor economy during construction and operation.
Recreational use of Lake Lyell	Community concern about safety during construction and operation — particularly regarding water access, recreation near project areas, and dam operation risks. The community also requested that the project improve or maintain access to recreational facilities such as jetties, picnic areas, camping sites, and walking trails
Cultural heritage and first nations values	Aboriginal community representatives and residents stressed the need to protect cultural heritage places, artefacts, and landscapes, expressing concern that construction activities such as earthworks and tunnelling could disturb undiscovered sites of cultural or spiritual importance. They emphasised that cultural values include not only physical artefacts but also storylines, songlines, and connections to Country, and requested ongoing consultation, early involvement in surveys, and transparent processes for managing any finds. Community members also sought reassurance that cultural knowledge would be respected through co-designed mitigation measures, including involvement in monitoring, rehabilitation, interpretive signage, and naming of project features.
Bushfire risk	Community members were concerned that construction activities, workforce movements, and increased traffic could raise bushfire risk and potentially hinder emergency access or RFS operations. They sought reassurance that the project would implement clear fire management protocols, maintain trained personnel, and coordinate with emergency services to protect workers and the community.
Pumped Hydro technology	Residents requested simplified information about how pumped hydro technology works, directed to improve overall understanding and resolve key issues, such as safety, water level changes, flooding and effects of possible equipment or process failures, including for structural safety of above and underground project components and contamination.
Decision-making systems	The community also asked questions about the project in the context of broader policy matters, future infrastructure planning and energy-market decisions, such as government policy on energy transition, water management, or regional planning.
Community investment benefits	Community members emphasized that the region should receive meaningful, long-term benefits through fair, transparent, and merit-based funding for local facilities, services, and initiatives. They highlighted priorities like sporting facilities, youth programs, arts, and emergency services, and stressed that ongoing investment and collaboration with local councils and organisations are key to strengthening community wellbeing and resilience.

Theme	Matter raised
Community engagement	Community members emphasized the need for consistent, transparent engagement with clear feedback on how their input shapes decisions, timely responses to enquiries, early notice of works, and regular updates to maintain trust. They also sought a clear, accessible complaints process to address construction impacts promptly and fairly, with defined contacts, response times, escalation procedures, and assurances of independence and accountability.

6.2 Aboriginal cultural heritage engagement

The Aboriginal cultural heritage assessment (ACHA) prepared for the project (EMM, 2025) reports extensive consultation with Aboriginal parties involving face to face and/or digital meetings, participating in micro-siting of geotechnical investigations across the project, numerous on-site activities, as well as participation of Elders and key knowledge holders.

Following the initial identification of 35 Aboriginal stakeholder organisations who may have had an interest in the project, some 22 responded as requesting to be consulted upon the project (of which 21 formally registered as Aboriginal participants). Opportunity for Aboriginal involvement in the project was provided throughout the ACHA, including:

- attendance at three face-to-face and/or online meetings during key phases of the project
- participation in micro-siting of geotechnical investigations across the project
- participation in a two-week field survey of the project area in October and November of 2023
- participation in a four-week archaeological test excavation of the project area in February and March of 2024
- participation in a further one day field survey to include additional investigation areas in August 2025
- participation for Elders and key knowledge-holders to undertake interviews with a highly experienced anthropologist to discuss cultural values.

More than 400 interactions have been undertaken with registered Aboriginal parties (RAPs) across the opportunities. These included representatives of seven organisations and individuals, including the Warrabinga Native Title Claimants Aboriginal Corporation, Mingaan Lithgow Aboriginal Corporation, Wingarra Wilay Aboriginal Corporation, North East Wiradjuri Corporation, Girragirra Murun Aboriginal Corporation, Thomas Dahlstrom, Gallanggabang Aboriginal Corporation. Bathurst Local Aboriginal Land Council were consulted and invited but could not attend many of these opportunities. Discussions with the RAPs have been extensive and wide-ranging over the 18-month assessment process.

Consultation feedback about the project has generally been negative with significant anticipated impacts from the project on intangible cultural values, and specific flora and fauna. Project measures to address these concerns have formed the basis of focused discussions and identification of opportunities for ongoing access to and management of Country and resources. These measures have been of interest to Aboriginal participants. Who speaks for Country and who participated in the field work has also formed the basis of focused discussions throughout the assessment.

6.3 SIA community and stakeholder engagement

In addition to project engagement, this section outlines the SIA engagement program undertaken as required by the SIA Guidelines 2025 to identify community views separate to the project engagement described in Sections 6.1 and 6.2. The SIA engagement is described separately in this section, and independently of the proponent. Consideration of both project engagement and SIA engagement have informed the assessment of impacts in Chapters 7 and 8 of this SIA.

The stakeholder groups or parties identified as potentially affected by social changes associated with the project have been determined with consideration of progressive project and SIA engagement outcomes, baseline conditions, adaptive engagement and scoping of the social context. The near neighbours for the town camp and the broader project area have been split into separate local and near neighbour communities, in alignment with Section 4.3. The ways stakeholders have been grouped throughout this report are as:

- near neighbours (and landowners, identified as those nearest to the project likely to experience direct amenity impacts)
- local community (identified as the local community, generally associated with Lithgow township)
- regional community (with broader considerations within the LGA)
- Traditional Owners and Aboriginal communities
- service providers
- governance bodies
- tourists and recreational users visiting the areas of Lithgow and Lake Lyell
- environment and community groups.

Within these groups, consideration of specific stakeholder interest groups are identified where relevant, such as service type and or business and business types, etc.

6.3.1 Participation

In-depth interviews were conducted with key stakeholders in person and online between August and October 2024. This consultation period also included four in person field visits, including visits to near neighbours and accommodation providers, the Lithgow town centre, and suburbs of the local area.

A further field visit and survey of recreational users and land uses was conducted on 6 October 2024. The findings and details of this study are detailed in Annexure D.

Throughout the SIA engagement, a total of 107 stakeholders were contacted via phone calls and email. Interview invitations were also sent by letter to 45 near neighbours on Saturday 24 August 2024.

In-depth interviews were conducted with local residents, nearby neighbours, Aboriginal stakeholder groups and individuals, relevant local businesses, accommodation providers, public and private service providers and community groups. The interviews involved a discussion of the values, vulnerabilities and strengths of the local community, as well as the identification of perceived impacts and benefits as a consequence of the project.

Service provider interviews also explored the capacity of their service and offered insights into the potential impacts and benefits of the project on their specific area of expertise. Interviews were conducted with stakeholders in-person or via phone/teleconference.

Throughout the SIA engagement stage, there was a total of 34 interviews conducted with 42 participants.

There are limitations to SIA engagement data which has been supplemented with secondary project engagement data provided by LLP (refer to Section 6.1). The data collected may not capture the full spectrum of perspectives of all community members in the SIA study area as some stakeholders opted not to participate or did not respond despite various attempts to contact them. This means primary data available for some matters, such as capacity of certain services, is not available.

The key findings from the SIA field studies are provided in Section 6.3.2. The methods of engagement with community and key stakeholders and details of participation are outlined in Table 6.5.

Table 6.5 SIA field study participation

Method	Event	Time frame	Administered	Invited	Interviews conducted	Individuals interviewed
In-depth interviews with near neighbours and landowners	Interviews with near neighbours (on Sir Thomas Mitchell Drive and nearby on Magpie Hollow Road) conducted at Lithgow City Council Library and at residents' properties	September 2024	In-person	39	5	7
In-depth interviews	Interviews with the local community	September/ October 2024	Face-to-face/ telephone	24	7	9
	Interviews with local and regional accommodation service providers (including Eagle View Escape, Kookawood, Lake Lyell Recreation Park, Springmead B&B, Black Gold Motel and Wenvoe Historic Retreat)	September/ October 2024	Face-to-face/ telephone	19	6	9
	Interviews with environment and community groups, Central Acclimatisation Society, Lithgow Community Power Project, Lithgow Environment Group	September/ October 2024	Face-to-face/ telephone	13	3	3
	Interviews with public and private service providers, including recreation businesses: 4WD Now, Lithgow Rowing Club	September/ October 2024	Face-to-face/ telephone	45	7	8
	Indigenous individual	September 2024	Phone interview	2	2	2
In-depth interviews with Traditional Owners and Aboriginal communities	Mingaan Aboriginal Corporation	September/ October 2024	Phone interview	2	2	2
	Warrabinga Native Title Claimants Aboriginal Corporation	September/ October 2024	Phone interview	1	1	1
	Barrinang (Wirdajuri Corporation)	September/ October 2024	Phone interview	1	1	1
Total					**34**	**42**

Method	Event	Time frame	Administered	Invited	Interviews conducted	Individuals interviewed
Tourist and recreational user survey	4WD'ers in Lidsdale State Forest	6 October 2024	In person verbal survey	N/A	2	2
	Recreation Park – day users in playground				4	14
	Recreation Park – campers				4	18
Total					**10**	**34**

6.3.2 SIA engagement outcomes – key themes

A summary of the values, strengths and vulnerabilities and key impacts and benefits identified through community and stakeholder engagement is provided in the following sections, which are described based on the stakeholder groups interviewed.

i Near neighbour and landowner views

A summary of views relevant to the SIA expressed by the seven near neighbours and landowners interviewed is provided in Table 6.6.

Table 6.6 SIA engagement – Nearby neighbour views relevant to this SIA

Key themes	Comments and/or direct quotes from near neighbours reflecting matters raised
Biodiversity	"Destroying the environment to save the environment" Potential impacts on fish due to changing water levels. "Concerned about impacts on the ecosystem as a whole" Concerns about wild pigs. "The project will cause wholesale environmental destruction." In relation to the diversion channels, Platypus habitat will be replaced with rock. How can the drilling, impacts to platypus and impact to the creek be justified?
Mental health	Mental health impacts due to stress caused by project around uncertainty it brings relating to future and continuation of current lifestyle. Impacts to nearby residents with existing mental health conditions. Stakeholders have expressed feelings of hopelessness. For near neighbours, the project has become a constant thought, with times of leisure being disrupted by thoughts and/or conversations about the project. "Feeling of impending doom" Near neighbours with identified pre-existing mental health issues – with multiple concerns raised around mental health worsening due to the project. "This will affect my mental stability."
Property devaluation	Residents have identified that they cannot sell their properties without facing a significant loss – identified 30% loss on property. "never had any thoughts about selling, but now we're going to have to" "all the work we have put in for the future has been thrown out the door" "Why improve your property if it's going to be devalued anyway" "No one will buy the house" "Had plans to build…already have an architect designed home and began to flatten out land for this build project, which is now on hold" "We have property valuations with and without hydro. The possibilities and grey areas are causing more mental stress"

Key themes	Comments and/or direct quotes from near neighbours reflecting matters raised
Recreation	Concerns for how the project will impact recreational activities in Lake Lyell, including water skiing, kayaking, fishing. "Not a single person who uses the lake believes that it will be the same." "The project people have made it clear that they don't think activities on the lake will be hampered. But understanding how much the water level will drop, I don't see how the current activities will continue" Responsible 4wers enjoy using trails on Mt Walker, which won't be a possibility when the project is in full swing.
Livelihoods	Nearby landholders have identified that the existing rural lifestyle is a means for peace, and landholders have made this lifestyle choice for various reasons. Near neighbours have expressed that the project will disrupt the serenity and the overall purpose of the rural lifestyle.
Loss of income	Various stakeholders have had to put plans for providing tourist (Airbnb) accommodation on their properties on hold due to uncertainty brought upon by the projects, leading to a loss of expected income that the accommodation would have brought, and have faced financial loss due to pausing developments on property.
Tourism	Reviews from nearby impacted accommodation provider commonly identified Lake Lyell as the highlight of their trip due to the scenery. "When I think of the impact to tourism, the business, Lithgow itself, won't be the same" Lake Lyell is important to draw tourist into the area due to various recreational uses (camping, water sports, motor sports, fishing and swimming – for both locals and visitors). Native wildlife near the lake draws visitors from more urban areas.
Noise	Concerns about construction noise impacts for nearby neighbours who work from home. Concerns about vibration as residents could hear previous drilling. Concerns that outdoor lifestyles will not be able to be enjoyed due to noise during construction. Can hear noise from distances that are further than where the proposed blasting will be. "Don't' know how residents like myself will cope with the amount of noise…especially wildlife" Unsure how the blasting will affect animals (cattle, horses), leading to uncertainty about future of farming for near neighbours. Blasting effects on animals – what if farm animals react to the blasting and injure someone or themselves?
Dust	Concerns that strong wind could move dust into the Lithgow CBD. Concerned about risk of silicosis. Concerns raised about water and air quality due to dust.
Visual amenity	"All close residents will tell you they bought the houses for the pristine views and environment - with no knowledge of a project. Views and lifestyles will be destroyed, as well as mental health impact" Near neighbours expressed that the project will completely change the outlook of many residents' properties. Concerns about light pollution during construction. "We like the space and the peace and quiet this project will take all of that away from us. Not peaceful or unspoilt anymore"
Health and wellbeing	Near landholders have been identified as being elderly (many retired, 65+). Residents have already faced diminished health as a result of stress arising from the project – with a stakeholder identifying that there are residents with pre-existing conditions, such as cardiovascular issues. "Black lung and silicosis concerns from the dust containing silica blowing off the mountain as a result of blasting from the project. Unsure how they [LLP] will contain silica dust"

Key themes	Comments and/or direct quotes from near neighbours reflecting matters raised
Road safety	Concerns raised about the safety of Sir Thomas Mitchell Drive- relating to hairpin turn which is a common cause of accidents. Concerns raised about safety of walking on Sir Thomas Mitchell Drive when there are increased traffic movements during construction. Concerns about an increased number of vehicles on local roads, which are of poor quality and are perceived by local residents to be unsafe. "The safety aspect of main intersections is a big deal – main intersections – wide vehicles, slow vehicles, anything different here is a safety issue. People are expecting a bus but aren't expecting a truck. The traffic becomes a safety issue because it's unexpected" "People from out of town – lack of knowledge of local roads. If cars are driving dangerously – they assume and don't read signs" "Very dangerous intersection [Magpie Hollow Road and Hampton Road]" "Barton Avenue Great Western Highway dips over Cox's River – fog is horrendous in winter – extremely dangerous stretch of road – 100 kph zone – heavy vehicles will struggle – concern of fatal accidents" "Road will be insane. Lucky to pass 3 cars in the morning between Sandalls drive and further. Can't imagine what that will look like when we have a workforce of that size in this place"
Community Cohesion	Nearby neighbours have identified a sense that those near the project have become increasingly close, but the remainder of the community has become untrusting due to different views of the project, and have become suspicious of compensation differences. "People are not communicating as much and lack of trust within the community" Community has become divided due to people leaving due to the proposed project. Expressed that people might leave the area due to project impacts. Sentiment that the Rydal community is close-knit. Some residents have not embraced changes, which has led to community division. Stakeholder expressed that there isn't any base of connection through community activities. "People are looking at where else they can live with more opportunity for their children" "Strong feelings for or against affect how people talk to one another" "I feel grief. It's beginning the breakup of my community, people I trust" "People around here – many are generational – they pass their properties on. My kids are already making noises. They want this property to always be available to kids and their kids. Don't' know I can reassure them that that will happen if this goes ahead" "Concerned for neighbours that run lake activity – surrounded by resorts here. If this project goes ahead, those resorts will close. That's these people's livelihoods. These are my friends"
Employment opportunities	Community members have expressed that the operational workforce of the project will not supplement jobs lost due to project impacts – particularly in the tourism sector. Stakeholders expressed that Lithgow has a tight job market. Stakeholders have expressed concerns about the impact mine closure will have on younger workers in the future. Under the impression – this group who got the tender for the project – bringing out their 400 strong workforce – that doesn't' sound like jobs for our area. Also – the project won't find that many jobs for the local area, one will be wondering, what is the benefit of this project for our local area – don't know that there will be a benefit. "Local job opportunities fall short when considering detrimental effect on lives and town. Will ruin tourism and Lithgow"
Construction timeframe	Various stakeholders identified concerns that the construction phase of the project will last longer than planned. Stakeholders are distressed about construction of the project occurring 24 hours 7 days a week due to perceived impacts relating to noise and dust.
Public services	"How will public services, such as police and ambulance services, cater to the increased demand from the project workforce?" Stakeholders have expressed concerns that the project workforce will impact accessibility to services in Lithgow, as there are currently low wait times for services such as medical centres.

Key themes	Comments and/or direct quotes from near neighbours reflecting matters raised
Traffic	Increased traffic movements in more rural areas impacting accessibility. Impacts of increased traffic movements in Lithgow CBD. Noise from traffic, such as exhaust breaks on trucks. Confusion around how trucks will get to the top of the mountain.
Water quality	Impacts on water quality from construction. "When they did the borehole testing the water turned the Lake white" Concerns about the overall impact on Sydney's drinking water. Stakeholders have expressed concerns regarding run-off and pollution from the workforce accommodation Concerns about silt in water from loosened soil on road margins. Concerns about jets disturbing mud at the bottom of Lake Lyell.
Renewable Energy alternatives	Various stakeholders have expressed confusion over the pumped hydro proposal due to perceptions that battery storage (BESS) technology is better suited to the area and will have less impact, whilst providing the same storage capacity. "Batteries have less impact than pumped hydro" "believe there are alternatives which will achieve the same result without all of the impacts"
Regional issues	"The potential of the area is being undermined by the uncertainness of the future" Lithgow hospital not equipped to take on a heightened number of patients or serious medical cases which may become an issue throughout construction. "Local council seems to have left things to fall apart" Local and regional stakeholders also expressed concern regarding the foreign ownership of the project, including perceived lack of project governance and transparency.
Planning and approvals process	"Want feedback about the project but we haven't been given information about possible impacts, feedback cannot be given with a limited understanding of how the project will impact us" "Sanitised image of the construction site – not proving a clear insight of impacts" "The only way you find out about the negative impacts is if you look for yourself" "Information has been inconsistent over the past few years" Lack of information has led to suspicion around project timeframes – "3 to 5 years construction, expecting it to blow out to 7 to 10" "Can't receive benefits [of neighborhood benefit guide] without studies being done"
Workforce accommodation camp	"Appalling choice of location for workers camp…you could not have picked a worse spot, there are plenty of other discrete locations"
Opportunities	"In general, I see it as a good thing – other than create power, what does it do? Even construction phase improvement is a positive for the town." "Lithgow has the potential to be a lot more. Any extra infrastructure and work is positive. People would buy here if there was more work. There's potential for the town to grow."

ii Traditional Owner and Aboriginal community views

A summary of views relevant to the SIA expressed by the four Traditional Owners and Aboriginal community stakeholders interviewed is provided in Table 6.7. Note that views expressed by First Nations stakeholders are captured in the ACHA in relation to archaeological and cultural values.

Table 6.7 SIA engagement – First Nations stakeholder views relevant to this SIA

Key themes	Matter raised
Water quality	Platypus and other native wildlife leaving the water due to contamination. "The platypus is an indicator of a healthy environment as soon as it's gone, it won't be a healthy environment… The platypus indicates the water's OK. The platypus moves on, the water's contaminated."
Impacts to culture	First Nations Stakeholders expressed that Mt Walker is an important cultural site due to dreamtime stories and men's and women's business ceremonies on the hill. "Destroying my culture" Expressed that the land was never sold. There are songlines in the area which the project will disrupt. "It's my identity that they're destroying, these sites are my identity" Threatened species on the mountain (wedge tailed eagle) important to dreaming and is a women's totem for the Wiradjuri Nation. Issues with accessing areas of cultural significance will mean that traditional knowledge will not be able to be passed down – knowledge will be lost.
Mental health	Depression and anxiety linked to massacres.

iii Local accommodation service provider views

A summary of views relevant to the SIA expressed by accommodation and tourism and recreation service providers in the local area, which were distinct from views already presented in the near neighbour views in Table 6.6, is provided in Table 6.8.

Table 6.8 SIA engagement – Local accommodation provider views

Key themes	Matter raised
Recreation in Lake Lyell	Concerns for how the project will impact recreation activities in Lake Lyell, including water skiing, kayaking, fishing. "The feeling I have is that the project will destroy recreational activity." "Lake Lyell is a money spinner for council – only way to access the lake is through the boom gate. There's a day fee for camping there. Unlikely Council would want that diminished, it's cash strapped"
Amenity	Concerns regarding the effect of noise generated during construction on visitor stays, and related concerns that visitors may choose not to come to the area for this reason "The effect of changes to views of Mount Walker and mud beds in Lakel Lyell on appeal for visitors, both staying on the lake and staying in overlooking properties in Rydal " "Nighttime construction will disrupt relaxing nature of the accommodation" "Resorts won't be able to continue, because people won't be able to look at a construction site"
Loss of business	Other accommodation providers expressed that loss of businesses may impact ability to pay back loans due to diminished income "will struggle to pay back loans if the BNB business suffers", ". If there's pollutions, value drops, bank may call loan because drop in valuation and lost profits. Need to pay mortgage", "solely relying on income from current property"

Key themes	Matter raised
Businesses closure	Local accommodation providers expressed that the loss of businesses due to amenity impacts may mean that the business may have to close permanently "We might need to shut down business because of these great impacts.", "No one will want to buy the business"
Interconnectedness	Stakeholders expressed that the closure of a local wedding venue due to construction and operation impacts would have broader consequences for Lithgow due to the tourism value that comes with weddings "They [wedding venue] will not be able to stage weddings during construction. 4 years. Directly also affects my business. Financially for me that will be a disaster, because people stay here." "Flow on effect of wedding business – florists, my business" Stakeholders expressed that the closure of accommodation businesses which are reliant on views and Lake Lyell would lead to impacts on employment as people who work at impacted accommodation providers are at risk of losing their job "If our business here shuts down, 15 jobs gone… 10-37 employees." "Lake Lyell is a huge tourism asset to the LGA, and if the project affects the lake, it will have a large negative impact on our community in general, and also financially"
Water quality	One stakeholder expressed concern about blue green algae "We shut down once a year on average for blue-green algae which comes with water temperatures being higher"
Opportunities	Adding an access point to attract tourists to view the infrastructure. Money being injected into the region's economy due to increased spending from the project's construction workforce. Turning the workforce accommodation into permanent accommodation after construction – which will allow for bigger events to be held in the region (such as festivals).
Business growth	Various accommodation stakeholders expressed that future plans and ambitions, such as expansion of accommodation offerings, have had to been put on hold due to the uncertainty around the impacts that the construction and operation of the project will have.
Water	Water quality and quantity was stated as important to visitors as if water quality is poor, fish can't be eaten and recreational users of the lake "can't get on the water either."
Tourism appeal	"Lithgow will lose the appeal it has as being a central hub between Bathurst, Oberon and Jenolan Caves" "No use of the lake [Lake Lyell] will make the area less vibrant and interesting, takes away reason that people may visit"

iv Regional business and service provider views

A summary of views relevant to the SIA expressed by businesses and service providers (including regional accommodation providers) in the region is provided in Table 6.9.

Table 6.9 SIA engagement – Regional business and service provider views relevant to this SIA

Key themes	Matter raised
Biodiversity	Impacts to biodiversity due to loss of native flora and fauna during construction and operations. Potential impacts on fish due to changing water levels. Concerns about impacts on the ecosystem as a whole.
Amenity	Noise pollution in the area. "The dam built on the top of Mt Walker is an Ugly structure - affect picturesque geography" "Destruction of physical beauty of Mt Walker that will never be reversed land clearing and waterways changing" "The mountain has been there since the dawn of time, and the mountain will change as a result of the project." "You wouldn't be allowed to build a block of units, why should this be allowed? This changes the nature of the area. Clearing, adding onto it"
Regional issues	Multiple community members have expressed frustration due to the poor quality of roads.

Key themes	Matter raised
	There is a broadly identified distrust of the Lithgow council due to the community feeling as though their needs are not met. Stakeholders have identified youth disengagement in the area – as there is nothing for youth to do in the area and low availability of jobs. "We've got 20 to 30 year olds moving away from here in numbers because they have no faith in jobs" Gaps in income distribution – some wealthy residents due to history of mining. Stakeholder identified that businesses in Lithgow are already struggling – "on the main street of Lithgow there are empty shops."
Housing availability	Concerns about availability of rentals, as stakeholders have identified that the rental market in Lithgow is already tight –" Housing in Lithgow is a problem – access to rentals – I 've heard people from other areas coming to work at the mines have issues accessing rental properties"
Services	"Enough GPs, but there are no new doctors coming and staying, because of the location of Lithgow"
Employment Opportunities	"Most people talk about employment…it will benefit a small number of people ongoing. Relatively small number of employed people. Not sure what the protections are for residual employment after the project is completed. Not of much benefit to the community long term, won't affect whether lights stay on at night here in Lithgow or not."
Road quality	"Use of roads lead to the hydro for construction – feel sorry for the people that live on the roads – disruption"
Community safety	"Don't like their workforce going out drinking every night" Concerns about safety in the area if there are empty spaces/abandoned building in the area due to accommodation businesses having to close. Concerns about the character of people who will come to the area as part of the workforce construction.

v Environment and community group views

A summary of views relevant to the SIA expressed by environment and community groups in the region is provided in Table 6.10.

Table 6.10 SIA engagement –Community group views

Key themes	Matter raised
Biodiversity	Stakeholders expressed concerns about water levels in Lake Lyell, particularly how this would affect flora and fauna. "Fluctuations in level will compromise the stability of the lake margins" One stakeholder expressed concerns around the mobilisation of fine silt settling on the bottom of the lake, which would impact important habitat "macroinvertebrates, yabbies, fly larvae, and spawning beds of trout, perch and quite a number of others" One stakeholder expressed that the ecosystems in Lithgow are interconnected, with any minor impacts having the potential to cause greater disruptions "All of the ecosystems here are like a chain necklace, and if you take one little link away from the area, you're breaking the chain and causing degradation." One stakeholder expressed concerns that project construction may have on aquifers in Mount Walker "Mount Walker doesn't have a lot of runoff water, not sure whether high sitting aquifers feeding Lake Lyell will be affected – perched aquifers (groundwater)."
Water quality	One stakeholder expressed that Lake Wallace is preferred for rowing activities as there is less occurrence of blue green algae, with higher occurrences in Lake Lyell linked to sewerage runoff "Less blue-green algae in Lake Wallace than Lake Lyell. Get a printout from NSW water – Lake Lyell often has it, but lake Wallace doesn't."
Regional issues	Vulnerabilities from natural disasters such as bushfires have created a sense of insecurity and fears about climate change in the region "Anxiety levels are very high when it comes to how will we survive/do we want to stay here"

Key themes	Matter raised
Access to services	Stakeholders expressed that lowered service availability would negatively impact people in the community, particularly if medical facilities, pubs and clubs are overcrowded. One stakeholder expressed that the Lithgow region has good access to electricity.
Community cohesion	Stakeholders identified a string sense of community "There's no community belonging like you have up here"
Renewable energy	"Opposed – general scepticism about carbon neutral – humanity is generating a vast amount of carbon dioxide. Project is misdirected in terms of the science. Sceptical of the science" "General negative view about carbon neutral the idea that we can supply all of our electricity with renewables – skepticism that is fueling the concerns"
Alternative renewable energy technology	"Battery storage is clearly the future. They really need to keep going down that path. Forget about the hydro, it's not a smart move considering the other technology available." "Not a project that's polluting the sky or air. Incinerator in Lithgow would pollute the air. No one's not going to move here because they're building a hydro, and it doesn't pollute, unlike incinerator or Nuclear which would deter people from moving here."
Employment and training	One stakeholder expressed that there is potential for skilled workers in the region to be re-trained to work in the renewable industry. "Angst with jobs – have I got time, should I leave now?"
Fishing	People travel from places like Katoomba and Sydney to fish. Fishing is good to de-stress and is overall good for mental health. Regarded as premier trout water. Lower water levels might make It harder to launch boat into the water. Fishing is an important family activity and is accessible. Expressed concerns about how interference with water flow – especially in Farmers Creek – will impact fish migration and breeding. Fishing has good tourism value as it "draws people out of the metropolis into the countryside" "Coxs river below still a very significant fishery, so if anything comes out of Lake Lyell, it could compromise quite a lot of the fishery along the Coxs River, including the holiday spot near Jenolan near Coxs people go and pay for day fishing."
4WD	One 4WD stakeholder indicated areas that are popular for driving "Lot 4wd in Marrangaroo and Mt Walker. Lot of people like going to the trig point to look at the view. Cross the cox's river, Sugarman's Hill is also a track. Also known as Firetruck Hill. Quite a lot of people drive on them" "Where the work will be done, there was an easier section to go half way up my walker, you could drive up the hill – erosion makes is more difficult, but people still drive up there"
Rowing	One rowing stakeholder indicated that Lake Wallace and Lake Lyell are used for rowing "row on Lake Wallace – on occasions row on Lake Lyell."

7 Assessment of social impacts and benefits

This chapter discusses potential social impacts generated by the project and provides an assessment of relative social risks utilising the methodology outlined in section 2.3 of the SIA Guideline Technical Supplement (DPHI, 2025). This section does not include the Town camp option, which is addressed in Chapter 8.

7.1 Impact assessment overview

Findings from technical reports and stakeholder consultation have been used to capture expert and local knowledge in the identification and assessment of social impacts, and to develop appropriate impact mitigation, and enhancement strategies.

The assessment of social impacts considers a diverse range of factors and interests including:

- impacts viewed as both negative and positive as they relate to different groups of people
- potential impacts and benefits on local communities and the broader region
- effects on vulnerable sectors of affected communities
- community access to services such as housing and health care.

As is best practice, social impacts are initially assessed under a worst-case scenario, followed by the residual impact assessment assuming effective implementation of the proposed mitigation or enhancement measures. The terms *unmitigated* and *mitigated* are used to describe negative impacts while *un-enhanced* or *enhanced* apply to positive impacts (benefits).

The following data and information have been used to identify the impacts and their associated risks:

- data collected as part of the social baseline
- findings from community and stakeholder engagement activities
- findings from technical studies
- academic research
- relevant high-quality government and agency reports.

Application of the likelihood and magnitude framework as outlined in Chapter 3 of this report, informs assessment of the level of significance of a social impact as being low, moderate, high or very high.

The identification of affected parties presented in impact and benefit assessments references the stakeholder groups listed in Section 6.3 of this report, which have been refined to specific stakeholder groups as needed for assessment of each matter.

Table 7.1 summarises the identified social impacts and benefits associated with the project as they relate to impact categories set out in the SIA Guideline.

Table 7.1 Impact themes

Social impact categories[1]	ID	Impact/benefit on people (unmitigated/unenhanced)	Project phase(s)	Section addressed
Decision-making systems	D01	Community dissatisfaction with planning and approval process	Project planning and approvals	7.2.1
Community	Co01	Alteration of community cohesion and character due to workforce influx	Construction	7.3.1
	Co02	Loss of community cohesion due to distrust and conflicting views on the project	Project planning and approvals Construction	0
Way of life	W01	Visual impacts of the proposed upper reservoir and supporting infrastructure affecting community sense of place	Construction Operation	7.4.1
	W02	Impeded access to water due to water quantity and quality impacts	Construction Operation	7.4.2
	W03	Changes to amenity affecting way of life and rural lifestyle values	Construction	7.4.3
	W04	Change to water quality and water levels affecting recreational values and use associated with operation of the PHES	Construction Operation	7.4.4
	W05	Operational noise and dust resulting in disruption to local residences and businesses	Operation	7.4.5
Surroundings	S01	Diminished enjoyment of the natural environment of Mt Walker	Construction Operation	7.5.1
	S02	Impact on scenic and environmental values due to construction activities in Lake Lyell and near Farmers Creek	Construction Operation	7.5.2
	S03	Land use conflicts and loss of amenity to allow for workforce accommodation	Construction	7.5.3
	S04	Concerns regarding plans for site rehabilitation	Decommissioning	7.5.4
Culture	Cu01	Direct impacts to Aboriginal cultural heritage values, including impacts to heritage items and sites	Life of project	7.6.1
	Cu02	Landscape changes and changes to access affecting cultural connections to place	Construction Operation	7.6.2
Access	A01	Changed recreational use and access to Mt Walker and sections of Lake Lyell and Farmers Creek	Construction Operation	7.7.1
	A02	Reduced access for nearby neighbours due to increased traffic and road upgrade works	Construction	7.7.2
	A03	Altered and reduced public access to Lake Lyell and Mount Walker	Construction Operation	7.7.3
	A04	Continued access to Lake Lyell for recreation during project operation	Operation	7.7.4

Social impact categories[1]	ID	Impact/benefit on people (unmitigated/unenhanced)	Project phase(s)	Section addressed
	A05	Changed local access to health and community services during construction	Construction	7.7.5
	A06	Increased competition affecting access to rental and short stay accommodation	Construction	7.7.6
	A07	Improved access, stability and sustainability of the energy network	Operation	0
Health and wellbeing	HW01	Mental health of local stakeholders and First Nations people affected by uncertainty and potential for loss of livelihood, amenity, and personal agency	Project planning and approvals Construction	7.8.1
	HW02	Community safety and wellbeing risks due to construction activities and road upgrade works	Construction	7.8.2
	HW03	Community safety and wellbeing risks during construction and operation of the reservoir and intake	Construction Operation	7.8.3
	HW04	Perceived diminishment of community wellbeing due to the influx of the non-local workforce	Construction	7.8.4
Livelihoods	L01	Potential for loss of income to tourism businesses	Construction Operation	7.9.1
	L02	Reduced ability for near neighbours to use or gain value from their land	Construction Operation	7.9.2
	L03	Procurement and competition for skilled local workers affecting the availability of workers and resources in the regional area	Construction	7.9.3
	L04	Construction employment and training opportunities for residents in the regional area	Construction	7.9.4
	L05	Operational employment and training opportunities for residents in the regional area	Operation	7.9.5
	L06	Indigenous employment, training and business opportunities	Construction	7.9.6
	L07	Business opportunities for residents in the regional area	Construction Operation	7.9.7

7.2 Decision-making systems

7.2.1 Community dissatisfaction with planning and approval process

The community is in the midst of experiencing the complexity of the planning and approval process for this project, which has been deemed CSSI. As these projects are large scale, iterative and take time to progress, the community has cause to question approaches to the planning, decision making and delivery process, and whether outcomes are in their best interest. Community engagement is core to understanding and responding to concerns and opportunities and informing the evolution of the project.

i Project engagement approach and outcomes

The project's planning process requires extensive investigation and adaptive revisions to manage potential impacts, creating some stakeholder uncertainty. Engagement so far has provided general impact overviews, with full technical reports to be released during public exhibition. Feedback is documented in the engagement report, and the community can comment via the DPHI portal.

As part of its broader community engagement, LLP established set up a "Project HQ" at 124 Main Street, Lithgow which opened in late 2023. The hub provides project information, videos, and channels for formal complaints through the CCC or DPHI. Only a small number of stakeholders with adverse views have visited, and questions received are passed to the project team for responses. The project website is regularly updated with information and now includes include new insights associated with key matters of concerns to support consultation before the EIS submission. A further engagement program is also being undertaken from mid-October to late November 2025 to support improved awareness and aims to resolve community concerns.

During LLP engagement, the community asked questions about the project in the context of broader policy matters, future infrastructure planning and energy-market decisions, such as government policy on energy transition, water management, and regional planning.

LLP have commissioned sentiment and awareness surveys, summarised in Section 6.1.2, which demonstrate a growing understanding and acceptance of the project in the Lithgow regional community over time (between August 2024 and 2025), with one stakeholder expressing:

> *"… it seems well thought out and planned."*

Sentiment and awareness surveys show growing understanding and acceptance in the Lithgow region, while community questions often focus on broader policy, infrastructure planning, and energy-market matters.

LLP's near neighbour-specific engagement includes follow-ups, record amendments, tailored communications, and additional project details such as bespoke renders and timelines. The CCC also noted the project's complexity tests community resilience.

ii SIA engagement

The EIS planning and approvals process necessitates that SIA engagement is completed at the same time as other technical studies and elements of the project description are being refined to allow for changes in the design. During the SIA engagement, stakeholders expressed dissatisfaction with the amount of information they have access to about the effects of the project, and perceived insufficient community consultation and engagement during the project planning and approvals phase, resulting in a lack of trust in the project. Communities expressed different and changing perspectives on the project associated with communications available at the time they were engaged.

At the time of the SIA engagement in late 2024, some members of the community expressed frustration associated with perceived limited availability of technical information and outcomes of studies being prepared for the EIS around project impacts, identifying they would have more trust in decision making if the proponent was Australian or locally based, compared to non-Australian ownership. Stakeholders, and particularly some near neighbors stated:

> *"We want feedback about the project but we haven't been given information about possible impacts, [we can't give our] feedback" … "with a limited understanding of how the project will impact us"*
>
> *"The project website provides a sanitised image of the construction site – not proving a clear insight of impacts"*
>
> *"Unclear project timelines make it difficult to plan for future business operations"*
>
> *"The consultation with EnergyAustralia to date has been very upsetting. When they come and give feedback, the feedback recorded is not correct, and they have to reach back out and say what has been left out. What is put in reports is not reflective of conversations we have had with EnergyAustralia."*
>
> *"If they start telling us the full story, we might be able to start getting on board."*

At this time, some stakeholders consulted indicated that they felt they didn't have an informed understanding of the project and its potential effects on matters of concern, due to perceived delays in accessing technical study information, which were being prepared. They also expressed frustration with insufficient opportunity to provide meaningful and informed feedback on the decision-making process.

iii Social assessment

This assessment considers the combination of positive feedback received through project engagement outcomes, past expressed dissatisfaction, current expressed support and dissatisfaction, and anticipated future disruptions associated with the project.

As this dissatisfaction bears strong linkages to processes enforced by the current planning and approvals system, and the project has delivered extensive opportunities for community feedback to be considered as part of the pre-planning stage, it is likely community dissatisfaction with the planning and approval process will continue to grow without further targeted mitigation.

Given the above, the unmitigated significance of community dissatisfaction is assessed as having an **Almost certain** likelihood and **Moderate** magnitude, resulting in a rating of **High**.

As outlined above, to mitigate this impact and strengthen relationships, community updates have been provided through the sharing of project newsletters, website and some preliminary findings have been shared with community members through the Mt Piper CCC. While this group was initially established for Mt Piper, presentations have been provided at key stages of the project development to obtain feedback. It is recommended that, in line with project CSEP, the project should continue to deliver regular and targeted engagement with representatives of key stakeholder groups.

As outlined in the Shared Benefit Program Summary (within Appendix D of the EIS), neighbour discussions have played a significant role in co-designing the Neighbour Agreement Guide and process. The framework was circulated to all neighbours in June 2024 and provides detail on the mitigations available to neighbouring properties. Prior and parallel to the EIS being publicly exhibited for comment; neighbours will be directly engaged to form agreements that will include specific detail on the impacts and mitigations for each property.

Due to the duration and process of finalising technical studies for the EIS, and to prevent misinformation, the primary opportunity for the majority of community to review and comment on the findings of the studies will be through the public exhibition and submission phase via the DPHI portal. While the full findings would not be shared prior, LLP will be required to address all community received submissions and respond to DPHI with how these submissions have been incorporated into the project where necessary.

The mitigated significance is rated as **Medium**, with the likelihood remaining **Almost certain** and the magnitude of the impact reducing to **Minor**.

A summary of the assessment is presented in Table 7.2**.**

Table 7.2 Community dissatisfaction planning and approval processes

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Decision-making systems	Community dissatisfaction with planning and approval processes	Near neighbours	Project planning and approvals	Local area	High	Medium

7.3 Community

7.3.1 Alteration of community composition and character due to workforce influx

The project workforce has the potential to impact the social composition of the local area during construction, with peaks of 545 workers in in Q3 2026 and 606 workers in Q2 2029, meaning a total peak workforce assumption of 600 workers. Approximately 80% (480 workers) are expected to be non-local, contributing to a temporary population increase up to 12.52% in the project local area (home to 3,835 people in 2021). This non-local increase in population would exceed the 5% threshold for population change identified by Burdge (2015) as impactful to community cohesion and service provision. By contrast, the regional area with a population of 20,842, will experience less than a 2% population increase, which would have a negligible effect on regional community composition and resource demand.

The local area's demographic and social profile highlights a stable population with a strong sense of community. As outlined in Chapter 5, in 2021, 3,278 people lived in the project local area, an increase of 3% from 2016. A significant majority of local residents (58.2%) reported living at the same address five years ago, compared to the NSW average of 53.9%. The gender distribution in the local area mirrors the NSW average, with a marginally higher ratio of females to males. The local area also recorded an aging population and a relatively high proportion of Aboriginal and/or Torres Strait Islander people, with the largest proportion living in Bowenfels (234 people or 11.4%).

The construction phase will continue for approximately five years. An accommodation camp will be established and is expected to be completed before the end of the second year of construction. The camp will have capacity to house approximately 500 workers.

Before the camp is built, 380 (80% of 475) workers may rely on short term accommodation in the local area, or travel from both within and outside the Lithgow LGA to the project site on a daily basis. Workers will have a variety of work hours, as articulated in Chapter 2, and are likely to have varied rosters depending on their role.

It is expected that the project workforce will interact with the local community. Once the accommodation camp is completed, workers may move around the local area on their days off and engage in recreational activities.

It is assumed that, based on existing industry and employment profiles and without direct intervention in project hiring practices to employ an even distribution of worker demographics, the project construction workforce would be composed predominantly of men between the ages of 25 to 50, who are in the middle income tax bracket (Jobs and Skills Australia, 2024). It is understood however that procurement and for the project would be developed with diverse targets for skills, age and gender.

Nonetheless, the influx of workers is likely to result in observable shifts of population characteristics in locations where the project workforce is likely to interact with the local community, principally in recreational spaces and local stores. These changes may have a negative effect on community character by introducing a perceived risk of lifestyle and safety issues (Morris, 2012), including:

- less integration of FIFO workers into the local community resulting in social problems (e.g. violence, crime) in 'host' communities
- non-participation or limited participation by FIFO workforce threatening the survival of volunteer, community and sporting groups
- long-term loss of social capital in rural and regional communities
- safety issues around worker fatigue, increased vehicle traffic, etc.

People living in the local area demonstrated a willingness to support their community and maintain strong social ties through volunteerism. The 2021 ABS data indicates high rates of volunteering (15.4%) with 23.81% in Rydal. These rates are noticeably higher than the regional area (14.5%) and NSW (13.0%).

Consultation undertaken by Council to inform the Community Strategic Plan (CSP) (2022) showed that residents identified sense of community, scenery, and peaceful lifestyle as the most loved aspects of living in Lithgow. Further, the vision outlined in CSP saw Lithgow as "*a strategic centre with an evolving economy and a resilient and connected community which embraces its proud heritage and world class natural environment"* (Lithgow City Council, 2022).

Rapid change to local population characteristics, even temporary, risk disrupting these existing local population and community attributes. The Burdge theory of a 5% threshold for when population change materially affects community composition, cohesion and service access, was originally developed on the assumption of new locals living in the community. While a large proportion of the project workforce will eventually be accommodated on site, the threshold still applies in this assessment, and particularly with consideration of the period prior to the accommodation camp being completed, and also during an increased frequency of worker-resident interactions throughout the construction phase.

Near neighbours expressed concerns that the influx of workers could potentially alter the social fabric of the community, something they value about living in the rural area.

> *"moved here because it is isolated'*
>
> *"at the moment it is serene peaceful place, and the project will turn it into an unpleasant place where you don't want to be"*

Stakeholders also characterised the local area, and particularly Rydal, as "close-knit" and identified a sense of connection to neighbours. New people to the area can lead to changed community cohesion and can also potentially lead to an increase in community resilience brought about by economic growth and additional community investment and improvement to services.

The unmitigated significance of 'alteration of community composition and character' is assessed as **Very high**. The likelihood is **Almost certain** and the magnitude is **Major**.

It is noted that there is always a risk associated with population change and given the project will be part of the community throughout the entire life cycle, this project represents an opportunity to contribute long-term to the social fabric and development of the local area.

The following mitigation measures are proposed:

- Develop a procurement and employment strategy with diverse targets for workforce skills, age and gender, and local recruitment, founded in engagement with key stakeholders.
- Increasing the number of locally hired workers through upskilling and training, in both construction and operations. A suggested target range is more than 20% local procurement during the construction phase of the project.
- Development and effective implementation of a Construction Community Engagement Plan including:
  - initiatives to contribute to maintaining social cohesion in the local area
  - dedicated project personnel to maintain local community and First Nations community relationships
  - encourage volunteerism and community involvement
  - Implement further investigation in supporting proposed community projects through mechanisms such as the proposed Shared Benefits Program.
- Development of a Workforce Management Plan which includes a comprehensive Worker Code of Conduct consistent with the NSW Code of Practice for Construction Work (Safe Work NSW, 2019). All workers and contractors will receive training on this with refreshers provided if deemed necessary. The plan will include site safety rules such as:
  - no littering
  - no alcohol or drugs (other than prescription medication) to be consumed on site
  - no fighting, bullying, harassment or aggressive behaviour by anyone on site.

The mitigated significance of 'alteration of community composition and character' is assessed as **High**. The likelihood of the impact occurring is **Likely** and the magnitude is **Major**.

A summary of the assessment is presented in Table 7.3.

Table 7.3 Alteration of community composition and character due to workforce influx e

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Community	Alteration of community composition and character due to workforce influx	Local community Business operators – Regional area	Construction	Local area – Lake Regional area	Very high	High

7.3.2 Loss of community cohesion due to distrust and conflicting views on the project

Local area communities, including South Bowenfels and Rydal exhibit strong community cohesion which is underscored by higher rates of volunteering and participation in local organisations (refer to Chapter 5). The "sense of community and friendly people" is reported as one of the most valued aspects of living in Lithgow (*Community Strategic Plan* (2022), and reaffirmed during SIA consultation that residents have a strong connection to place and community. Residents observed that conflicting views on, and experience of, the project's benefits and impacts for the local and regional community may result in conflict and a loss of cohesion. Further concern was also expressed around a loss of existing connections as residents may choose to leave the local area.

Specific to the impact on community cohesion, near neighbours said:

> *"People are not communicating as much and [there's a] lack of trust within the community."*
>
> *"People might leave the area"*
>
> *"Strong feelings for or against affect how people talk to one another"*
>
> *"I feel grief. It's beginning the breakup of my community, people I trust"*

Members of the broader community who have provided feedback during project engagement (LLP, 2025) expressed apprehension about how a sudden population increase could affect community character, safety, and social cohesion, particularly in smaller towns and rural areas.

However, conflicting views on the project have created divisions, with different levels of impact experienced by nearby stakeholders particularly among neighbours of Sir Thomas Mitchell Drive, local accommodation businesses and neighbors within 5 km of the project site, as well as Aboriginal community members (discussed below). This assessment also notes there are multiple project factors contributing to a potential loss of community cohesion, such as:

- potential for population change to affect community composition (discussed at Section 7.3.1)
- differing opinions on the merit of the project at a regional level, with a shift in project support and stronger mix of views indicated by a recent Council meeting on 28 October (Lithgow City Council, 2024)
- the risk that long-term residents may move away from the area if the project proceeds (discussed below)
- non-disclosure agreements associated with the Neighbour Benefits Program (discussed below).

a Potential for out-migration of long-term residents

It is possible some residents and businesses in proximity to the project may choose to leave the area as a result, and in the context of strong community value placed on residential amenity. According to established population change benchmarks (Burdge, 2015), population change above a threshold of 5% may also result in impacts on social cohesion due to the limited capacity of the communities to respond and cope with change. It is not expected that the project will result in more than 5% of residents (191 people) moving out of the local area, which is unlikely to have a significant effect on community cohesion, unless the out-migration is concentrated to a neighbourhood network like residents of Sir Thomas Mitchell Drive.

b Perceived engagement imbalance affecting cohesion among Aboriginal community and stakeholders

During SIA engagement, multiple Aboriginal groups and individuals described their experience of declining social cohesion. This has been attributed to the perceived extent of project consultation with all key groups and concerns about independence of information provided by the project. Section 7.4 reports on the engagement informing this assessment and notes the project's approach to focused discussions that remain ongoing with respect to engagement protocols with all parties. It is recommended that the project consider appointing a dedicated Aboriginal Engagement Advisor to act as a central point for information, liaison and relationship management across all Aboriginal parties affected by the project.

c Neighbour Agreements affecting community cohesion

Engagement associated with Neighbour Agreements has taken place since July 2023 and is ongoing (refer to Section 6.1). LLP has advised that during the process of preparing the neighbour agreements, they have observed there is a gap between community awareness of the Neighbour Agreement Guide, available mitigations and the agreement process and the availability of technical studies to start the agreement process.

During SIA engagement, residents expressed concerns with regard to the gap between initial engagement for the development of the Neighbour Agreement Guide in June 2024, and the opportunity for neighbours to understand direct project impacts on their properties through release of project technical studies. These studies, which include assessment of potential economic, health, visual, noise and vibration impacts, were identified as critical for informed decision-making associated with benefits agreements by affected neighbours.

Some neighbours expressed frustration over the lack of timely communication and perceived competition for financial agreements which they felt created tension in neighbour networks. While acknowledging the development of neighbour agreements is an interactive process, some neighbours reported feeling pressure to accept terms including a non-disclosure agreement. This has in turn contributed to some neighbour concerns regarding fairness and transparency. LLP understands these concerns and continues to work with neighbours on an individual basis, noting the importance of individual rights to privacy and confidentiality of information.

LLP have ensured that the development of agreements and mitigation packages are in accordance with NSW Government (2024), AEIC and DPHI (2024) guidelines, though they have been bespoke to the project and informed by neighbour discussions. The guidelines provided by DPHI are specific to wind and solar, and where government projects exist like transmission lines there are different provisions and regulations available. To respect privacy, and financial sensitives, these agreements need to be negotiated individually with affected landowners, and the application of non-disclosure agreements are at the discretion of the neighbours involved. This approach aims to safeguard the personal and financial information of individuals, while working in accordance with a consistent negotiation framework.

LLP published a Draft Shared Benefit Program Community Engagement And Co-Design Outcomes Report (2025) to provide neighbours with a collective view of what feedback has been received from the broader community, a high level only, to assist with transparency in discussions while managing confidentiality.

d Unification for community advocacy purposes

While the project proposal has elicited a range of polarised views within the community, it has also fostered a sense of unity among some objectors and a strengthening of local community advocacy activities such as community-led town hall meetings and information sharing. A recent example of this community advocacy was an event held in May 2024 (CLCGroup, 2024), reported by stakeholders and local media to have hosted between 240 and 300 attendees. During SIA engagement, local stakeholders – particularly near neighbours – shared their individual views as well as concern on behalf of their neighbours, indicating a high level of informal information sharing and unification for advocacy purposes. This is a contrasting factor in the assessment of project impacts on community cohesion.

The unmitigated significance of loss of community cohesion, particularly among near neighbours and local business operators, due to distrust and conflicting views on the project is assessed as **Very high**. The likelihood of the impact occurring is **Almost certain**, as this is observed to be an extant effect of the project, and the magnitude of the impact is **Major**.

It is suggested that engagement-related mitigations include:

- implementation of a Construction Community and Stakeholder Engagement Plan (CSEP) which includes a grievance mechanism, such as a community hotline
- continued implementation of the Neighbour Agreement Guide with the findings of EIS impact assessments
- provide a dedicated local communication resource (liaison officer) during project construction, and an ongoing contact for the site, to be embedded within and build relationships with the community.

The effective implementation of the proposed Aboriginal cultural heritage management plan (ACHMP), as outlined in the ACHA, is key to improving social cohesion between Aboriginal groups. The Plan includes detailed information regarding Aboriginal community consultation and participation through the remainder of the project including a grievance mechanism, such as a community hotline, that is readily available and designed for use by the local Aboriginal community. Commitments include on-Country discussion with Elders and key-knowledge holders to discuss impacts to any key view-lines from identified sites and identify suitable mitigations to reduce the impacts where feasible. Other activities include the development and implementation of a heritage interpretation strategy and plan to explore, develop and present Aboriginal heritage values of the project area, as well as descriptions and methods of any additional archaeological actions that may be required prior to construction.

A CSEP will be implemented. This will include engagement with the broader Aboriginal community such as key-knowledge holders and RAPs. Activities will include holding regular project briefings to provide updates on project activities and upcoming activities, and opportunities to be directly involved in the project.

The project is developing a community benefits sharing program, which may apply co-design approaches to enhance community cohesion outcomes. Some suggested opportunities which would mitigate this impact include targeted support for local community events, activities and project design outcomes, and delivery of direct benefits for local community members affected by the project. Core objectives of this program are indicated in Chapter 10.

The mitigated significance of loss of community cohesion due to distrust and conflicting views on the project is assessed as **Medium**. The likelihood of the impact occurring is assessed as being **Almost certain** and the magnitude of the impact is assessed as being **Minor**.

A summary of the assessment is presented in Table 7.4.

Table 7.4 Loss of community cohesion due to distrust and conflicting views on the project

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Community	Loss of community cohesion due to distrust and conflicting views on the project	Local and regional community	Project planning and approvals, construction	Regional area	Very high	Medium

7.4 Way of life

7.4.1 Visual impacts of the proposed upper reservoir and supporting infrastructure affecting community sense of place

The construction and operation of the proposed upper reservoir and supporting infrastructure are anticipated to significantly influence the community's sense of place, environmental values, and overall landscape perception. The visually appealing character of the project area, including its dark skies, is a valued aspect of community identity (see also Chapter 5) that could be disrupted during project activity.

Visual impacts experienced at nearby residences and accommodation facilities were frequently raised during SIA stakeholder engagement. Stakeholders expressed concerns about the project's disruption to scenic views experienced from their properties, and the effect this may have on sense of place. Stakeholders were also concerned about lighting during construction at nearby residences. Comments included:

> *"All close residents will tell you they bought the houses for the pristine views and environment - with no knowledge of a project. Views and lifestyles will be destroyed, as well as mental health impact."*
>
> *"View from accommodation encompasses the whole landscape – lake, mountain and valley."*
>
> *"Light pollution during construction."*
>
> *"Will scar the highest mountain in our area."*

The Landscape and Visual Impact Assessment (LVIA) undertaken as part of the EIS (EMM, 2025) examined the upper reservoir located on the southern ridge of Mount Walker, as well as supporting infrastructure. The LVIA assessed potential visual impacts from construction and operation, such as disturbance of views from Lake Lyell and nearby sensitive receivers and clearing of natural vegetation.

The upper reservoir was reported to have the greatest visibility and the highest potential for visual impacts to occur on elevated ground south and west of the project. Visual impacts of the upper reservoir may also be experienced along parts of the Lake Lyell shoreline and along sections of the Great Western Highway. However, views of the upper reservoir will be blocked by high ground near South Bowenfels.

The LVIA also assessed the impacts from night lighting during construction, which may be necessary as a safety and security measure on project infrastructure and ancillary structures. No permanent lighting is expected in the upper reservoir. The assessment concluded that lighting may be visible from some residences and tourist accommodation along Sir Thomas Mitchell Drive and west of Lake Lyell along Sandalls Drive. Night lighting would be contained to small areas and therefore would have a negligible impact. The upper reservoir has been relocated from a visually prominent location on the southern ridge of Mount Walker to a site with lesser visibility in response to community feedback.

The Tourism and Recreation Study provided as Annexure D identified the residual risk of "Construction works at the upper reservoir require removal of vegetation and aesthetic alteration of the local landscape" as Medium for visitors to Lake Lyell and surrounds, Marrangaroo National Park and Lidsdale State Forest, local accommodation providers and ancillary businesses (e.g. petrol stations, supermarket, bottle shops) and community groups (e.g. 4WD groups).

The community may experience shocks and stresses as a result of changes to the landscape during construction, and the ongoing presents of visible elements, particularly the upper reservoir, altering the character of the project area from a 'natural' to a 'built' environment throughout the projects' lifetime. Local community members such as accommodation providers and are particularly sensitive to this change.

The unmitigated significance of visual impacts during construction is assessed as **Very high**. The likelihood is **Almost certain** and the magnitude is **Major**.

Visual impacts have been mitigated throughout project design. Design measures proposed in the LVIA include:

- selecting materials that complement the natural landscape
- early planning to retain and re-establish native vegetation where possible for screening, and restoring the hillside landscape to its previous state
- ensuring temporary and permanent lighting is well designed and screened.

While the social impact of changes resulting from impacts to the visual landscape are anticipated to be very high, the growth of vegetation over the total operational life of the project may reduce the degree to which this impact is experienced by the community, as has been the case with the Lake Lyell Dam. While the dam itself remains visually present within the landscape, engagement with local stakeholders indicated it is accepted as part of the local landscape, though it was not viewed by all as aesthetically pleasing. Ongoing consultation with surrounding landowners during the finalisation of the design, during construction and during progressive rehabilitation and restoration periods to demonstrate the project's continued commitment to minimising visual impacts during construction, and supporting the project's operation phase. For neighbours, where appropriate, landscape screening or property alterations may also be provided and this will be determined with individual neighbours as part of the Neighbour Agreement process.

The mitigated significance of visual impacts is assessed as **High**. The likelihood is **Almost certain** and the magnitude is **Moderate**.

A summary of the assessment is presented in Table 7.5**.**

Table 7.5 Visual impacts of the proposed upper reservoir and supporting infrastructure affecting community sense of place

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Way of life	Visual impacts of the proposed upper reservoir and supporting infrastructure affecting community sense of place	Local community Service providers (Accommodation) Traditional Owners and Aboriginal communities	Construction Operation	Local area/s Key urban area	Very high	High

7.4.2 Impeded access to water due to water quantity and quality impacts

The project's effect on water quality, water flows and water security were principal issues raised during SIA consultation. Social impact assessment is required due to the significance of water assets to the local community.

The Coxs River, part of the Hawkesbury-Nepean catchment, supports a wide range of users including:

- local residents
- agricultural and tourism business
- recreational users
- Traditional Owners and First Nations peoples
- Greater Sydney's water supply via Warragamba Dam.

Lake Lyell is currently the center of a range of water-related recreational activities, including water skiing, fishing kayaking, and swimming. Land within the locality is characterised by pastures for grazing, bushland areas and urban areas, which may be reliant on water from Lake Lyell. Other identified uses of water from Lake Lyell that are located within the project area include:

- crown reserves
- travelling stock routes
- operational mines and quarries
- Marrangaroo National Park
- Lidsdale State Forest which are within the project area (Minesoils, 2025).

Additional water users considered:

- accommodation providers such as the Japanese Bath House, which sources water from approximately 300 m underground (Japanese Bath House, 2024)
- the Lake Lyell Recreation Park, which uses tank water (Lake Lyell Recreation Park, 2024).

Water is also essential for the project's construction activities, such as dust suppression, concrete batching, construction of site and transmission infrastructure, vehicle washdown, portable water supply to the accommodation camp and general site maintenance. A detailed overview of construction water usage is provided in the Surface Water Assessment (SWA) (Appendix F of the EIS).

Potable water will be tanked to the project, and non-potable water will be treated by the onsite water treatment plant from multiple sources including groundwater bores, the underground construction and the area within the cofferdams, or supplied directly from Lake Lyell.

The Lithgow CSP (Lithgow City Council, 2022) sets a 10-year goal to "*To balance, protect and enhance our diverse environmental elements, both natural and built, for the enjoyment and support of both current and future generations".* This includes a strategic direction to protect the Lithgow region's water supply.

During engagement, local residents and businesses shared concerns regarding how the project will source water during construction and operation, and the effect of the project's demand on water security and recreation in the region. Other local community concerns include water quality impacts from potential sedimentation, construction waste and aquifer damage, including:

> *"concerned about water quality due to dust"*
>
> *"silt in water from loosened soil on road margins"*

Throughout SIA engagement, local residents identified that they use water from Lake Lyell for agricultural purposes including an Iris farm and livestock watering. Within the Lithgow LGA, 61,743 hectares (ha) of land is subject to agricultural activity, of which a majority is used for grazing (Minesoils, 2025). The Soil and Land Use Risk Assessment (SLURA) found that water resources outside of the project area will not be impacted, including minimal impacts to downstream users (Minesoils, 2025).

Recreational users depend on Lake Lyell for activities such as water sports, fishing and picnicking. Stakeholders consulted for this SIA emphasised the lake's importance for local lifestyle and tourism.

Communities also raised concerns about the project's potential effects on water quality related to damage to existing aquifers, erosion and runoff from the project construction site and the potential sedimentation of the water and the bed of Farmers Creek and Lake Lyell. Findings from the SLURA noted that rainfall, lack of appropriate vegetation cover and failure of water management structures may lead to erosion and sedimentation. The steep nature of the landscape was also identified as a contributing factor to the potential for erosion (Minesoils, 2025).

The SWA assessed potential impacts of the project on receiving waters and concluded that:

- no change to water quality in the Farmers Creek arm is expected during drought conditions, dry weather, minor wet weather and after material and significant wet weather as discharges from the system would be predominately limited to the controlled discharges of treated water from the contaminated water and stormwater systems which will have similar water quality to Farmers Creek inflows (i.e. the minimal harm criteria)
- during material and significant wet weather, overflows from sedimentation basins and runoff from stormwater (minor works) areas may contribute to elevated suspended sediment and turbidity in the Farmers Creek arm. No material increases in nutrient or metal loads are expected as key sources of these pollutants will be managed in the contaminated water system
- negligible change to lake inflow volumes are expected
- no changes to the lake stratification cycle will occur during construction as the construction activities will not affect any of the processes that drive stratification and destratification
- no changes to the extent and magnitude of algae levels in Lake Lyell are expected during construction of the project
- there is potential for increased suspended sediment concentrations and turbidity levels in the Farmers Creek arm of Lake Lyell during wet weather due to sedimentation basin overflows (as described above). However, no other material changes to water quality are expected in the Farmers Creek arm or other parts of the lake.

During construction there will be minimal change to the streamflow regime or water quality in the Coxs River downstream of Lake Lyell. Once operational, water level within Lake Lyell will fluctuate with the PHES generation and storage cycle. These fluctuations as well as the intake and release of water within the Farmers Creek arm are anticipated to increase kinetic mixing which will reduce stratification and improve water quality in the Farmers Creek arm and upper reaches of the lake, which historically have had higher algae levels relative to the lower part of the lake.

The GIA found that there are potential impacts to both regional and localised groundwater quality, with low unmitigated regional water quality impacts during construction, and medium unmitigated localised quality impacts. Findings included impacts on aquifer depressurization, groundwater flow paths, contamination of groundwater, and removal of part or whole of aquifer related to activities such as subsurface excavation (drilling and blasting), and stockpiling of generated spoil. These potential impacts may lead to overall impacts such as reduced water availability and habitat and altered water chemistry. However, there was no evidence of aquifers on Mount Walker in the Groundwater Impact Assessment (GIA), which community members identified as an area of concern.

Access to water resources is important for the continued wellbeing and livelihoods of local business and is of concern to stakeholders further downstream. While downstream impacts are not expected, groundwater and local resources will need to be managed.

The unmitigated significance of impeded access to water due to water quantity and quality impacts is assessed as **High**. The likelihood of the impact occurring is assessed as being **Likely** and the magnitude of the impact is assessed as being **Moderate**.

Planned mitigations include:

- erosion and sediment control plans (ESCPs) will be developed and include site specific erosion and sediment controls that address specific soil dispersion risks, phase of the project and terrain and soil characteristics considerations. The GIA found that after proposed mitigations, all residual impacts were low
- Water Licensing Strategy (EMM, 2025) reviews the project water supply needs and identifies feasible licensing pathways with regard to the overall water availability in the region so as to not impact local water users
- a surface water management and monitoring plan to outline construction measures for the capture, treatment (if requirement), discharge and monitoring of water from the site.

The mitigated significance of the project's impact on water access or quality is **Low**. The likelihood is **Unlikely** and the residual magnitude of impacts is assessed as **Minor**.

A summary of the assessment is presented in Table 7.6.

Table 7.6 Impeded access to water due to water quantity and quality impacts

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Way of life	Impeded access to water due to water quantity and quality impacts	Near neighbours Local community Local businesses Recreational users of Lake Lyell Agricultural water users	Construction, Operation	Local area	High	Low

7.4.3 Changes to amenity affecting way of life and rural lifestyle values

The construction phase of the project is anticipated to affect the rural lifestyle of nearby residents due to noise, dust blasting, and night lighting. Stakeholders shared concerns about these impacts on their way of life, extending to concern about amenity impacts during construction affecting local wildlife and farm animals. Specific concerns are reflected in the following sample of comments:

- Noise impacts:

  "Deeply concerned about noise and dust"

  "Work from home impacts because of the noise"

  "Don't know how residents like myself will cope with the amount of noise…[and its effects on other inhabitants] especially wildlife."

  "Whatever is left up on the mountain will be forced out due to noise."

- Blasting and dust impacts:

  "Dust and blasting effects on animals…horse concerns, being startled and injuring people from the blasting, there is no way to control it"

  "Black lung and silicosis concerns from the dust containing silica blowing off the mountain as a result of blasting from the project. Unsure how they [LLP] *will contain silica dust."*

  "Explosives in the mountains an unknown number of days per week. Hugely impacted by the project"

  "If they do all this blasting and so on, not sure about the effect on my cattle…Cattle are twitchy. Wonder whether I'll be able to continue to farm I the way I have."

- Effects on quality of life and rural lifestyle values:

  "We wanted to live out our lives in peace"

  "Time will not be able to be spent outside"

a Pre-existing vulnerabilities in the community

As shown in Section 5.2, the study area has a relatively high proportion of residents aged 65 and over (elderly). The local area had a total proportion of 25% of elderly residents, similar to the key urban area and the Lithgow LGA. This is higher than the proportion of elderly residents recorded in the state (17.6%). Within the study area, South Bowenfels SAL had the highest proportion of elderly residents at 31.4%, followed closely by Rydal which had a proportion of 30.7% (ABS, 2021). This represents that there is a high proportion of elderly residents living in relatively close proximity to the project, who may be vulnerable to lifestyle and accessibility changes.

Census data from 2021 (ABS) also showed that the most prominent long-term health conditions in the study area were arthritis, mental health conditions and asthma. Across these conditions, proportions were higher than recorded in the State. The Lithgow key urban area had the highest proportion of arthritis (14.7%), mental health conditions (11.8%) and asthma (10.3%). This is compared to NSW, which had a proportion of 13.9% of residents experiencing arthritis s, 10.7% with a mental health condition and 9.7% with asthma (ABS, 2021). Other long-term health conditions were higher across the study area when compared to the state, including cancer, heart disease and lung conditions.

Near neighbours raised concerns in relation to community mental and physical health and wellbeing, indicating near neighbours have identified as being elderly (many retired, 65+), and one individual has already experienced cardiovascular complications attributed to project stressors.

b Noise

The Noise and Vibration Impact Assessment (NVIA) undertaken for the EIS (EMM, 2025) assessed each impact assuming the worst-case scenario. Construction noise was assessed as being above the relevant noise management levels at 11 locations. Noise levels were not predicted to exceed levels considered as highly noise affected. The most affected residential receivers were located on Sir Thomas Mitchell Drive. These residences are expected to experience construction noise levels up to 63 decibels (dB), with the worst expected to occur in the morning shoulder period, with three residents experiencing highly intrusive noise levels.

According to the NVIA, blasting will not exceed acceptable emission levels from tunnelling and open cut blasting, as long as maximum instantaneous charge limits are adhered to. LLP will discuss blasting hours with near neighbours as part of their engagement. If blasting is required within offset distances, mitigations may be employed to ensure compliance to relevant blast criteria, including reduction of maximum instantaneous charge , the use of electronic detonators, optimised drill patterns and other factors to optimise blast design and reduce blasting impacts (EMM, 2025). In terms of vibration, it was considered unlikely that there would be vibration impacts to residential assessment locations, with the nearest residence to the construction being located beyond the safe working distances for human response considerations.

The NVIA also addressed potential impacts of blasting on livestock and found that there were minimal impacts to the behaviour of animals such as horses, sheep and cattle in a previous study. When applied to the context of the project, it was found that the distance of the project to areas that may accommodate livestock, and the predicted noise level of blasting would mean that impacts on livestock would be unlikely.

Noise can impact individuals to different extents, from annoyance to more serious health detriments, such as cardiovascular issues (Department of Health , 2018). Noise may affect vulnerable populations, such as elderly residents, to a higher extent. A common complaint related to noise impacts includes sleep disturbance, which has the potential to effect health and quality of life. Noise exposure is also related to an increase in psychological symptoms such as anxiety and depression (Department of Health , 2018).

c Dust

Dust can affect the health and lifestyles of residents, and community concerns included settlement of dust in water supplies, including rainwater tanks. Other considerations include settlement of dust across properties, increasing the need for cleaning. The Air Quality Impact Assessment (AQIA) (EMM, 2025) found that the predicted dust deposition during the project's construction phase were below impact criteria at all locations with the exception of one, which is a recreational look out point that can only be accessed via 4WD or foot (EMM, 2025). The impacted location is expected to not be frequently accessed and only occupied for short periods of time.

The unmitigated significance of changes to rural lifestyle values, underpinning their quality of life, as a result of the project has been assessed as **High**. The likelihood of the impact occurring is **Almost certain** and the magnitude of the impact is **Moderate**.

Aligned with LPP's project engagement, which identified the need for amenity impacts to be managed on a site by site, impact by impact basis, environmental management plans will be prepared that include conditions of project consent and the relevant conditions of executed neighbour agreements; this may include selection of quieter equipment, baseline and ongoing monitoring for dust, noise and vibration and reporting and information sharing requirements. This will be executed through consent embedded in the agreements.

The NVIA identifies a construction and noise vibration management plan will be developed prior to the commencement of construction to identify mitigation and management measures to be applied. This will include a description of work practices to be applied to minimise and manage construction noise and review noise management and mitigation measures to reduce noise levels.

The Air Quality Assessment (EMM, 2025) recommended that air quality impacts due to construction activities may be effectively mitigated by watering exposed areas including sections of unpaved roads within work areas, as well as minimising vehicle travel speeds. Measures include minimising vehicle speeds, watering exposed areas, watering during unloading of spoil, watering unpaved haul routes and injecting eater through drill holes.

Further measures recommended include provision of a 24-hour hotline as a grievance management mechanism, such as a community hotline, during construction, and dedicated relationship manager/s for near neighbours.

With these mitigations, the likelihood of project changes to quality of life and rural lifestyle values is reduced from **Almost certain** to **Likely**. The magnitude is assessed as **Moderate**, concluding the mitigated significance of this impact will remain **High,** requiring close and adaptive management with affected stakeholders.

A summary of the assessment is presented in Table 7.7.

Table 7.7 Changes to amenity affecting way of life and rural lifestyle values

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Way of life	Changes to amenity affecting way of life and rural lifestyle values	Near neighbours Service providers (Accommodation)	Construction	Local area	High	High

7.4.4 Change to water quality and water levels affecting recreational values and use associated with operation of the PHES

Operational cycles of the project will result in water level fluctuations at Lake Lyell, with potential impacts on recreational activities and shoreline safety. Lake Lyell will generally be maintained within the target PHES operating range (781.0 to 784.5 metres Australian Height Datum (mAHD)) and will occasionally be within the maximum PHES operating range (780.0 to 786.0 mAHD). Lake Lyell will be 78% full at the minimum PHES operating level of 780.0 mAHD.

The total storage capacity of the upper reservoir will be 5.3 GL of water at full supply level. Lake Lyell will act as the project's lower reservoir. The total storage capacity of the lake is 33.5 GL. Each operational cycle of the PHES (8-hour pump and 6.2 to 8-hour min generation).

During consultation, stakeholders raised concerns about water safety during low levels, changes to shorelines affecting tourism, changes to recreational use, and potential impacts on water quality:

> *"During drought there were exposed trees [in Lake Lyell] and branches sticking out…safety risks for kids on doughnuts if water levels are low."*
>
> *"Jets disturbing mud at the bottom of the lake"*
>
> *"Not a single person who uses the lake believes that it will be the same"*
>
> *"Impact of pumping water up and down will change the foreshore during the time it's being pumped – any form of rainfall – will increase that more, mudflats close to shoreline would hinder tourism over the last couple of decades."*
>
> *"The project people have made it clear that they don't think activities on the lake will be hampered. But understanding how much the water level will drop, I don't see how the current activities will continue"*

The SWA (EMM, 2025) provides the following overview potential impacts and benefits of the project.

a Water levels

At Lake Lyell water levels will be temporarily lowered during construction, and will continue to be maintained in a near full condition during operation. The water level regime will change from moving slowly to fluctuating daily due to the PHES operation. The maximum rate of water level change will be 0.4 metres per hour (m/h) and the maximum change in water level over a full cycle will be 2.85 m. There will be no change to lake flood levels.

b Water quality

During construction, there is a potential for increased suspended sediment concentrations and turbidity levels in the Farmers Creek arm of Lake Lyell during wet weather due to sedimentation basin overflows. No other material changes to water quality are expected in the Farmers Creek arm or other parts of the lake. During operation, PHES induced mixing will reduce stratification and improve water quality in the Farmers Creek arm and upper reaches of the lake which historically have had higher algae levels relative to the lower part of the lake. The project is expected to have a neutral to beneficial effect on water quality and flow regimes in the Coxs River.

Some scour in Farmers Creek arm may occur during the initial operating period. Scour has potential to generate suspended sediment and turbidity in Farmers Creek arm and the adjoining areas of Lake Lyell. The extent and magnitude of any impacts would decline overtime as the scour and depositional processes reach a new equilibrium.

c Groundwater

The groundwater impact assessment found that there would be potential impacts to both regional and localised groundwater quality, with low unmitigated regional water quality impacts during operation, and medium unmitigated localised quality impacts. As the project will be an open-loop system and will involve no direct water consumption, impacts on downstream water users are expected to be minimal.

Recreation and tourism impacts associated with this matter have also been addressed in Appendix E, and residual risk associated with “Loss of recreational value due to water quality and level fluctuations during and after construction” to local and regional communities and recreational users has been assessed as **Low**. The unmitigated significance of enjoyment of recreational activities and natural areas affected by changes to water quality and water levels in Lake Lyell, including the Coxs River arm and Farmer's Creek arm of Lake Lyell is assessed as **Medium,** the likelihood is assessed as **Possible** and the magnitude of the impact is **Moderate.**

Planned mitigations include:

- new hazard signs to be installed at Lake Lyell, including signage indicating the changing water levels
- suggested allowance for ongoing monitoring and adaptive management of safety concerns
- implementation of mitigations proposed in the GWA and SWA to reduce residual impacts.
- engage with Council and local recreation service operators throughout the project lifespan to provide information about the changes inform their safety management plans, and discuss ongoing work required in collaboration regarding infrastructure for the lake
- incorporate opportunities to reduce the impact of water level fluctuations and enhance lake recreation values and access, such as boat ramps and jetties, as suggested in Annexure D, Chapter 8.

The mitigated significance of this impact is **Low,** with a **Possible** likelihood and the magnitude of the impact is **Minor.** Monitoring and adaptive management will remain key during operations phase.

A summary of the assessment is presented in Table 7.8.

Table 7.8 Change to water quality and water levels affecting recreational values and use associated with operation of the PHES

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Way of Life	Change to water quality and water levels affecting recreational values and use associated with operation of the PHES	Near neighbours, Local community, Recreational users of Lake Lyell, Farmers Creek and the Coxs River	Construction, operation	Local area, regional area	Medium	Low

7.4.5 Operational noise and dust resulting in disruption to local residences and businesses

Though the relevant technical studies indicate that operational noise and dust will not create significant impact for nearby land users, local residents indicated that their long-term sense of peace and quiet was important to the values they hold in relation to the local area, and raised concerns related to potential for local amenity to be affected by operational noise and dust from the project site.

> *"We like the space and the peace and quiet this project will take all of that away from us. Not peaceful or unspoilt anymore."*

The NVIA (EMM, 2025) assessed operational noise levels for daytime, evening and night-time periods including consideration of noise-enhancing meteorological conditions. The assessment found that noise impacts from operation of the project are considered to not exceed relevant regulatory requirements. Similarly, sleep disturbance impacts from the operation of the project during the night-time period are considered not to exceed relevant regulatory requirements. The NVIA also found there were not anticipated to be significant vibration impacts due to lack of vibration generating works and the distances between the infrastructure and the nearest residences (500 m+).

The AQIA (EMM, 2025) found that the volume of traffic, fuel use and emissions during the operation of the project will be substantially lower than during its construction. The construction phase was therefore considered more significant in terms of potential air quality impacts, and the operational phase of the project was not considered further.

The unmitigated significance of disruption to local residences and businesses is assessed as **Low**. The likelihood of the impact occurring is assessed as being **Unlikely** and the magnitude of the impact is assessed as being **Minor**.

To mitigate this perceived impact, the project should provide access to the findings of technical studies.

The mitigated significance of disruption to local residences and businesses is assessed as **Negligible**. The likelihood of the impact occurring is **Unlikely** and the magnitude of the impact is **Minimal**.

A summary of the assessment is presented in Table 7.9.

Table 7.9 Operational noise and dust resulting in disruption to local residences and businesses

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Way of Life	Operational noise and dust resulting in disruption to local residences and businesses	Near neighbours Service providers (accommodation)	Operation	Local area	Low	**Negligible**

7.5 Surroundings

7.5.1 Diminished enjoyment of the natural environment of Mount Walker

Mount Walker is a valued environmental asset to the Lithgow community and surrounds. As detailed in Annexure D, popular recreational uses associated with access to and enjoyment of the natural environment on Mount Walker include 4WD and bushwalking, with a 50 km driving loop passing through Mount Walker, as well as the Mount Walker Trig Point lookout. Its proximity to the Marangaroo National Park further enhances the value of local surroundings, offering campsites and biking trails, and has high conservation values. Residents associate their environment of the area with its visually 'pristine' natural environment, and abundant wildlife. There is a strong linkage of concerns for the natural environment with restoration planning in Section 7.5.4 and matters of cumulative impact to local biodiversity and Aboriginal heritage, as discussed in Section 0.

The LVIA undertaken as part of the EIS (EMM, 2025) indicates that existing native vegetation will be cleared to allow for construction of the project, including the upper reservoir on Mt Walker. The LVIA noted it will take years to develop a canopy similar to existing conditions in areas that can be revegetated. As such, while visual impacts relating to land clearing and management of the upper reservoir are considered temporary, it may take time beyond the construction period for existing conditions to be reinstated (EMM, 2025).

Throughout SIA engagement, various stakeholders have expressed concerns around management of the upper reservoir. Comments relating to diminished enjoyment of the natural environment include:

> *"Destroying the environment to save the environment."*
>
> *"I spend a lot of time outdoors, and the amenity will be ruined."*
>
> *"The project will cause wholesale environmental destruction."*

One stakeholder was concerned about invasive species entering and damaging their land due to land clearing:

> *"Wild pigs come down, and they destroy the environment."*

The Biodiversity Development Assessment Report (BDAR) prepared as part of this EIS (EMM, 2025) assessed that without any measures to avoid, minimise or mitigate impacts, the project would result in a loss of approximately 105 ha of native vegetation and threatened species habitat of varying condition. Ten plant community types were mapped and no threatened ecological communities occur across the project. Ten threatened fauna species (listed under the NSW *Biodiversity Conservation Act 2016*) were recorded or assumed present and no threatened flora were recorded or assumed to be present.

The BDAR identifies candidate species listed as having a risk of serious and irreversible impacts (SAII) from the project however determined they are not at risk of SAII as no important habitats were recorded within the project area.

Impacts assessed in detail by the BDAR included the project's impact on native animals in adjacent habitat due to disturbance from noise, vibration and artificial lighting from the project's construction. This was assessed as being unlikely to cause a significant impact as it is expected that usage of habitat will return to pre-construction levels during operation, this there would be minimal ongoing impact. Further, the project may impact the connectivity of habitat due to removal of vegetation and inundation of land for the project's access road. However, the BDAR assessed that it is unlikely that the project will prevent long-term movement of animals as habitat would remain directly connected in areas of continuous forest and woodland, and as such, would not have a significant impact. Finally, it was found that if unmitigated, the project would have adverse impact on water quality, water bodies and hydrological processes that sustain threatened species near natural areas of Farmers Creek and Coxs River, as well as in Lake Lyell. However, proposed mitigations will ensure that potential impacts are unlikely through measures to manage sedimentation and water quality.

In May 2024, a local resident spoke at the Lithgow Town Meeting which was focused on the project. Throughout the presentation, the stakeholder commented on the scenic and environmental values of Mount Walker, and the perceived impacts of the construction of the upper reservoir. This perspective is evident in quotes:

> *"It [the project] will be decimating the whole area"*
>
> *"Once that mountain has been changed that it for life."*
>
> *"It's not my problem, it's not your problem, it's our grandchildren's problem"*
>
> *"It [Mt Walker] is very significant and largely untouched."*

The environment on Mount Walker is important to the character of the region, and while high conservation value areas such as Marangaroo National Park will not be impacted by the project, changes resulting from construction of the upper reservoir are expected to remain a major concern for the local community.

The unmitigated significance of diminished enjoyment of the natural environment of the upper reservoir is assessed as **High**. The likelihood is **Major** and the magnitude is **Likely**.

Planned mitigations identified in the BDAR include:

- a biodiversity management plan, to guide the management of terrestrial and aquatic systems during construction
- phased revegetation during construction and early establishment of screening plants to substantially minimise visual disruption during construction. These measures will reduce the overall impact on people's enjoyment of the natural environment
- a biosecurity management plan (BMP) to mitigate and manage the risk of invasive species, domestic pets and stock. The BMP will also ensure that the project aligns with the guidelines for development adjacent to national parks and wildlife service lands.

The mitigated significance of diminished enjoyment of the natural environment of the upper reservoir is assessed as **Medium**. The likelihood is **Possible** and the magnitude is **Moderate**.

A summary of the assessment is presented in Table 7.10.

Table 7.10 Diminished enjoyment of the natural environment of Mt Walker

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Surroundings	Diminished enjoyment of the natural environment of Mount Walker	Local and Regional community Recreational users	Construction, operation	Local area	High	Medium

7.5.2 Impact on scenic and environmental values due to construction activities in Lake Lyell and near Farmers Creek

Farmers Creek holds deep importance for local residents and recreational users - including fishermen, bushwalkers and other watercraft users - environmental groups and local Wirradjuri people. Construction activities, including two temporary bridges and a diversion near the lower inlet/outlet structure, will disrupt the area adjacent to Farmers Creek, impacting aquatic habitats, water quality and visual amenity.

Throughout LLP and SIA engagement nearby neighbours and residents of the local area identified the environmental, scenic and recreational importance of the Lake Lyell area and Farmers Creek, with a focus on impacts on local ecology and wildlife. Comments shared by residents included:

> *"We also have 1 km of farmers creek on our property. We go down there all the time. So peaceful. 100 m stretch down the bottom, kids swim, picnic, fishing, - people from the local area come down and fish right across – from next door through our property and neighbours' property"*
>
> *"What sort of impact the intake will have on the passage of farmers creek and back again? For all fish, including native fish, there are important lifecycle stages in swimming upriver to breed. Need to migrate to complete lifecycle. Interference with flows in Farmers Creek is likely to be a problem."*
>
> *"Disruption to flow at the mouth of Farmers creek is a significant issue, impact on lake margins fluctuating"*
>
> *"In relation to the diversion channels, Platypus habitat will be replaced with rock."*
>
> *"How can the drilling impacts to platypus and impact to the creek be justified?"*
>
> *"Myriads of invertebrates, to say that doing something on this scale is not going to impact on the ecosystem that live together and impact each other, of course it will affect them. That's just a whole another thing. It's not just the ones we see – it's all the animals we don't' see"*
>
> *"Know it keeps the river running, but must also be playing havoc with younger fish, and micro and macro invertebrates."*

A local Wirradjuri stakeholder identified they have personally been accessing this area since before the dam was built, and noted it is of individual and cultural importance, and is tied to their sense of connection to place, as well as the wellbeing of the local environment. Aboriginal stakeholders also identified the platypus species' importance in association with a platypus dreaming story. These impact pathways are explored in more detail in cultural impact assessments below.

These concerns have been echoed in recent public and community forums. For instance, Council passed a motion in October 2024 opposing pumped hydro projects within their jurisdiction. After this motion was presented, a councillor voiced their concerns on the impacts to the platypus population, stating: *"If it goes in, those platypi that are there cannot be relocated. So that national mammal is going to be slaughtered one way or another."* (Lithgow City Council, 2024).

The Concerned Lithgow Community Group (CLC Group) has actively campaigned against the project, with a Facebook page operating since December of 2021. They self-describe “a group of individuals that have formed to protect Lake Lyell and surrounding areas [including Mt Walker] from a proposed pumped hydro facility.” (CLCGroup, 2024). Videos published on Youtube include local platypus sightings and a series with episode 3: “Decimating an Abundant Platypus Population” highlighting the importance of the platypus population in Farmers Creek to the local community, as well as providing insights into how highly the community value the environment around Lake Lyell.

The Aquatic Ecology Assessment (Austral, 2025) studied 17 platypus detected from the Farmers Creek and Coxs River arms of Lake Lyell. The study found that the tagged platypus had no movement between the Coxs River and Farmers Creek, with the platypus primarily using burrows in the Farmers Creek proper (Austral, 2025).Further, there were a total of nine fish species identified across 14 sites, of which only two were native. It was found that downstream Farmers Creek supported higher abundance and diversity of fish when compared to upstream. Species such as the Australian bass do not have a self-sustaining population in Lake Lyell but are regularly stocked for recreational fishing purposes. Construction of the project is expected to impact foraging and burrowing habitat for platypus, additionally the lake diversion may act as a barrier for platypus passage between Farmers Creek and Lake Lyell. Further, construction activities have the potential to impact water quality, which may impact fish species, however fish within Lake Lyell and associated waterways are dominated by introduced species, therefore there will be minimal impact to native species as a result of project construction (Austral, 2025).

The BDAR (EMM, 2025) found that environmental impacts of construction around Farmers Creek will include alterations to local habitat as a result of removal of fauna habitat and a higher possibility for vehicle strike due to increased traffic. Potential habitat for the threatened Copper Wing Butterfly was recorded in the construction Envelope. Cumulative impacts may affect the Copper Wing butterfly, as well as other threatened species such as the Gang-gang Cockatoo, Glossy Black Cockatoo, Koala, and the Powerful Owl. There was no potential wallaby habitat detected in the construction envelope, and the BDAR did not assess an echidna population, however these animals were raised during engagement as species of particular concern among the local community.

The LVIA (EMM, 2025) found that the Farmers Creek arm of Lake Lyell will be impacted by views of the lower elevation infrastructure including the intake structure, diversion and bridge crossing of the Farmers Creek arm of Lake Lyell, which will be highly visible for residents along the northern side of Sir Thomas Mitchell Drive.

The lifestyle and wellbeing of residents along Sir Thomas Mitchell Drive is strongly tied to the Farmers Creek arm of Lake Lyell, and the preservation of the local ecosystem is of high importance to the broader local community and aboriginal stakeholders, as well as recreational users. While the area has already been significantly changed by the presence of the Lake Lyell Dam in the past, as well as ongoing development of surrounding and upstream properties, local ecological social values have adapted to encompass the current state of the natural environment, and residents often referenced the area as ‘pristine’ in interviews.

The unmitigated significance of impact on scenic and environmental values due to construction activities in Lake Lyell and around Farmers Creek is assessed as **High**. The likelihood is **Almost certain** and the magnitude is **Moderate**.

Planned measures to avoid, minimise or mitigate potential impacts include:

- avoidance measures such as the Farmers Creek arm of Lake Lyell being diverted near the lower inlet/outlet structure to mitigate risks associated with flooding of the project site and sedimentation (Austral, 2025). The diversion avoids the natural creek system of Farmers Creek proper
- reducing the construction footprint by utilising existing infrastructure will lower potential indirect and prescribed impacts associated with construction (EMM, 2025)
- retention and restoration of native vegetation and habitat
- screens and exclusion devices to mitigate potential for direct platypus mortality (Austral, 2025)

- ongoing monitoring measures for terrestrial and aquatic fauna, including offset measures, as per the BDAR
- a range of management plans will be developed to support the project throughout construction and operation to mitigate potential impacts related to water quality, platypus and fish.

The project will also require a total of 3,989 ecosystem credits and 18,115 species credits to compensate for impact on native vegetation and associated species habitat.

The mitigated significance of impact on scenic and environmental values due to construction activities in Lake Lyell and around Farmers Creek is assessed as **Medium**. The likelihood of the impact occurring is assessed as being **Possible** and the magnitude of the impact is assessed as being **Moderate**. Further efforts in biodiversity management and targeted stakeholder engagement are critical to preserving the values tied to Farmers Creek.

A summary of the assessment is presented in Table 7.11.

Table 7.11 Impact on scenic and environmental values due to construction activities in and around Farmers Creek

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Surroundings	Impact on scenic and environmental values due to construction activities in and around Farmers Creek	Local community Recreational users Special interest and environmental groups Traditional Owners and Aboriginal communities	Construction Operation	Local area	High	Medium

7.5.3 Land use conflicts and loss of amenity to allow for workforce accommodation

The proposed lakeside location of the workforce accommodation is expected to be of significant benefit for workers, in that it provides access to high-amenity land within close proximity to the project site and within 20 minutes of the Lithgow key urban area, which would reduce safety risks associated with driver fatigue. However, local community members have observed that increasing density at the proposed location off Magpie Hollow Road will have a negative effect on their surroundings and local amenity. Concerns around safety and security associated with the presence of the workforce have been addressed above. Other considerations included visual amenity for residents and visitors and noise.

The camp construction will last 2 to 3 months and will be in operation for the duration of construction. It is anticipated it will take a further 2 to 3 months to decommission. The land for the lakeside accommodation camp is owned by EnergyAustralia, and Council hold a current lease over the site which is sub-let to the Lake Lyell Recreation Park.

The community observed that the site is used for overflow accommodation of campers at the Lake Lyell Recreation Park during peak holiday periods, and noted:

> *"Appalling choice of location for workers camp…you could not have picked a worse spot, there are plenty of other discrete locations"*

Engagement with the Lake Lyell Recreation Park indicates that the location of the proposed workforce accommodation will have a detrimental effect on their business, as:

> *"*[the workforce accommodation] *camp takes over one of our camping areas. …. Don't see how they can hand land back to council when* [Council] *have sub-leased it to me."*
>
> *"Financially, this is my livelihood and that of my* [10-15] *staff. The legal and financial costs are very trying. I'm trying to run a business. It shouldn't have to be like that."*

The SLURA (Minesoils, 2025) identifies that during construction and operation of the camp, access to the foreshore near the accommodation camp will be maintained for public recreation, however access to the boat launch facility will be restricted. During construction, views of the accommodation camp will be possible from the eastern end of the lake. High risks identified with regards to the construction envelope including the camp were restrictions to recreational access, visual impacts, impacts to businesses reliant on scenic qualities of the landscape and property devaluation. Medium identified risks were associated with biodiversity, water quality, flows and quantity, biosecurity breaches and fire risks. The social risk associated with these impact pathways has been addressed in other impacts, but are each relevant to understanding collective concerns about the potential for land use conflicts, with recreational and visual effects being predominant impact pathways.

The presence of the accommodation camp will temporarily alter visual amenity for residents and visitors. The LVIA (EMM, 2025) identifies the Recreation Park as a visually sensitive land use, and notes potential for impact to local residents and 23 sensitive receivers, as well as motorists on Magpie Hollow Road, which will include visitors to Lake Lyell and water users on Lake Lyell.

Construction of the accommodation camp is not expected to result in vibration or to trigger sleep disturbance screening criteria, on the premise construction does not occur during the morning shoulder period. Noise levels related to operation of the accommodation camp were not assessed.

The BDAR (EMM, 2025) indicates there is no structurally or floristically intact native vegetation in the accommodation camp area, which was historically cleared of all native woody vegetation for agriculture and other human activities. Relatively intact vegetation is located nearby to the south-west. Avoidance by design was a core factor in accommodation camp siting.

The unmitigated significance of loss of access to high amenity land for the workforce accommodation is assessed as **Medium**. The likelihood is **Almost certain** and the magnitude is **Minor**.

The Draft Seven Valleys Destination Management Plan (Lithgow City Council, 2024) identifies the need to disperse existing visitors throughout the region, particularly during peak periods, and identifies the need to "increase the diversity of the experience offering, open spaces and free experiences are all fundamental in attracting these new markets into the region." Creating a cohesive brand for the region through industry engagement is a key objective of the plan, as are objectives to "Enhance existing experiences and events for residents and visitors" and "Attract investment in sustainable, nature and cultural - based tourism experiences, accommodation and hospitality". The plan identifies targeted enhancements of accommodation offerings to deliver these objectives.

The SLURA includes measures with relation to management of the accommodation camp site, including:

- all site personnel to be required to follow struct site policies as a condition of lodging at accommodation camp
- following the construction period, rehabilitate all lands disturbed by the temporary worker accommodation to a pre-disturbance condition / approximately equivalent agricultural capability (i.e. capable for use as pasture land for livestock grazing).

The LVIA for the accommodation camp identified a range of visual impacts on visitors, residents and lake users. The three main opportunities for mitigation of the visual impacts of the accommodation camp are:

- use of colours and materials that blend with the existing landscape
- arrangement of structures on the site to prevent repetitive or continuous facades, i.e. maximising variation in elevation and aspect of buildings. This will prevent strong reflections from similarly aligned surfaces
- vegetative screening to the perimeter of the camp, especially along the low ridges east and west of the site, and on the low point northwest of the camp. Installation of vegetative screening will need to be considered in light of decommissioning and planned future use of the site and may not be suitable.

Detailed design of the accommodation facility should demonstrate consideration of minimisation of operational noise from accommodation, as well as potential adaptive reuse of the site. This should be done in consultation with stakeholders from the Lake Lyell Recreation Park and Council. Recreational stakeholders observed a need for improvement of amenities at the Recreation Park, and the project may afford the opportunity for delivery of these enhancements, through the Shared Benefit Program, in alignment with council's objective of targeted improvements to visitor accommodation. While there may be short term impacts during project construction, particularly related to competition for affordable campsites during peak holiday periods, this approach may secure long term benefits for recreation and tourism through delivering improved facilities in the area. Erosion management will also be necessary to prevent sedimentation in Lake Lyell during construction and decommissioning of the camp.

The mitigated significance of loss of access to high amenity land for the workforce accommodation is assessed as **Low**. The likelihood is **Possible** and the magnitude is **Minor**.

A summary of the assessment is presented in Table 7.12.

Table 7.12 Land use conflict and loss of amenity to allow for workforce accommodation

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Surroundings	Land use conflict and loss of amenity to allow for the workforce accommodation	Near neighbours Service providers (accommodation) Lake Lyell recreational users	Construction	Local area	Medium	Low

7.5.4 Concerns regarding plans for site rehabilitation

The EIS states that the asset may remain viable after 80 years for a plant refurbishment and extension of life, as this has occurred for other older assets globally. Following the plant's final refurbishment, the project will look to returning the site to a more natural state and encourage community use. Decommissioning and repurposing may include rehabilitation and revegetation, reviewing options for recreational and community benefit, and repurposing for other water storage needs. Lithgow's future local and regional strategic context will be considered throughout decommissioning.

The project description identifies that any decommissioning plans and final rehabilitation of the assets, and the site generally, will need to consider and align with the local and regional strategic context of the Lithgow region into the future.

Throughout SIA engagement, stakeholders expressed concerns surrounding plans for site decommissioning and rehabilitation. One stakeholder stated:

> *"Then when it's finished – 80-year shelf life, my grandkids will be left with the ugly thing sitting there, that they won't clean up."*

Concerns around rehabilitation were also raised at a Lithgow Town Meeting in early 2024, where multiple members of the CLC group presented their concerns. These presentations were made public by the CLC group via their YouTube channel (CLCGroup, 2024). Concerns were raised about the permanence of the upper reservoir, and the impact the infrastructure will have on the landscape after the projects 80-year operational phase. Quotes included:

> *"Once the project is concluded. Is it capable of being decommissioned? It's impossible. Once that mountain has been changed that's it for life."*

> *"It's not my problem, it's not your problem, it's our grandchildren's problem."*

Any lack of clarity around the operator's responsibilities with regard to minimum standards for decommissioning will result in ongoing community concerns.

The unmitigated significance of concerns regarding plans for site rehabilitation is assessed as **High**. The likelihood of the impact occurring is **Likely** and the magnitude of the impact is **Moderate**.

As part of the detailed design process, the project should identify minimum standards for decommissioning, and communicate these to the community. Opportunities for adaptive reuse should be considered in decision-making associated with detailed design processes for all parts of the project, where feasible.

The mitigated significance of concerns regarding plans for site rehabilitation is assessed as **Medium**. The likelihood of the impact occurring is assessed as being **Possible** and the magnitude of the impact is assessed as being **Moderate**.

A summary of the assessment is presented in Table 7.13.

Table 7.13 Concerns regarding plans for site rehabilitation

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Surroundings	Concerns regarding plans for site rehabilitation	Current and future regional community	Decommissioning	Regional area	High	Medium

7.6 Culture

7.6.1 Direct impacts to Aboriginal cultural heritage and values, including impacts to heritage items and sites

The Wirradjuri People are the Traditional Owners of the land and waters surrounding the proposed project location. Wirradjuri country is often referred to as the "three rivers" as the Wambool (Macquarie), the Calare (Lachlan) and Murrumbidgee rivers and surrounding land encompass the Traditional Country where Wiradjuri Peoples have lived for more than 40,000 years (Bathurst Regional Council, 2014).

The ACHA (EMM, 2025) identified 21 discrete Aboriginal sites[2] and places[3] located within the project area, as well as two cultural places. In addition to discrete sites and places, the entire construction envelope was characterised by a low-density background artefact scatter interspersed with occasional areas of denser material associated with past foci and/or repeat occupation. A total of two potentially culturally modified trees and two sites recorded as rock shelters were assessed. Various landforms of archaeological interest were also identified and assigned moderate significance.

The highly significant sites, which were also identified as of importance by the Aboriginal participants, included:

- the peak of Mount Walker
- a Platypus Dreaming story associated with Coxs River
- several high-density stone artefact sites along Farmers Creek.

Of the 21 Aboriginal sites and places, sites within, or near the disturbance footprint, five were within the construction envelope and would be subject to direct impacts. Some impacts to a Platypus Dreaming story associated with Coxs River may also be adversely affected by the project's development. Indirect impacts would be limited to the peak of Mount Walker. While specific activities on the peak would remain unaffected, visual and aesthetic values would be adversely affected by the project, and by extension its social and contemporary cultural value. Several remaining cultural materials around the broader project area would remain unaffected by the project. Project construction would result in the impact to an area of 133 ha within the disturbance footprint. No direct impacts are considered to extend beyond the construction envelope.

During engagement for the ACHA, local Aboriginal people shared concern of potential disturbance of cultural artefacts and sites during construction of the project. The project will draw upon water from Lake Lyell to fill up the reservoir and periodically top up the water levels of the reservoir. Aboriginal People expressed fear that this drawing of water may change the downstream flows affecting ongoing use of the river for cultural purposes.

During LLP and ACHA engagement, Aboriginal and non-Aboriginal community members expressed concern that historic heritage sites and the cultural landscape values of such sites may be disturbed, as reflected in comments including:

> *"Don't want to lose whatever connection we have with it. Not only myself…but every future generation, there's a fear there"*

[2] The National Parks and Wildlife Act 1974 defines Aboriginal sites (or objects as is the term in the act) as "Aboriginal object" means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

[3] The National Parks and Wildlife Act 1974 defines Aboriginal places as any place declared to be an Aboriginal place under section 84. An Aboriginal place has to be declared/applied for as such by an Aboriginal person/group

"Leave the mountain alone and respect the Traditional Owners"

"I make boomerangs, clapsticks and all that, can't get resources from there anymore, can – cultural knowledge – where I take resources from"

"Destroy cultural identity of a special mountain. They don't care how it will affect me or my family"

The CLC Group has published a video on the impacts of the project to Indigenous stakeholders (CLCGroup, 2024), where a local Wiradjuri stakeholder expressed perceived impacts of the project. These included impacts to cultural and spiritual totems such as the wedge tailed eagle. Concerns were also expressed over removal of artefacts.

The unmitigated significance of direct impacts to material culture for Aboriginal people, including impacts to heritage items and sites is assessed as **High**. The likelihood of the impact occurring is assessed as being **Almost certain** and the magnitude of the impact is assessed as being **Moderate**.

The ACHA notes that LLP has made design refinements and held discussions with the RAPs, which has resulted in the avoidance or partial avoidance of two significant sites. The proposed upper reservoir and associated activities were also moved off the peak ridgeline of Mount Walker in part as a result of its contemporary cultural values.

The ACHA recommends various mitigation measures including:

- prioritising avoidance wherever feasible in the final project design
- development of an ACHMP with detailed information regarding Aboriginal community consultation and participation through the project including an accessible grievance mechanism
- commitments to on-Country discussion with Elders and key-knowledge holders to discuss impacts to any key view-lines from identified sites and identify suitable mitigations to reduce the impacts where feasible
- development and implementation of a Heritage interpretation strategy and plan to explore, develop and present Aboriginal heritage values of the project area, as well as descriptions and methods of any additional archaeological actions that may be required prior to construction.

It should be noted that cultural heritage benefits may result from the project including the long-term preservation of cultural sites and objects that would be inaccessible and/or managed from future harm. There is an opportunity for the project to facilitate a greater understanding of the Aboriginal cultural heritage in the project area and the broader local area via both Aboriginal and public outreach.

The mitigated significance of direct impacts to material culture for Aboriginal people, including impacts to heritage items and sites is assessed as **High**. The likelihood of the impact occurring is assessed as being **Likely** and the magnitude of the impact is assessed as being **Moderate**.

The effectiveness of mitigation measures will be dependent upon thorough and ongoing stakeholder engagement with the local Aboriginal community.

A summary of the assessment is presented in Table 7.14.

Table 7.14 Direct impacts to material culture for Aboriginal people, including impacts to heritage items and sites

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Culture	Direct impacts to material culture for Aboriginal people, including impacts to heritage items and sites	Traditional Owners and Aboriginal communities	Life of project	Local and regional area	High	High

7.6.2 Landscape changes and changes to access affecting cultural connections to place

Impacts experienced by Aboriginal stakeholders include potential restricted access to the physical environment resulting in the inability of Aboriginal people to maintain connections to country and waterways. The project will result in changes to the landscape that will create visual impacts, disrupt physical access and local habitats, and alter waterways.

Aboriginal People experience a spiritual and cultural connection to the project area and the land surrounding the project area. Aboriginal community members identified they frequently travel to the project area and the area surrounding the project area for cultural reasons and to maintain connection to country. The Aboriginal community expressed concerns regarding the potential of the project to permanently affect the nature of, and limit access to, the project area and the surrounding area, resulting in potential restrictions on the ability of Aboriginal people to connect to country and perform cultural activities.

The ACHA noted that establishing access for Wirradjuri people who desire to visit key places within the project area is considered important by (Aboriginal) community members, in order for them to continue community building and educational practices, fishing and hunting practices, and to more generally look after their heritage.

The project description notes public access to the project area construction envelope and operational footprint will be restricted during both the construction and operation phases of the project in order to allow the project to proceed in an efficient and safe manner.

The ACHA (EMM, 2025) found that the project is situated within a rich cultural landscape made up of extensive history of human activity along Farmers Creek and Mount Walker. Cultural mapping completed as part of the ACHA identified Aboriginal sites or places near or within the project construction envelope and assessed their cultural significance. Cultural mapping identified two places as historical, social history or cultural places. These places were assessed as having high cultural significance to Aboriginal people. These were:

- the peak of Mount Walker
- a portion of a Platypus Dreaming story, which is manifested in the platypus species itself.

Throughout the ACHA consultation, Mount Walker was identified as being highly significant due to being associated with a male ritual or was used historically as a navigation aid and/or observation post, with this being supported by additional research. Contemporary cultural values associated with Mount Waler are focused on understandings that the mountain was used as a base and/or training area for senior male cultural authorities, and the mountain is considered 'the place where Wedge Tailed Eagles dream' (EMM, 2025). Additionally, Aboriginal stakeholders described a Platypus Dreaming story associated with Coxs River and its tributaries, which is manifested in the platypus species, rather than in a specified water body (EMM, 2025).

Stakeholders have expressed how the project's alterations of the landscape will impact connections to place:

> *"there [is] a protector spirit that lives up there [on Mount Walker]"*
>
> *"will destroy a huge chunk of my identity, destroy what I can teach my children"*
>
> *"they want to alter the landscape, alter the energy, upset the songline"*

Multiple stakeholders affirmed that Mount Waker is an important cultural site, and raised concerns surrounding the impacts of the project on attachment and connection to Country, cultural obligations, knowledge sharing and right to spiritual sustenance from the land:

> *"Destroying my culture"*
>
> *"There are songlines in the area which the project will disrupt"*
>
> *"It's my identity that they're destroying, these sites are my identity"*
>
> *"Issues with accessing areas of cultural significance will mean that traditional knowledge will not be able to be passed down [that] knowledge will be lost*"

Some of these outcomes were supported by findings of LLP engagement, and the LVIA identified that potential landscape changes and associated visual impacts may impact the Aboriginal cultural values of the project area, particularly Mount Walker. While specific activities on the peak would remain unaffected, visual and aesthetic values would be adversely affected by the project; and by extension social values assigned to the locale. Several remaining cultural materials around the broader project area would remain unaffected by the project.

Impacts to waterways are anticipated to include risk of erosion and sedimentation, and potential impacts to water quality, as identified in Section 7.4.4iv. The ACHA identifies that elements of the Platypus Dreaming story are considered likely to extend into Farmers Creek.

The unmitigated significance of landscape changes and changes to access affecting cultural connections to place as **High**. The likelihood is **Likely** and the magnitude is **Moderate**.

The ACHA recommends various mitigation measures including ongoing avoidance where feasible in the final project design and the development of an ACHMP. The plan includes detailed information regarding Aboriginal community consultation and participation through the remainder of the project including a grievance mechanism, such as a community hotline, that is readily available and designed for use by the local Aboriginal community. Recommendations made in the ACHA include ongoing access to Country for the local Aboriginal community to undertake traditional cultural and educative activities and suitable management and maintenance of any impacted view-lines of Mount Walker within the limits of the proposed development activities. Other activities include the development and implementation of a Heritage interpretation strategy and plan to explore, develop and present Aboriginal heritage values of the project area.

Further actions include enabling ongoing access to the site for Aboriginal stakeholders, where feasible.

The mitigated significance of landscape changes and changes to access affecting cultural connections to place is assessed as **Medium**. The likelihood is **Possible** and the magnitude is **Moderate**.

A summary of the assessment is presented in Table 7.15.

Table 7.15 Landscape changes and changes to access affecting cultural connections to place

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Culture	Landscape changes and changes to access affecting cultural connections to place	Traditional Owners and Aboriginal communities	Construction & Operation	Local area	High	Medium

7.7 Access

7.7.1 Changed recreational use and access to Mt Walker and sections of Lake Lyell

Public access to the project's disturbance footprint will be restricted during the construction and operation phases of the project to allow the project to proceed in an efficient and safe manner. Residents expressed concerns that the area will be forever changed by the project, and that recreational activities they enjoy, particularly in and around Farmers Creek, won't be the same. This was raised in relation to picnicking near the water, enjoyment of local wildlife, and access to the creek for fishing and swimming.

The CLC Group Youtube video Episode 4, "A life destroyed" shows images of resident's recreational use of Farmers Creek, including picnicking and walking through the area, and provides insight into the depth of connection the community feel with the environment around Lake Lyell and Farmers Creek (CLCGroup, 2024)

EnergyAustralia addressed these concerns in their August community newsletter (EnergyAustralia, 2024):

> *"There will be some access restrictions around the Farmers Creek arm for the safety of workers and the community. Then when the project's up and running and the water level changes, we're making investments so that access to the lake is maintained."*

During operation, access to the inlet/outlet structure in Farmers Creek arm of Lake Lyell will be restricted by a floating boom placed across the waterway. No power watercraft or public access will be allowed beyond this boom. Further, the service jetty for the project will have restricted access for authorised personnel only. The remaining areas of Lake Lyell and Farmers Creek will remain open to the public, and existing laws and regulations for public waterways will continue to be implemented by NSW Maritime.

Access along Mount Walker Road will not be restricted, allowing continued access for existing users during construction and operation, including by National Parks and Wildlife Service (NPWS), NSW Rural Fire Service (RFS) and general 4WD recreation. Once rehabilitation of temporary construction elements has been completed, access to operational infrastructure will be restricted via gates and fences at key site entry points and areas of high safety risk.

The unmitigated significance of enjoyment of recreational activities affected by loss of access to Mt Walker and sections of Lake Lyell and Farmers Creek is assessed as being **Medium,** the likelihood is assessed as **Possible** and the magnitude of the impact is **Moderate.**

Planned mitigations for this impact, as described above, include:

- restricted access to the inlet / outlet structure via a floating boom and secure service jetty
- public access to remaining areas of Lake Lyell and Farmers Creek, maintained under NSW Maritime regulations
- new signage which will be established in consultation with NSW Maritime and Council

- access along Mount Walker Road preserved for existing users, including NPWS, RFS, and 4WD recreation.

The mitigated significance of enjoyment of recreational activities affected by loss of access to Mt Walker and sections of Farmers Creek is assessed as being **Low,** the likelihood is assessed as **Unlikely** and the magnitude of the impact is **Minor**.

A summary of the assessment is presented in Table 7.16.

Table 7.16 Changed recreational use and access to Mount Walker and sections of Lake Lyell

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Access	Changed recreational use and access to Mount Walker and sections of Farmers Creek	Recreational users of Mount Walker and Farmers Creek	Construction, operation	Regional area	**Medium**	**Low**

7.7.2 Reduced access for near neighbours due to increased traffic and road upgrade works.

Increased traffic from the construction workforce can cause increased traffic congestion and delays in the local area and along the haulage routes. The Traffic Impact Assessment (TIA) (EMM, 2025) predicts traffic congestion and road delays can impact the local community's access to services by increasing travel times and limiting access at times.

The TIA assessed that at the peak of project construction, daily traffic for the main construction site off Sir Thomas Mitchell Drive is expected to reach 383 light vehicle movements and 136 heavy vehicle movements (which includes 26 shuttle bus movements), for a total of 546 vehicle movements. Construction of the accommodation camp would generate up to 195 light vehicle and 81 heavy vehicle movements at its peak, for a short duration of time.

Public transport, pedestrian, and cycling routes are not expected to be impacted by the project, except in the event the Town camp is selected as the preferred accommodation camp. To mitigate potential disruptions to local school bus operations, truck drivers will be notified about the presence of school buses on Magpie Hollow Road. It will be documented in the Drivers Code of Conduct as part of the project's development consent (EMM, 2025).

The TIA also assessed the potential for traffic congestion at key intersections by evaluating their level of service meaning the extent to which there would be delays on the road. The TIA found that the Great Western Highway / Magpie Hollow Road intersection is likely to deteriorate, however, signalisation of the intersection will improve the level of service for Magpie Hollow Road. Other intersections along Magpie Hollow Road are expected to maintain a high level of service under all scenarios (EMM, 2025).

SIA stakeholder engagement revealed concerns of the impact of traffic works and increased congestion. Comments included:

> *"Redoing the road will stop the ability to leave the house unexpectedly, if there is an emergency, will not be able to leave the house"*
>
> *"used to be novelty for a car to be going down the road'*
>
> *"Use of roads lead to the hydro for construction – feel sorry for the people that live on the roads – disruption"*
>
> *"Road will be insane. Lucky to pass 3 cars in the morning between Sandalls drive and further. Can't imagine what that will look like when we have a workforce of that size in this place."*

The unmitigated significance of Inhibited access for nearby neighbours due to increased traffic and road upgrade works is assessed as **High**. The likelihood of the impact occurring is assessed as being **Almost certain** and the magnitude of the impact is assessed as being **Moderate**.

In addition to the mitigations recommended in the TIA, including implementation of a construction traffic management plan, it is recommended the project provide timely notification of proposed changes to access, in alignment with community recommendations made through LLP engagement, such as SMS notifications to the local community on the timing and frequency of any road closures, over-sized over-mass vehicle movements and other key traffic movements in the local and regional area.

The mitigated significance of inhibited access for nearby neighbours due to increased traffic and road upgrade works is assessed as **Low**. The likelihood is **Possible** and the magnitude is **Minor**.

A summary of the assessment is presented in Table 7.17.

Table 7.17 Reduced access for nearby neighbours due to increased traffic and road upgrade works.

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Access	Inhibited access for nearby neighbours due to increased traffic and road upgrade works	Near neighbours	Construction	Local area	High	Low

7.7.3 Altered and reduced public access to Lake Lyell and Mount Walker

The project will alter, and in some places remove, public access to areas that are currently accessible to the community. Local and recreational stakeholders continue to raise concerns regarding accessibility of Mount Walker, including the Trig Point, Lake Lyell from the end of Sir Thomas Mitchell Drive and Farmers Creek.

The locality provides a variety of valued recreational opportunities including camping, fishing, kayaking, swimming, bushwalking, mountain biking, 4WD touring, hiking, picnicking and water-skiing. Visitors come from the regional area and further afield, including localities such as Bathurst, the Blue Mountains and Western Sydney. Recreational uses, and users, of these spaces are detailed in Annexure D, which identifies

- "Reduced access to Lake Lyell, Farmers Creek and Mount Walker during construction" as a Medium mitigated risk
- "Access restrictions for recreational users during operation to the diverted area of Lake Lyell near Farmers Creek, and EnergyAustralia property on Mount Walker" as a Medium mitigated risk

The NSW Office of Sport (2006) identified that recreation has an impact on a range of social factors including community pride, increased community cohesion and improved social networks. Recreation creates these positive interactions within communities by removing barriers to participate in community activities. Sport and recreation can also play an important role in the development of social and life skills (NSW Office of Sport, 2006).

Public access to the disturbance footprint will be restricted during both the construction and operation phases of the project in order to allow the project to proceed in an efficient and safe manner.

The project description confirms that:

- during construction, the entire construction envelope will be an active construction site, and no public access will be permitted. The upper reservoir and switchyard will be permanently fenced, and temporary fencing is proposed on sections of Sir Thomas Mitchell Drive the portal pad area and the main site compound. Areas to be fenced are outlined in the EIS project description

- access along Mount Walker Road, which provides access to the trig point, will not be restricted and will remain open during construction for existing uses, including by NPWS, RES and general 4WD recreation
- access to Lake Lyell for camping, boating and fishing will not be affected by the project
- road improvements and associated closures, as well as traffic movements along Sir Thomas Mitchell Drive, will alter existing access to the lake for recreational users, and may temporarily hamper access for residents, though traffic controls will be put in place to ensure property access is available for residents
- access to the Farmers Creek Arm of Lake Lyell will be restricted east of existing powerlines for recreational users
- access to the foreshore near the accommodation camp will be maintained for public recreation access, however access to the boat launch facility will be restricted
- works associated with Lake Lyell diversions will limit access to the proposed diversion location and the lower inlet/outlet structure. Temporary fencing will be installed.

The project proposes progressive rehabilitation of construction assets, incorporating:

- use of temporary designs to minimise long-term disturbance
- native and grass revegetation to restore the landscape
- scour rock rehabilitation methods.

Discussion of each asset and the proposed progressive rehabilitation methodologies are outlined in Section 5.1 of the EIS.

Stakeholders expressed concerns relating to access to the area for recreation during project construction:

> *"The feeling I have is that the project will destroy recreational activity"*
>
> *"People won't be able to launch their boats at the bottom of the road"*
>
> *"Responsible 4wers enjoy using trails on Mt Walker, which won't be a possibility when the project is in full swing."*

EnergyAustralia responded to concerns raised by stakeholders regarding public access to Lake Lyell in the August community newsletter:

> *"Access to the lake for activities like fishing, boating and camping will continue"*
>
> *"During construction, the project won't disrupt the recreational experience across the majority of the lake."*
>
> *"It provides a long-term purpose for the EnergyAustralia-owned lake and ensures it'll be available for recreation for generations to come."*

On the Lake Lyell Community Group Facebook page (Facebook, 2023), residents posted:

> *"18 months ago there were effectively no restrictions on access to Lake Lyell. Gradually more and more access restrictions are starting to pop up with rocks placed preventing access, gates locked and signs popping up telling people they will be 'prosecuted' for trespassing and so forth. This appears to be a gradual process that happens over time …."*

The unmitigated significance of reduced or impeded public access to Lake Lyell and Mount Walker due to construction traffic, works and possible road closures impacting recreation and sense of connection to place is assessed as **High**. The likelihood of the impact occurring is assessed as being **Likely** and the magnitude of the impact is assessed as being **Moderate**.

Ongoing public notification of access changes will be required through implementation of a CSEP:

- signage posted at the beginning of key 4wd access routes to Mount Walker, alongside notifications posted at points where access is limited
- notification of road closures and ongoing changes to access arrangements via letter and SMS messaging to local stakeholders and business owners, including tourism businesses who operate in the area.

The mitigated significance of reduced or impeded public access to Lake Lyell and Mount Walker due to construction traffic, works and possible road closures impacting recreation and sense of connection to place is assessed as **Medium**. The likelihood of the impact occurring is assessed as being **Likely** and the magnitude of the impact is assessed as being **Minor**.

A summary of the assessment is presented in Table 7.18.

Table 7.18 Altered and reduced public access to Lake Lyell and Mount Walker

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Access	Altered and reduced public access to Lake Lyell and Mount Walker	Regional community Recreational users of Mount Walker and Lake Lyell	Construction, operation	Regional area	High	Medium

7.7.4 Continued access to Lake Lyell for recreation during project operation

The project has significant potential to enable continued access to Lake Lyell for recreation and community purposes, as following the retirement of Mt Piper the use and maintenance of the lake is uncertain.

The Lake Lyell (Lilyvale) Dam was purpose-built to supply water to the Mt Piper and Wallerawang power stations in in 1982. The Wallerawang power station has been decommissioned, and EnergyAustralia's climate plan (EnergyAustralia, 2023) indicates the Mt Piper black coal power plant will not be retired any earlier than 2040. The power station will operate in a firming role for renewables, first by reducing output during periods of high renewables generation and then moving to a reserve role, potentially in the early 2030s.

The operational life of the project of 80 years will ensure the demand for Lake Lyell water infrastructure into the foreseeable future, securing continued opportunity for it to be maintained by LLP and to deliver social value for the community through tourism and recreation. This was confirmed in EnergyAustralia's August newsletter (EnergyAustralia, 2024):

> *"It [the project] provides a long-term purpose for the EnergyAustralia-owned lake and ensures it'll be available for recreation for generations to come."*

The unenhanced significance of continued access to Lyell for recreation and community purposes is assessed as **High**. The likelihood of the impact occurring is assessed as being **Likely** and the magnitude of the impact is assessed as being **Moderate**.

A summary of the assessment is presented in Table 7.19.

Table 7.19 Continued access to Lake Lyell for recreation during project operation

Impact category	Matter	Affected parties	Duration	Extent	Unenhanced	Enhanced
Access	Continued access to Lake Lyell for recreation during project operation	Regional community	Operation	Regional area	High	High

7.7.5 Changed local access to health and community services during construction

During construction, the project represents an increase (although temporary) in the population of the local areas and it is possible that project staff will rely on the same services and resources as local residents. As such, the project may impact service and resource access in the local area if adequate mitigations are not implemented.

Community engagements identified concerns around service capacity resulting from temporary increases from project workforce demand, particularly for health services.

Infrastructure and community services in the local area are limited; however, Lithgow is within 20 minutes' drive of most suburbs in the project local area by car. While bus services exist, road safety and quality is a key consideration for bus services and local residents alike. Infrastructure and services in the regional area are mainly concentrated in the Lithgow township, and were seen as capable of serving demand, though potentially negatively affected by the existing potential for population loss associated with mine closures. Lithgow City and Bowenfels experience a higher proportion of vulnerable groups, and the local area has a high proportion of people with long-term health conditions including arthritis, mental health conditions and asthma compared to the NSW average.

As identified in the social baseline, the population of the local area was 3,835 persons in 2021, and the project workforce will peak in Q3 2026 with 545 workers and Q2 2029 with 606 workers, to an assumed average peak of 600 workers. Of these, 80% (480 workers) are expected to be non-local. This represents up to a 10.1% population increase in the local area, and is over Burdge's (2015) impact threshold of 5% for service provision.

The Economic Assessment (EA) (Gillespie Economics, 2025) indicates consumption induced flow-on effects in the region will be mainly in the following sectors:

- retail and wholesale trade
- food and beverage services
- health care services
- actual rent for housing
- residential care and social assistance
- insurance and superannuation funds
- employment, travel agency and other administrative services
- primary and secondary education
- personal services.

To determine how impacts will be experienced, a list of relevant services available to residents in the local area, and their locations and assessment of capacity, is provided below.

a Health

The urban local area has five GP services, of which the majority are located in Lithgow SAL with one in Pottery Estate. In the project local area, there are two GP services located in Bowenfels, including the Ochre Medical Centre and Bowenfels Medical Practice & Eskbank Surgery and six GP services in the Lithgow key urban area. This means that GP services are relatively accessible to residents of the local areas, and the community observed existing low wait times. Services closest to the project are also the closest options for local residents.

It is unlikely that the project will impact on provision of specialist GP services to vulnerable groups such as family health, paediatric or aged care services as workers will not be within these demographic groups. This assumes that most construction workers will not be relocating with their families and are of working age.

There is one hospital located within the key urban area. The social baseline demonstrates that the area is not currently experiencing peak demand for hospital services. This capacity is likely to be sufficient to accommodate any project related admissions, omitting any large-scale incidents, where engagement indicates any cases may be sent on to the Nepean hospital in Penrith. The hospital has a regional service level and is unlikely to be affected by the proportionate population contributions of the project, though ongoing engagement with NSW Health is recommended to address any key shortfalls.

A Healthdirect search identified 30 mental health services within 52 km of Lithgow, and the social baseline found eight practices providing specialised mental health services in Lithgow City, including three in the urban local area and two in the project local study area. The NSW Mental Health Commission visited Lithgow in June 2024, and found challenges facing mental health service providers in Lithgow from “the sheer size of the district and the back-to-back natural disasters in the region, to the difficulties of getting access to clinical specialists”. In the course of conducting the enquiry, the commission spoke to headspace (operated by Marathon Health), the Nepean Blue Mountains Local Health District’s Lithgow Community Mental Health Team, Wentworth Healthcare and the Nepean Blue Mountains Local Health District.

The social baseline identified a further two practices providing Aboriginal health services in the regional area, including Lithgow Hospital and Lithgow Community Health Centre. Specialised services were otherwise provided further afield in the Blue Mountains and Penrith.

Public drug and alcohol services are provided at Lithgow Community Health Centre. Information and rehabilitation offerings are also provided at Dianella Cottage in Katoomba.

While attempts to engage with key service providers in Lithgow did not result in many responses, doctors currently and historically associated with the Lithgow Hospital and Notre Dame Clinical School who reside in the area indicated that while medical services in the area are available, it remains difficult to retain practitioners for the long term, as students are more apt to leave the area for larger cities after mandatory training in rural areas.

Local residents noted that:

> *“the project workforce will impact accessibility to services in Lithgow, as there are currently low wait times for services such as medical centres”*
>
> *“Lithgow hospital not equipped to take on a heightened number of patients or serious medical cases which may become an issue throughout construction”*
>
> *“Enough GP’s, but there are no new doctors coming and staying, because of the location of Lithgow.”*
>
> *“Doctors are overworked and greatly appreciated. To go to specialists, you have to travel to Bathurst. Had a car accident and had to be flown to Westmead.”*

The NSW Health Corporate Governance & Accountability Compendium (NSW Health 2019, Section 6) notes that "for a number of clinical services, the catchment population extends beyond the geographic borders of the local health district or specialty network." As such, it is possible that capacity of specialist services is strained.

As part of a larger study in rural NSW, Dew et al. (2013) identified that regional communities are at risk of mental health concerns, as take-up of mental health services was comparatively low, and was related to the need for travelling to access therapy, waiting a long time to get therapy; and limited access to therapy past early childhood. Certain members of rural communities, such as farmers, are highly susceptible to mental health risks (Fuller et al 2009). This is aligned with Baseline findings indicating high incidence of long-term mental health conditions in the local area. The project construction workforce may access mental health services, and mental health impacts related to the project within the local community have been identified.

While it is likely that the project will complete drug and alcohol testing to meet safety regulations, the construction workforce may still experience drug and alcohol issues. It is also noted that this service is particularly vulnerable to any impact, as there has been a recent increase in demand in rural and regional areas (Bernards et al. 2015).

b Emergency – Ambulance

During SIA engagement, some stakeholders identified risks to capacity of local services and their ability to support the construction workforce

> *"How will public services, such as police and ambulance services, cater to the increased demand from the project workforce?"*

There are no ambulance services in the project local area. In the regional area, there is one ambulance station in Lithgow, which will respond to calls in the local area, with this ambulance station also located in the urban local area. Prior to road improvement, the Lithgow Ambulance Station is 20 minutes from the site. The project would look to implement measures to reduce reliance on emergency ambulance services as soon as work on site commences, including first-aid training.

c Emergency – Police

The Lithgow Station in the Chifley Police District services the local and regional area. Police service providers were not available to meet with project representatives as part of SIA engagement, and therefore capacity to service the additional workforce demand was unable to be discerned. It is recommended the project engage with police area command prior to commencement of the project to ensure service capacity.

The project will require the transport of oversized equipment and components which may require police escort. In order to avoid local police resources being required to provide these services and therefore unavailable for other police duties, the project will be required to liaise with NSW Police and negotiate resource arrangements.

d Emergency – Fire

The Bush Fire Assessment Report (Waratah Bushfire, 2025) identifies that the area is relatively well-served by fire response services. The nearest volunteer fire brigade is South Bowenfels Rural Fire Brigade located approximately 6 km to the east of the project area, followed by Lithgow West NSW Fire and Rescue approximately 8.5 km to the east.

Other fire services catering to residents in the local area and key urban area include the Lithgow Fire Station, the Wallerawang Fire Station and the Rydal Bush Fire Brigade. As with Police services, Fire service providers were not available to meet with project representatives as part of SIA engagement, and therefore capacity to service the additional demand was unable to be discerned. It is recommended the project engage with local RFS and Fire and Rescue NSW prior to commencement of the project to ensure service capacity.

The project may have a significant benefit for locals by improving emergency service access to the area through road network improvement.

Improvements to the road network would mean improved access for heavy emergency vehicles and equipment and lessen reliance on air-support.

e Education

It is unlikely a large number of workers from outside of the region will choose to move to the area, due to the project's proximity to Sydney and the short term and specialised nature of the work. This also means few workers are likely to move their families into the area as a result of the project. However, high level analysis indicates there is good access to schools in Lithgow from the local area, with a school bus route along Hampton Road. In Lithgow key urban area there are seven childcare centres, four primary and two secondary schools available. There are also two childcare centres in the local areas, with one in South Bowenfels and one in Littleton. Should detailed workforce management planning and recruitment reveal a high proportion of workers who want to move to the area with their families, early engagement with education service providers will be necessary.

TAFE services may be affected, as the project will increase the local need for junior staff and labourers. Lithgow TAFE "has a strong focus on electrical engineering, mechanical engineering, fabrication and carpentry trades" (TAFE NSW, 2024). During an introductory phone call, the TAFE sales team advised that a majority of relevant courses are offered in TAFE campuses in the Western Sydney metro area, though if they have notice, they can increase course sizes and offerings at the Lithgow campus, as the project may be of sufficient size to justify provision of more local courses in key skill areas, such as electrical and construction apprenticeships, if the required facilities can be made available. TAFE has an appetite for working with industry to connect students and course offerings with employment opportunities. As such, it is believed the project will offer an overall benefit, which has been addressed in livelihood benefit related to local employment and training.

f Community

As noted in the social baseline, there is one community service in the local area, the Bowenfels Community Hub - LINC which offers a Community Café, the Bowenfels Youth Hub, the Women's Safe Haven Project and Community Conversation & Development services. There are a further 14 community services, including Centrelink, aged care and senior services, children's services, youth services, disability and accessibility services, housing and homelessness services, women's services and family services, Aboriginal services, employment services, and domestic violence services in the Lithgow City. The Telstra mobile network coverage map (Telstra, 2024) indicates that the phone service in Lithgow City is good, though southern areas of South Bowenfels and Rydal can have patchy 4G and 5G coverage, impeding access to many remote services offered by phone or online.

It is unlikely the project will have an impact on competition for community services at a regional level as the workforce is not in demographic groups that require these services. As discussed under health service impacts above, it is also unlikely the project will impact on services for vulnerable groups, as residents of the accommodation camp are unlikely to be in demographic groups that require these services. However, demand for mental health services, may increase as a result of stress within the local community, as identified in Section 7.8.1.

The project is likely to be beneficial for employment services, as the project is likely to provide local jobs that may target underemployed youth or low-income workers. This benefit is discussed in the livelihood benefit related to local employment (refer to Section 7.9.4).

The unmitigated significance of impacts to health and community services is assessed as **Low**. The likelihood is **Unlikely** and the magnitude is **Minor**.

With regard to health services, it is proposed that the project consult with NSW Health, in alignment with community-supported collaborative approaches to mitigation from LLP engagement, to confirm capacity of existing service provision and implement measures such as provision of on-site medical facilities to reduce competition for the GP services most proximal to the site. Given doctors in the area identified difficulty in permanent retention of healthcare workers, project provision of attractive employment opportunities may assist in retaining workers, and this opportunity should be targeted in materials and approaches to securing key workers to support the project. Integration with the existing community and health resources will be key to cementing these opportunities. Warr et al. (2021) found that "despite high unmet demand for health services across rural Australia, uptake of telehealth has been slow, piecemeal and ad hoc" and as such, these services cannot be relied upon to bridge service provision gaps within the community, though they may be of more use in supporting potential worker demand.

With regard to police and emergency services, the project will liaise with NSW Police, NSW Ambulance, NSW Fire and Rescue, Rydal RFS and NSW SES to ensure they are aware of potential resource requirements and negotiate provisional arrangements.

In addition, a workforce management plan will be developed that will document services to be provided to workers and strategies for supporting workers including mental health support. The plan should include:

- project bus services facilitating access from site to Lithgow to prevent safety concerns such as drunk or sleep-deprived driving, particularly prior to the establishment of the accommodation camp
- ensure all staff have access to phone and internet services at the accommodation camp
- plan for engagement with all service providers the project may impact on for planning purposes
- drug and alcohol testing and an established project safety response.

The project may provide sufficient increase in demand to secure social benefits related to improved infrastructure and services due to increased population. To secure this benefit and reduce opportunity for negative impacts, the project should liaise with service providers, particularly with regard to TAFE and health service offerings, with a focus on GP, hospital and mental health and drug and alcohol services.

The mitigated significance of impacts to health and community services is assessed as **Negligible**. The likelihood is **Unlikely** and the magnitude is **Minimal**.

A summary of the assessment is presented in Table 7.20.

Table 7.20 Changed local access to health and community services during construction

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Access	Changed local access to health and community services during construction	Regional community Vulnerable members of the local community, particularly people with long-term health conditions and the Aboriginal and Torres Strait Islander community	Construction	Regional area	Low	Negligible

7.7.6 Increased competition affecting access to rental and short stay accommodation

The project workforce may compete for limited rental housing and short stay accommodation, potentially reducing the availability of short-term accommodation and affordable rental housing. The project will require a peak total of 606 workers, 65% of which (394 workers) are likely to be from further than daily commuting distance of the project area and will require accommodation.

The project team have advised some additional resources may need to reside in the camp that are not currently allowed for in the peak 606 FTEs, such as Design Engineers, Geotech Engineers and other JV resources, and some spare capacity will be required, so the project has taken a conservative approach and assumed that during the peak of construction close to 600 workers will need temporary accommodation. This peak is of short duration only (approximately six months) and the camp size is likely to be ramped-up / ramped down accordingly.

The project proposes to construct workforce accommodation for 500 workers with the location of the accommodation facility to be decided from two options, a preferred accommodation camp and alternative accommodation camp. The preferred accommodation camp is referred to as the 'Lakeside camp', located to the south of the project off Magpie Hollow Road. The alternative accommodation camp, or 'Town camp', is located in Lithgow urban centre off Silcock Street, and impacts associated with the alternate camp are assessed in Chapter 8. Only one of the camp locations will proceed, determined by the outcome of EIS consultation and detailed design. This section assesses overall change, and potential impacts associated with the lakeside accommodation camp option.

The capacity of the accommodation camp is expected to align with peak demand and prevent impacts on local housing availability and affordability. The strategy is also proposed to reduce strain on short-stay accommodation essential to the local tourism industry.

Construction is anticipated to commence in Q4 of 2026. The accommodation construction is proposed to be complete in Q4 of 2027, 20 months after construction starts, but before the project reaches peak workforce demand in Q3 2030.

Before the accommodation is constructed, up to 380 workers may require lodging. It is expected these workers will occupy short term accommodation during this period, and may create temporary constraints in short-term accommodation availability.

As of 13 November 2024 there were 50 houses available to buy in the project local area, and only 111 sold in the past year (REA group, 2024) and should some workers choose to move to the area, they are likely to be able to purchase housing without affecting Lithgow's relatively low median house prices or overall availability.

Conversely, the number of households experiencing rental stress in Lithgow City and Bowenfels were high, and rental vacancy rates were low, indicating a lack of rental availability and affordability in these areas, as well as the broader region. Given the high level of disadvantage in the Lithgow LGA, Lithgow City and the local area, excluding South Bowenfels, and the high proportion of renters in Bowenfels and Lithgow city, it is expected that any impact to rental affordability and availability in these areas would be of significant detrimental effect to potentially vulnerable members of the community, including low-income earners, homeless people, and Aboriginal and/or Torres Strait Islander Peoples.

With regard to regional housing availability, a stakeholder noted:

> *"Housing in Lithgow is a problem – access to rentals – I've heard people from other areas coming to work at the mines have issues accessing rental properties"*

Stakeholders identified that a large amount of existing short-term accommodation capacity within motels in the regional area, particularly the Black and Gold Motel, is taken up by existing project and mine workforces, particularly during shutdown periods for mines. Accommodation providers in the local area identified their existing target markets principally include tourists and short-stay visitors to the area from Sydney, and therefore a reliance on local wedding and event venues.

Social baseline analysis of key accommodation providers and occupancy indicates an average of 66 rooms available to the project workforce within traditional accommodation such as hotels, motels and BnB. A further review of short-term rental listings, such as Airbnb and Stayz, indicated availability of approximately 372 rooms for use by the project. This indicates there is likely to be 438 rooms available to accommodate the anticipated 380 non-local workers in the regional area prior to construction of the project accommodation camp, and to absorb any workforce peaks over the accommodation camp's capacity.

The project should consider short-term rental accommodation like BnBs as a principal opportunity for workforce accommodation, followed by other large accommodation providers such as motels and hotels. Impacts to rental and affordable housing options must be avoided. Ongoing engagement with accommodation providers is required to ensure project workforce demand does not impact peak accommodation demand periods associated with important events in the region.

A further consideration is the potential additional demand for accommodation from relocation/respite of residents under the proposed Neighbour Agreement Guide. While it is currently unclear how many near neighbours will opt for respite, as some neighbours indicated a lack of interest in this option, additional accommodation capacity must be secured for affected stakeholders as a priority.

The unmitigated significance of housing and short stay accommodation availability is assessed as **High**. The likelihood is **Likely** and the magnitude is **Moderate**.

A workforce accommodation strategy will be prepared to secure worker accommodation that enhances project benefits for local accommodation suppliers, without negatively influencing capacity available to tourists and visitors. The strategy should avoid use of rental housing where feasible and be prepared in collaboration with local and regional service providers, and with consideration of demand associated with nearby mines and potential future projects. This is to be determined through engagement with these stakeholders.

The mitigated significance of housing and short stay accommodation availability is assessed as **Low**. The likelihood is **Possible** and the magnitude is **Minor**.

A summary of the assessment is presented in Table 7.21.

Table 7.21 Increased competition affecting access to rental and short stay accommodation

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Access	Increased competition affecting access to rental and short stay accommodation	Regional community Vulnerable community members, including low-income earners, homeless people, and Aboriginal and/or Torres Strait Islander community members	Construction	Local area Regional area	High	Low

7.7.7 Improved access, stability and sustainability of the energy network

This project supports the renewable energy transition, and will improve the stability of the energy network in alignment with strategic direction for Lithgow, NSW and Australia.

The project will have the capacity to store up to 3,080 MWh of energy and generate at 385 MW for 8 hours or generate up to around 440 MW for a shorter period. The project is aligned with the NSW Government's *Electricity Strategy* (DPIE, 2019) and *Electricity Infrastructure Roadmap* (DPIE, 2020) as it will support the transition to renewable energy by providing reliable energy storage, this is a social benefit supported by federal, state and local government strategies including the *NSW Net Zero Plan* (DPE, 2020) *NSW Pumped Hydro Roadmap* (DPE, 2018), *State Infrastrucutre Strategy 2022-2042* (Infrastructure NSW, 2022), and the *Central West and Orana Regional Plan* (DPE, 2022c). Detailed assessment of the projects alignment with these strategies and plans is provided in EIS Chapter 2.

While stakeholders have generally voiced support for the renewable energy transition, some expressed confusion about the rationale for proposing pumped hydro at Lake Lyell and Mount Walker, where there is community perception that battery storage (BESS) would provide the same outcome with less impact. These views are reflected in the following sample of comments:

> *"Why do we need this power storage? There's a better option – Lithium batteries – require less space, don't wreck the environment. It's also good technology"*
>
> *"You get just as much energy storage from the batteries as you do with the pumped hydro"*
>
> *"Batteries have less impact than pumped hydro"*
>
> *"Battery technology taking over, pumped hydro will not be used"*
>
> *"Battery storage is clearly the future. They really need to keep going down that path. Forget about the hydro, it's not a smart move considering the other technology available."*
>
> *"Opposed – general scepticism about carbon neutral – humanity is generating a vast amount of carbon dioxide. Project is misdirected in terms of the science Sceptical of the science"*
>
> *"General negative view about carbon neutral the idea that we can supply all of our electricity with renewables – skepticism that is fueling the concerns"*

Despite concerns, other stakeholders expressed their support for pumped hydro:

> *"We have to acknowledge that pumped hydro is an important part of making renewable energy viable."*
>
> *"We've got to have renewable energy. Hydro is realistically, can go for 24 hours a day, 7 day a week. Produces electricity for as long as it's maintained."*
>
> *"There are great opportunities in the energy transition for Lithgow"*
>
> *"Not a project that's polluting the sky or air. Incinerator in Lithgow would pollute the air. No one's not going to move here because they're building a hydro, and it doesn't pollute, unlike incinerator or Nuclear which would deter people from moving here."*

At the 28 October 2024 ordinary council meeting, (Lithgow City Council, 2024), one councillor expressed their support for the project, "*At the end of the day, this is critical state infrastructure."*

EnergyAustralia addressed these concerns through community engagement methods, including social media videos, to respond to common questions in a range of accessible formats. One of these videos outlined the rationale and appropriateness of a pumped hydro solution over battery technology. The representative from EnergyAustralia stated: *"We actually need pumped hydro and batteries…they work together to make sure we have a reliable energy storage system."*

EnergyAustralia has also addressed concerns about the location of the project in the August community newsletter (EnergyAustralia, 2024)*: "A good location for pumped hydro requires land, water, sufficient height difference for the upper and lower reservoirs and access to the transmission network. The lake Lyell location has all of those."*

The unenhanced significance of improved sustainability and stability of the energy network is **Medium**. The likelihood of the impact occurring is **Almost certain** and the magnitude of the impact is assessed as **Minor**.

While enhancements are not required for this benefit, the continued communication and engagement campaigns led by LLP will continue to strengthen stakeholder understanding of the project's rationale, which remains a critical part of building social licence.

A summary of the assessment is presented in Table 7.22.

Table 7.22 Improved access, stability and sustainability of the energy network

Impact category	Matter	Affected parties	Duration	Extent	Unenhanced	Enhanced
Access	Improved access, stability and sustainability of the energy network	Energy users connected to the grid	Operation	NSW	Medium	Medium (No change)

7.8 Health and wellbeing

7.8.1 Mental health of local stakeholders and Aboriginal people affected by uncertainty and potential for loss of livelihood, amenity, and personal agency

Local stakeholders, Aboriginal people and local businesses have expressed that uncertainty surrounding the project has resulted in negative effects on their mental health and wellbeing. These impacts, identified also in Section 7.2.1, include heightened anxiety, stress, feelings of disempowerment, stemming from the project's potential to disrupt livelihoods, amenity, and personal agency.

As presented in Chapter 4, the local area has a relatively high proportion of residents that reported a mental health condition in 2021. The highest incidence was reported among residents of Bowenfels SAL (12.6%), followed by key urban area (11.8%), the regional area (10.7%) and the project's local area (10.2%), compared to a NSW average of 8% (ABS, 2021).

Research also suggests that rural areas, such as the project's local area, have consistently lower access to mental health care services when compared to more urban areas, which is identified as a driver behind higher rates of suicide (Infrastructure Australia, 2019). Provision of mental health services in the key urban area include a psychiatric hospital, a small number of private psychologists, and youth mental health organisations. The Lithgow Hospital community mental health team also provides support around social and relationship skills, self-care management, housing, education and employment goals (NSW Government, 2024).

During SIA engagement, participants described experiencing mental health impacts attributed to the project proposal. Many neighbours reported experiencing worsened mental health as an outcome of project activities to date, with uncertainty for the future identified as a common reason. These concerns are reflected in the following sample of comments:

> *"Feelings of hopelessness."*
>
> *"Mental health impacts have been going throughout the planning process."*
>
> *"We're in no man's land – not knowing where our properties will be nor our mental health"*
>
> *"Feeling of impending doom."*

Some stakeholders linked pre-existing health conditions, such as cardiovascular issues, to increased stress. Others described ongoing decline in mental health tied to connections with the surrounding environment, past trauma and their deep connection to place:

> *"Depression and anxiety linked to massacres."*
>
> *"Risk of worsened mental health."*
>
> *"This will affect my mental stability."*

Solastalgia is a term used to describe distress caused by environmental change, disruption to their sense of place, and an inability to find solace in their environment (Phillips & Murphy, 2021). Individuals with strong attachment to place, such as Aboriginal stakeholders, and residents near infrastructure developments, can experience strong negative emotions which can result in anticipated changes being perceived as threatening (Phillips & Murphy, 2021). This is also relevant in the context of the project, as residents feel a strong connection to the natural landscape and have identified experiencing worsened mental health as a result of uncertainties related to the proposed project, and potential impacts on Lake Lyell and Mount Walker.

A local Aboriginal community representative expressed severe emotional distress at a Lithgow Town Meeting (May 2024), inferring cultural harm from the project's cultural heritage management processes, while also highlighting ongoing challenges as described in Section 7.6, which relate to project engagement and management protocols with recognised Aboriginal Parties. Town meeting comments included:

> *"Despite our efforts to seek transparency, artefacts were removed without consultation, causing distress, sickness, disrespect to our heritage, and the lack of engagement through our group, who I believe is the true group in the area who is entitled to care for country and the health of everyone who is in here today."*
>
> *"They've just jeopardised our ancestral spirit, strength, and journey."*

The unmitigated significance of mental health impacts associated with this project is assessed as **High**. The likelihood of the impact occurring is **Almost certain** and the magnitude of the impact is **Moderate**.

Planned mitigation measures include:

- the project's Neighbour Agreement Guide includes a focus on Health and Wellbeing and proposes mental health support through psychologist services
- community resilience investment to support people's readiness for change
- interim telehealth options are a recommended mitigation measure which is already offered through Neighbour Agreements for certain stakeholders. It is suggested that this offering be expanded to offer support for individuals who are not currently eligible under that process

- a CSEP outlining ongoing engagement with Aboriginal stakeholders and the broader community through regular project briefings and updates.

With mitigation measures in place, the mental health impact significance can be reduced to **Medium**. The likelihood of the impact remains **Almost certain,** but with additional supports in place the magnitude of the impact is assessed as **Minor**. A summary of the assessment is presented in Table 7.23.

Table 7.23 Mental health of local stakeholders and Aboriginal people affected by uncertainty and potential for loss of livelihood, amenity, and personal agency

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Health and Wellbeing	Mental health of local stakeholders and Aboriginal people affected by uncertainty and potential for loss of livelihood, amenity, and personal agency	Near neighbours Traditional Owners and Aboriginal communities Local businesses	Project planning and approvals	Local area	High	Medium

7.8.2 Community safety and wellbeing risks due to construction activities and road upgrade works

Community concerns regarding safety and wellbeing during construction activities emphasised road safety risks and the potential increase in bushfire risk and fire safety with relation to increased ignition sources. The Bushfire Assessment prepared for this EIS (Waratah Bushfire, 2025) noted potential for increased bushfire ignition sources during construction as a result of construction activities, electrical infrastructure components and the presence of the workforce.

Construction of the project will also require the movement of a significant volume of heavy and oversized components and may present safety risks due to the amount of material and equipment to be transported in and out of the site, and the number of buses and vehicles transporting workers. Most of the project area contains undulating and steep terrain and dense vegetation.

The TIA identifies that project will require external road upgrades between the Great Western Highway and the site entry point at Sir Thomas Mitchell Drive to ensure the roads will be able to carry the increase in traffic during construction, as well accommodate delivery of large equipment (such as the turbines and transformers). The road upgrades required are as follows:

- To allow for the required traffic numbers and allow safe passing distances Sir Thomas Mitchell Drive will need the pavement widened by approximately 1 to 2 m in each direction and the non-sealed sections to be sealed. In addition, two corners will require widening by placement of road base material to accommodate oversize loads.
- To improve safety for heavy vehicles, Magpie Hollow Road will need the pavement widened by up to 1 to 1.5 m in each direction.
- To accommodate the increased traffic volume, the intersection of Magpie Hollow Road and the Great Western Highway requires modification to allow for signalisation of turns in and out of Magpie Hollow Road.

LLP project engagement identified concern about road safety, congestion during peak travel times, and potential damage to local road surfaces associated with increased construction traffic, particularly movement of heavy vehicles on local roads, and interactions with school buses, cyclists, and farm machinery on narrow rural roads.

Local bus service providers and residents observed the intersection of Magpie Hollow Road and Hampton Road, and the bus stop thereon, are particular safety risks due to the lack of visibility. The intersection of Pikes Lane and the Great western Highway was also identified as a risk, as was poor road maintenance throughout the local area.

> *"People from out of town – lack of knowledge of local roads. If cars are driving dangerously – they assume and don't read signs."*
>
> *"Very dangerous intersection [Magpie Hollow Road and Hampton Road]"*
>
> *"Barton Avenue Great Western Highway dips over Cox's River – fog is horrendous in winder – extremely dangerous stretch of road – 100kph zone – heavy vehicles will struggle – concern of fatal accidents"*
>
> *"Will not be able to walk up and down the road due to uncertainty of safety due to increased traffic."*

The TIA includes crash data in the vicinity of the site in the five-year period from 2018 to 2022 (inclusive) (TfNSW 2024). A total of 17 crashes were found to have occurred on the road network, 14 of which were on the Great Western Highway, two on Magpie Hollow Road and one incident of a vehicle running off Sir Thomas Mitchell Drive into an object. Six of the incidents were caused by vehicles running off the road into objects, of these, three were considered as having a 'serious' severity of injury.

While the construction of road improvements and increased vehicle movements present a safety risk during project construction, during operation, upgrades to roadways, and particularly to Sir Thomas Mitchell Drive will improve access and safety for near neighbours. Road works may also improve safety for the local community in the longer term.

The unmitigated significance of Community safety risks due to construction activities and road upgrade works is assessed as being **High,** the likelihood of the impact occurring is **Likely** and the magnitude of the impact is assessed as being **Major**.

The BA provided various management and mitigation measures including building and access design measures, vegetation management and the preparation and implementation of a fire management plan. Further, the project could coordinate with community services such as police and emergency services to familiarise relevant services with the project in case of an incident.

The TIA recommends various mitigation measures addressing all key traffic impacts, including impacts related to hazards and heavy vehicle movements. In addition to the mitigations recommended in the TIA, it is proposed that heavy truck movements are restricted on school bus routes during pickup and drop off times. It is also recommended that the project provide SMS notifications to the community on the timing and frequency of road closures, over-sized over-mass vehicle movements and other key traffic movements in the local and regional area.

During LLP engagement, the community asked for timely communication on traffic management, designated haulage routes, and scheduling heavy vehicle movements outside school and commuter peak periods to minimise safety risks and disruption. They also sought clarity on responsibilities, timing, and funding of road upgrades and repairs, emphasising works should be planned and delivered collaboratively with Council and TfNSW to leave roads safer and in better condition than before construction.

A construction traffic management plan will be developed in consultation with the construction contractor to ensure the safety of all workers and road users within proximity to the development footprint. This will include installation of appropriate warning signs, provision of information regarding changed access arrangements, and recommendations to minimise the impact of construction vehicle traffic on the local and regional road network. Further, a road maintenance strategy will be developed in consultation with Council to maintain local roads. It is also suggested that the project look for ways to support driver training and driver safety within the community - specifically targeting people (young people) who travel on these roads.

Ongoing engagement with stakeholders along the access route, emergency services and bus service providers will be key to reducing the risk of traffic related safety impacts.

Measures to address worker fatigue and travel are to be included in the workforce management plan.

While the project will impact road safety in the short term, it is expected the road improvement works will benefit road safety in the long term.

The mitigated significance of Community safety risks due to construction activities, road upgrade works is assessed as remaining **High,** the likelihood of the impact occurring is **Possible** and the magnitude of the impact is assessed as being **Major**.

A summary of the assessment is presented in Table 7.24.

Table 7.24 Community safety and wellbeing risks due to construction activities, road upgrade works

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Health and wellbeing	Community safety and wellbeing risks due to construction activities, road upgrade works	Near neighbours	Construction	Local area, particularly near neighbour properties, key urban area	High	High

7.8.3 Community safety and wellbeing risks during construction and operation of the reservoir and intake

Consultation for the SIA identified a community concern regarding potentially hazardous project infrastructure and the risk to community and public safety. LLP engagements identify a desire for residents to receive additional information about infrastructure and equipment safety. Risks of note include community accessing intake and reservoir structures, and the potential for injury associated with falls from height or associated with water movement and pressure. The project confirmed community access to potentially dangerous locations around the infrastructure will be restricted.

At the Farmers Creek arm interface point a floating boom will be installed to prevent public access, guide floating material, prevent entry of active aquatic species and platypus and keep floating logs out of the inlet/outlet area. The design of the log boom will be developed in consultation with an appropriately qualified aquatic ecologist however an initial conceptualisation has been proposed as shown in Chapter 2 of the EIS.

At the floating boom, water velocity will vary. During the first and last few minutes of pumping at minimum operating level the maximum average velocity going into the facility is 1 m per second and 1.5 m per second, respectively. Water movements outside of the exclusion zone are not expected to result in safety concerns for boating, swimming or aquatic wildlife.

Signage will also be installed to denote the lack of public access to this area.

The unmitigated significance of community safety risks is assessed as **Medium**. The likelihood is **Possible** and the magnitude is **Moderate**.

Planned mitigations include:

- restricted access to high-risk areas via gates and fences at key site entry points for the upper reservoir, administration building and the HV switchyard
- screens will be provided on the inlet and outlet structures at a depth that will prevent air, large log and debris from entering the waterways. The max velocity at the inlet / outlet screen is between 1.0 to 2.0 m per second
- a floating boom will be installed to prevent public access, guide floating material, deter entry of active aquatic species and platypus and keep floating logs out of the inlet / outlet area.

Any ongoing safety issues will be adaptively incorporated into the operational maintenance and management of the reservoir.

The mitigated significance of community safety risks is assessed as **Low**. The likelihood is **Unlikely** and the magnitude is **Moderate**.

A summary of the assessment is presented in Table 7.25.

Table 7.25 Community safety risks during construction and operation of the reservoir and intake

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Health and wellbeing	Community safety risks during construction and operation of the reservoir and intake	Regional community Recreational users	Construction, operation	Project area	Medium	Low

7.8.4 Perceived diminishment of community wellbeing due to the influx of the non-local workforce

Community concern about possible negative interactions with a non-local workforce and the potential for increased instances of antisocial behaviour were echoed in project and SIA engagement. Residents raised concerns that an increase in the number of additional workers present around the project site may also result in local residents experiencing reduced privacy and security.

> *"It* [the workforce accommodation] *will attract people with ill intent"*
>
> *"the character of people who will come to the area, looking to do the wrong thing"*
>
> *"They* [EnergyAustralia] *Don't like their workforce going out drinking every night"*

Workforce road journeys may be reduced through the proposed provision of buses or barges between the project accommodation and work sites, and Lithgow City.

The unmitigated significance of perceived diminishment of community safety is assessed as **Medium**. The likelihood is **Possible** and the magnitude is **Moderate**.

As noted under alteration of community character, increasing the number of locally hired workers and implementation of comprehensive CSEP with a 24-hour reporting and grievance mechanism, such as a community hotline, and Worker Code of Conduct could mitigate some of the perceived community safety risks.

In addition, a workforce management plan will be developed that will document expectations around worker behaviour and services to be provided to workers and strategies for supporting workers including mental health support. The Plan should include:

- project bus services facilitating access from site to Lithgow to prevent safety concerns such as drunk or sleep-deprived driving, particularly prior to the establishment of the accommodation camp
- training, drug and alcohol testing and an established project safety response.

Visual and noise screening of the accommodation sites from nearby receivers and agreed measures to increase landholders' privacy under the Neighbour Benefits Strategy are key to reducing the impact of neighbour-identified risks. Other measures ensure security fencing and signage where necessary.

The mitigated significance of perceived diminishment of community safety is assessed as **Low**. The likelihood is **Unlikely** and the magnitude is **Minor**.

A summary of the assessment is presented in Table 7.26.

Table 7.26 Perceived diminishment of community safety due to the influx of the non-local workforce

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Health and wellbeing	Perceived diminishment of community safety due to the influx of the non-local workforce	Local community Near neighbours	Construction	Local area	Medium	Low

7.9 Livelihoods

7.9.1 Potential for loss of income to local tourism businesses

Tourism significantly contributes to the Lithgow economy, with a value add of $62.1 million in the 2022/23 financial year (economy.id, 2024a). The industry directly employs 374 people and indirectly supports 279 jobs, reflecting its economic importance (economy.id, 2024a).

Some examples of direct tourism industries include accommodation, food and beverage services, and sport and recreation activities (economy.id, 2024b). These industries fall under the ABS classification of Accommodation and Food Services and Arts and Recreation Services. In 2023, Lithgow LGA had 74 registered accommodation and food services businesses, and 23 registered arts and recreation service businesses (ABS, 2024). Indirect tourism industries are inclusive of transportation and education businesses. Further, the Lithgow Regional Economic Development Strategy (Department of Regional NSW, 2023) recognises the Lithgow region's tourism value, with emphasis on natural endowments and transport infrastructure as providing the basis to growth Lithgow's visitor economy. A more detailed assessment of the project's tourism and recreation impacts is provided in Annexure D, including

- construction and occupation of the lakeside accommodation camp and related infrastructure will be disruptive for recreational users and businesses on the Lake (Low mitigated risk)

- perceived risk of temporary loss of access to overflow camping areas for the Lake Lyell Recreation Park (Low mitigated risk)
- increase in road usage and changes to traffic conditions and road safety affecting visitor numbers (Low mitigated risk)
- construction works would temporarily change amenity values due to noise, lighting, dust and vibration (Medium mitigated risk)
- construction works at the upper reservoir require removal of vegetation and aesthetic alteration of the local landscape (Medium mitigated risk)
- biodiversity impacts may result in change to local environment values which attract visitors to the area (Medium mitigated risk)
- potential for impacts associated with recreational fishing (Low mitigated risk)
- reduced access to Lake Lyell, Farmers Creek and Mt Walker during construction (Medium mitigated risk)
- loss of recreational value due to water quality and level fluctuations during and after construction (Low mitigated risk)
- access restrictions to the diverted area of Lake Lyell near Farmers Creek and EnergyAustralia property on Mount Walker for recreational use during operation (Medium mitigated risk)

The project locality, approximately two hours from Sydney, is underpinned by the tourism economy providing a variety of highly valued recreational opportunities including camping, fishing, kayaking, swimming, bushwalking, mountain biking, 4WD touring, hiking and picnicking in the lake and surrounding Marrangaroo National Park, and Lidsdale State Forest (see further the tourism and recreation study in Annexure D).

Throughout SIA engagement, it was found that Lake Lyell is a popular location for families, as the Lake Lyell Recreation Park provides a range of amenities, including a playground. The tourism and recreation study (refer to Annexure D) identified a number of repeat visitors from the local area, as well as visitors from areas in Greater Sydney. A number of recreation stakeholders were concerned about the perceived loss of access to Lake Lyell and surrounding areas for recreational purposes.

Local residents and business owners also expressed concern regarding the project potentially restricting access to, or reducing the quality of recreational areas including Lake Lyell, Mount Walker, the Coxs River and Farmers Creek during construction and operation. Visual, environmental and noise impacts from the project and related workforce accommodation may affect the ability of local accommodation providers to attract tourists, and there was a related perceived risk to the livelihoods of these providers.

Despite the relatively high regional social importance of the area as a recreational asset, current access limitations restrict the usability of the space. Limitations include private ownership of parts of the lake foreshore, the single formal public access point to the lake via the recreation park, poor road conditions and poor signage for 4WD and recreation areas, as well as environmental risks including presence of submerged trees, and algal blooms in the affecting ability to swim in and use boats on the lake at certain times, such as during drought.

During consultations, stakeholders highlighted concerns about potential income loss, citing examples of how project impacts could directly affect businesses, including local accommodation providers:

> *"We might need to shut down business because of these great impacts"*

> *"It will destroy it [our property] …may struggle to pay back loans if the BNB business suffers"*

"They [wedding venue] will not be able to stage weddings during construction. 4 years. Directly also affects my business. Financially for me that will be a disaster, because people stay here."

"Concerned for neighbours that run lake activity – surrounded by resorts here. If this project goes ahead, those resorts will close. That's these people's livelihoods. These are my friends."

"Resorts won't be able to continue, because people won't be able to look at a construction site."

Stakeholders identified that a core aspect of Lithgow's tourism draw is its natural landscape. One accommodation provider on the lake shared customer reviews which indicate that the appeal and recreational value of the local landscape was a key aspect of visitors' experiences. Reviews highlighted key visitor values associated with views of Lake Lyell and surrounding bushland, and ability to access recreational activities including relaxation, swimming, kayaking and fishing at the lake.

LLP engagement identified the significance of this issue, and comments relating to the broader economic impact that a loss of income tourism may have on the Lithgow LGA from the SIA engagement include:

"No use of the lake [Lake Lyell] will make the area less vibrant and interesting, takes away reason that people may visit"

"When I think of the impact to tourism, the business, Lithgow itself, won't be the same"

"Lake Lyell is a money spinner for council – only way to access the lake is through the boom gate. There's a day fee for camping there. Unlikely Council would want that diminished, it's cash strapped"

"Flow on effect of wedding business – florists, my business"

The CLC Group has published a video on the impacts of the project to local accommodation providers at the Eagleview Estate (CLCGroup, 2024), which caters for up to 5,000 visitors annually. The video reinforces the economic co-dependencies associated with tourism in the region, where many smaller businesses are reliant on large tourism operators, and highlights the social importance of accommodation through guest reviews about the benefits it has had for them. The video identifies that the project will "slowly kill" their accommodation offering, due to impacts on views from the cabins and as a result of construction noise and loss of the sense of connection to the environment. Comments included:

"Small towns rely on 'circular economies' where one business attracts tourists, and the other local businesses combine to enjoy the benefit from the visitors' spending. If the primary business closes, the entire 'circular economy' collapses."

"Cafes, accommodation, food venues, hotels and other circular economy businesses are likely to be significantly affected."

As outlined in Section 7.4.4, the SWA (EMM, 2025) identified the project's operational cycles will cause water level fluctuations in Lake Lyell of up to 2.85 m.

The LVIA identifies moderate significance of landscape character impacts to Lake Lyell and the Coxs River, with one of the contributing factors being that "the changed water level regime will be apparent", and notes that operational visual impacts will include "fluctuations of the water level within Lake Lyell will occur more frequently, exposing and inundating shoreline on a daily basis". The LVIA identified temporary visual impacts throughout the construction phase. Temporary laydown areas will be located along the Farmers Creek arm of Lake Lyell. However, the visual impacts of these are expected to be negligible due to the location away from any roadways.

The LVIA also assessed potential impacts to landscape character, which included the Coxs River and Lake Lyell, forested mountains, ridges and valleys, and cleared agricultural slopes. The assessment found that there would be moderate impact to the landscape character of the Coxs River and Lake Lyell, and nearby forested mountains, ridges and valleys, as views of the projects upper reservoir may be visible from large parts of Lake Lyell.

In the northern reaches of Lake Lyell, particularly the Farmers Creek arm, water-based recreational areas may have views of additional project infrastructure, such as the switchyard. However, the extent of visible project infrastructure will be minimal compared to the overall size of the landscape character zone.

A high visual impact is expected from the boat ramp at the Lake Lyell Recreation Park. Other areas where water-based activities take place may have lower visual impact due to tree cover.

The LVIA also assessed viewpoints of nearby accommodation providers, including Eagle View Escape and Seclusions Blue Mountains, both of which bring a significant portion of visitors to the region. Detailed data around visitation is available in Annexure D. The assessment found that Eagle view Escape had a high visual impact rating, and Seclusions Blue Mountains had a moderate visual impact rating.

Change to water quality may also impact visual appeal and visitor attraction to the area. The potential for algal blooms remains uncertain. The Aquatic Ecology Assessment (Austral, 2025) found that increased turbidity may lead to an increased in the occurrence of algal blooms. Turbidity is expected to occur in the short term but is likely to be temporary. Further assessment is required to understand the possibility of algal blooms in Lake Lyell, as the Aquatic Ecology Assessment does not assess the likelihood of increased turbidity from construction activities and pathways (Austral, 2025).

Stakeholders identified that the appeal of accommodation in the local area is closely linked to the access to and enjoyment of Lake Lyell, so negative impacts to these assets may have a flow on effect for appeal of accommodation.

The unmitigated significance of potential for loss of income to tourism businesses is assessed as **High**. The likelihood of the impact occurring is assessed as being **Almost certain** and the magnitude of the impact is assessed as being **Moderate**.

LLP is working to mitigate these potential impacts and associated community concern through initiatives such as a community benefit sharing program. This program has a focus on supporting the resilience and prosperity of existing local industry strengths, including tourism. An update on this process was provided in the August community newsletter (EnergyAustralia, 2024), where it was stated *"We held workshops with over 50 community representatives and local leaders. The goal was to collaboratively design a benefit sharing program, that ensures the Lake Lyell Pumped Hydro project contributes to Lithgow's long-term prosperity."*

Proposed management measures include:

- funding local community events to attract visitors and enhance regional tourism. This will support the regions goals to develop a diverse and collaborative visitor economy through the creation of festivals and events in the region and the enhancement of recreational offerings, as outlined in the Lithgow Regional Economic Development Strategy (Department of Regional NSW, 2023)
- targeted initiatives to keep the community and accommodation service providers informed as the project progresses in the CSEP
- the Neighbour Agreement Guide also specifically addresses the needs of local recreation and tourism providers, including the offer of a business viability payment, if the business requires property which will be impacted by the project
- implementation of mitigation measures from the LVIA to reduce the degree of visual impact for receptors, however it is acknowledged that livelihood of tourism and recreational stakeholders is likely to be more greatly affected by visual impacts due to high values placed on views and amenity for business

- upgrading facilities at Lake Lyell, including improved picnic areas and boating infrastructure, to provide amenities that could be left after the project is completed such as sporting facilities, EV charging stations, permanent facilities supporting recreation on the water (boat ramps, fish cleaning stations), etc.
- improving access to recreational and tourism areas through road upgrades and improved access conditions (EMM, 2025)
- the project's detailed design and construction environment management plan with a focus on preventing and managing algal blooms. Measures to prevent algal blooms would also significantly improve the accessibility and safety of recreational use of the lake.

Further consideration of opportunities to enhance local tourism offerings through adaptive re-use of project sites and materials is also recommended, in consultation with Council. In particular, through rehabilitation and detailed design planning for workforce accommodation. Measures may include:

- engagement measures such as November 2025 EIS community updates, and the project website may provide a link to the EIS on the Major Projects Portal so stakeholders are able to easily access the findings of ecological assessments
- retention of visitor facilities related to the workforce accommodation site for future tourism uses, e.g. enhanced amenity blocks for the Lake Lyell Recreation Park (which have been identified as an existing weakness of the park by users) or a visitor centre
- walking paths around the lake
- alternate or enhanced lake access for larger boats, (currently the only formal access is via rec park)
- improvements to the picnic and child play area, e.g. bathrooms, benches, child play area, shade tree planting and more BBQ facilities.

The mitigated significance of potential for loss of income to tourism businesses reliant on the appeal and recreational value of the local landscape is assessed as **Low**. The likelihood of the impact occurring is assessed as being **Unlikely** and the magnitude of the impact is assessed as being **Moderate**.

A summary of the assessment is presented in Table 7.27.

Table 7.27 Potential for loss of income to tourism businesses

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Livelihoods	Potential for loss of income to tourism businesses	Service providers (Tourism and accommodation)	Construction Operation	Local area, broader community	High	Low

7.9.2 Reduced ability for near neighbours to use or gain value from their land

Residents near the project site fear that its visual and environmental impacts will diminish their ability to use their land as they have in the past and gain the same value from it. A range of stakeholders engaged as part of the SIA perceived that there may be a decrease in nearby property values, which may have a flow on effect to ability to plan for future property uses. Additionally, stakeholders identified that amenity impacts may inhibit residents from being able to stay in the area due to impacts to rural lifestyle values.

Various stakeholders expressed concerns related to property values in both SIA and LLP engagement, and the inability to plan for future property uses due to perceived devaluation:

> *"No one will buy the house"*
>
> *"Why improve your property if it's going to be devalued anyway?"*
>
> *"All the work we have put in for the future has been thrown out the door"*
>
> *"Had plans to build…already have an architect designed home and began to flatten out land for this build project, which is now on hold."*

There were also comments on the stakeholder's desire to remain in the area throughout project construction and operation:

> "*Never had any thought about selling, but now we're going to have to"*
>
> *"If this goes ahead, I will have to spend a lot of time not there"*
>
> *"People around here – many are generational – they pass their properties on. My kids are already making noises. They want this property to always be available to kids and their kids. Don't know I can reassure them that that will happen if this goes ahead."*

Census data (ABS, 2021) indicates that 65% of the local study area owned their houses either outright or with a mortgage. The study area has a relatively high proportion of home ownership compared to NSW, with Lithgow LGA having a proportion of 41.9% of private dwellings owned outright, compared to 31.5% in NSW. Within the local area Rydal had the highest proportion of home ownership, with the majority (57.6%) of residents owning their home outright (ABS, 2021). House prices have risen across NSW in recent years, inclusive of rural and regional areas. In the local area, Bowenfels SAL had the highest proportions of rental and mortgage stress, with Rydal SAL having the lowest. However, rental and mortgage stress was relatively lower across the study area when compared to NSW.

While the project's construction envelope does not include any land that is used for agricultural purposes, there is 15 ha of land which is capable of agricultural use (Minesoils, 2025). The removal of the 15 ha of land is considered a negligible impact in the Minesoils SLURA. The SLURA found that there will not be impacts on agricultural productivity of land outside the project sites as resources such as water, soil and land will not be affected (Minesoils, 2025). Broader agricultural activities, such as reliance on transport routes were found to face negligible impacts, and there will be no impact on irrigated agricultural lands in the region.

The perceived impact of this project relating to diminished property values may mean that residents would not be able to purchase a property elsewhere without significant financial burden. The high proportion of residents who own their homes outright indicates a desire to stay in the area long-term, however engagement indicates that residents believe this will not be possible due to project impacts. The local area is also a high amenity area, which brings the possibility of short-term accommodation to be hosted on nearby properties. The perceived impact of the project construction and operation has meant that residents have had to put plans for future property uses on hold.

The unmitigated significance of ability to use or gain value from land is assessed as **Medium**. The likelihood of the impact occurring is **Possible** and the magnitude is **Moderate**. This assessment considers landowner perspectives, together with evidence regarding the scope of impacts to land use and viability.

To address concerns, LLP has committed to adapting the Neighbour Agreement Guide with affected stakeholders. This commitment will focus on:

- improved communication around EIS findings, project impacts and benefits
- respite or relocation assistance for impacted residents based on technical impact assessments
- physical property adjustments including landscaping for screening or double glazing to reduce landholders experience of impacts.

Further, potential land use and/or agricultural impacts will be mitigated through the implementation of a biosecurity management plan which will address the risk of pests, weeds, and disease spread to ensure the project does not create biosecurity impacts within the local and wider region (Minesoils, 2025).

The mitigated significance of ability to use or gain value from land is assessed as **Low**. The likelihood of the impact occurring is **Unlikely** and the magnitude is **Minor.**

A summary of the assessment is presented in Table 7.28.

Table 7.28 Reduced ability for near neighbours to use or gain value from their land

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Livelihoods	Reduced ability for near neighbors to use or gain value from their land	Nearby neighbours Service providers (Accommodation)	Construction Operation	Local area	Medium	Low

7.9.3 Procurement and competition for skilled local workers affecting the availability of workers and resources in the regional area

There is potential for the project to lead to short term impacts on labour availability due to increased construction wages, attraction of workers from other relevant sectors of the economy (and associated shortages of goods and services), and potentially rising prices as firms pass wage costs onto consumers. In addition, short term demand for construction materials can result in rising costs and potentially shortages for other uses.

The Economic Assessment (Gillespie Economics, 2025) determined that the potential for this to be affected as a result of the project is uncertain. The project's direct average annual construction demand during the peak year of construction is for 426 workers in a region with a labour force of 8,790, some observable price effects may occur. However, 65% of the construction workforce is estimated to be sourced from outside the region. Consequently, any local price effects will be moderated. Furthermore, any "crowding out" of other economic activities represents reallocation of scarce resources to where they are most highly valued and where society will benefit the most from them. This reallocation of resources is therefore a positive impact for the economy, not a negative.

During SIA engagement, the following observations were made by the community:

> *"Under the impression – this group who got the tender for the project – bringing out their 400 strong workforce – that doesn't' sound like jobs for our area. Also – the project won't find that many jobs for the local area, one will be wondering, what is the benefit of this project for our local area – don't know that there will be a benefit."*

Though the Economic Assessment identifies a positive economic effect associated with this reallocation, social implications may include a loss of access for consumers less able to afford competition with the project. This may include small businesses and vulnerable members of the community in need of access to affordable housing. Given Council's aim to build more homes to support demand for affordable housing (Lithgow Mercury, 2024a), there is a vulnerability associated with availability of construction resources and tradespeople.

The unmitigated significance of Procurement and competition for skilled local workers affecting availability is assessed as **Medium**. The likelihood is **Possible** and the magnitude is **Moderate**.

The Economic Assessment identifies that "The extent of these impacts for regional economies will depend on the balance of labour supply from inside the region, outside the region and drive-in drive-out or fly-in fly-out, as well as adjustment of the overall labour market to respond to increased demand e.g., increased labour force participation." Preparation of the procurement strategy should appropriately moderate these impact pathways to avoid undue impact through engagement with potentially vulnerable members of the community to identify detailed potential for impact and avoidance measures. It is noted that this is particularly the case for local trades. A beneficial effect for the region would be supporting trades traineeships with existing local businesses, to increase overall regional availability following the culmination of the construction phase of the project.

The mitigated significance of procurement and competition for skilled local workers affecting availability is assessed as **Low**. The likelihood is **Minor** and the magnitude is **Unlikely**.

A summary of the assessment is presented in Table 7.29.

Table 7.29 Procurement and competition for skilled local workers affecting the availability of workers and resources in the regional area

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Livelihoods	Procurement and competition for skilled local workers affecting the availability of workers and resources in the regional area	Regional community, including small businesses and vulnerable stakeholders such as low income earners, Aboriginal and Torres Strait Islander People and young families	Construction	Regional area	Medium	Low

7.9.4 Construction employment and training opportunities for residents in the regional area

As well as providing employment, the proponent intends on establishing and supporting training and education initiatives for upskilling the local and regionally sourced workforce. These skills are expected to include but are not limited to construction, labour, trades (such as electrical and mechanical), surveying, geotechnical and environmental services, machine operators, engineering and project management. Travel and hospitality services may also be required to support accommodation of the project workforce.

The Economic Assessment (Gillespie Economics, 2025) identifies that the project will provide more than 637 direct and indirect jobs in the regional area over the five-year construction phase for the project. It will also provide 1,472 direct and indirect jobs in NSW. Regional employment is expected to contribute to $51M in annual direct and indirect household income, and the Economic Assessment specifically acknowledges the project will create a demand in the region for a suitably qualified construction workforce for up to five years. Four-digit Australian and New Zealand Industry Classification (ANZSIC) place of work data for the region indicates the significance of the Coal Mining, State Government Administration, Supermarket and Grocery Stores, Aged Care Residential Services, and Hospitals (except Psychiatric Hospitals). Using the one-digit ANZSIC, the largest exporting industries in the region by value are Mining, Public Administration and Safety, Electricity, Gas, Water and Waste Services, Health Care and Social Assistance, and Construction.

Retraining opportunities may assist in retraining the region's mining workforce with complementary skill sets, in alignment with Lithgow's Economic Development Strategy (Lithgow City Council, 2024). The Development Strategy identifies the energy transition as a risk to existing employment within the mining sector, and an opportunity for transition of existing skilled workers to alternate employment, including renewables projects.

Key characteristics of residents in the region include an older population with a median age of 46 (24% over 65 years), than the median age of NSW (39 and 18% over 65 years) This results in a lower proportion of the population being in the workforce (42%), compared to NSW (48%). The population of Lithgow LGA also had lower levels of education, with 12% having a bachelor's degree or higher compared to 28% of NSW. In the 2021 Census, 5.5% of the regional labour force was unemployed compared to 5% per cent for NSW.

The main occupations of usual residents in the region were Technicians and Trades (17%), Community and Personal Service Workers (14%) and Professionals (13%). While for NSW the main occupations of usual residents were Professionals (25.8 per cent), Managers (15%) and Clerical and Administrative Workers (13%).

Median weekly household incomes were lower in the region ($1,196) compared to NSW ($1,829) and median weekly rents were lower at $270 compared to $420 for NSW.

The demand for labor during construction will provide employment and training opportunities for residents in the region area. Throughout SIA engagement, availability of jobs in the regional area was identified by stakeholders as a regional issue:

> *"Lithgow has a tight job market"*
>
> *"We've got 20–30-year-olds moving away from here in numbers because they have no faith in jobs"*

Stakeholders have expressed that they feel there is little limited benefit relating to employment for local residents in the region:

> *"Local job opportunities fall short when considering detrimental effect on lives and town. Will ruin tourism and Lithgow."*
>
> *"The project won't be an advantage for the district. There won't be any local jobs because of the construction workforce."*

The community's concerns highlight the need for the project to secure targets for 35% local employment, to improve regional confidence in the projects' economic and social value.

The unenhanced significance of construction employment and training opportunities is assessed as **Low**. The likelihood is **Likely** and the magnitude is **Minimal**.

It is proposed that the project's Workforce Management and Procurement Strategies (addressed at a high level in the CMP) focus on assigning procurement targets at the regional area (Lithgow LGA) level. The project should consider long term partnership opportunities with schools and tertiary institutions, such as TAFE, in the local and regional area. The CMP identifies key skillsets available within the local area as being:

Construction and demolition:

- plant and labour resources for installation (cranes, excavators, graders)
- plant and labour resources for demobilisation
- landscaping services as part of installation and after demobilisation
- labour for concreting / plumbing / electrical / fencing works
- supply of materials (quarry products, concrete, timber, general fixings)
- CCTV supply and install.

Operation:

- staff (kitchen, cleaning, asset management, administration / reception)
- supplies (food and beverage, etc.)
- dry-cleaning/linen laundering
- maintenance services
- bus shuttles (to and from site / bus station)
- security.

Given demographic data provided in the social baseline also indicates vulnerabilities for low-income earners in Lithgow and Bowenfels, the project procurement strategy may also be prepared in partnership with local employment agencies to identify and target employment opportunities for vulnerable residents, thus improving related social dynamics, such as targeted opportunities for education and enhanced income.

The enhanced significance of construction employment and training opportunities is assessed as **Medium**. The likelihood is **Likely** and the magnitude is **Minor**.

A summary of the assessment is presented in Table 7.30.

Table 7.30 Construction employment and training opportunities for residents in the regional area

Impact category	Matter	Affected parties	Duration	Extent	Unenhanced	Enhanced
Livelihoods	Construction employment and training opportunities for residents in the regional area	Regional community	Construction	Regional area	Low	Medium

7.9.5 Operational employment and training opportunities for residents in the regional area

The Economic Assessment (Gillespie Economics, 2025) estimates the project will support 44 local jobs annually during its operation, of which 20 personnel will be directly employed by the project and 24 will support the project indirectly.

According to the Economic Assessment, while there are relatively few operational positions compared to the labour market of 8,790 persons, the investment will be long-term, as the positions will be necessary throughout the 80-year life of the project. The operation of the project will create a small demand for regional labour resources and regional inputs to production so consequently, no wage or price increases or production shortages are anticipated. However, the long-term employment benefit, and associated skill development and training pathways for local residents, remain an enduring opportunity from this project.

The Economic Assessment identified the project's operations phase is expected to contribute approximately $3M in direct and indirect household income for the regional economy. For the NSW economy overall, the project is expected to contribute 101 direct and indirect jobs and $10M in annual direct and indirect household income. The benefits are greater for the NSW economy because there is less leakage of direct and indirect expenditure out of the NSW economy compared to the regional economy.

The Ecomonic Assessment found that local employment opportunities can be enhanced through procurement of regional residents where they have the appropriate skills, participating in business groups, events or programs in the regional community, locally sourcing non-labour inputs, and establishment of a community benefit fund (Gillespie Economics, 2025).

Where feasible this benefit may be enhanced by providing training for workers displaced from the mining industry and young people to enhance benefits from long-term employment opportunities. These benefits can be secured through engagement with education service providers and implementation of a project procurement plan.

The community views this benefit as disproportionate to the project's impacts, which one stakeholder demonstrated by saying:

> *"Most people talk about employment…it will benefit a small number of people ongoing. Relatively small number of employed people. Not sure what the protections are for residual employment after the project is completed. Not of much benefit to the community long term, won't affect whether lights stay on at night here in Lithgow or not"*

The unenhanced significance of operational employment and training opportunities for residents in the regional area is assessed as **Low**. The likelihood of the impact occurring is **Likely** and the magnitude of the impact is assessed **Minimal**.

Measures that will help to maximise the benefit of operational employment and training, include:

- training for re-skilling industry workers, as well as local young people in partnership with education and training providers
- regional procurement and community benefit programs as noted
- contribution to skills and training initiatives that support other local industry strengths. This contribution to the development of transferrable skillsets within the local labour force may represent a strong legacy outcome from the project's 80-year operation.

The enhanced significance of operational employment and training opportunities for residents in the regional area is assessed as **High**. The likelihood of the impact occurring is assessed as **Likely** and the magnitude of the impact is assessed as **Moderate**.

A summary of the assessment is presented in Table 7.31.

Table 7.31 Operational employment and training opportunities for residents in the regional area

Impact category	Matter	Affected parties	Duration	Extent	Unenhanced	Enhanced
Livelihoods	Operational employment and training opportunities for residents in the regional area	Regional community	Operation	Regional area	Low	High

7.9.6 Indigenous employment, training and business opportunities

Aboriginal people may benefit from employment and training pathways generated by construction and operation of the project. As described above, the project will provide more than 637 direct and indirect jobs in the regional area over the five-year construction phase for the project. It will also provide 1,472 direct and indirect jobs, with $219 million in capital revenue for the region and $238M in annual direct and indirect regional output for NSW.

As outlined in the social baseline, the percentage of the regional population that is Aboriginal and/or Torres Strait Islanders was higher than that of NSW (7.8% compared to 3.4%). The estimated labour force within the Aboriginal and/or Torres Strait Islander population aged 15 years and over in Lithgow LGA was 550 people. At the time of the 2021 Census, the Aboriginal and/or Torres Strait Islander unemployment rate in Lithgow LGA was 11.8% (65 people). High rates of unemployment and low rates of educational attainment in the Aboriginal community present an opportunity for the project to provide employment and training pathways.

A number of Aboriginal stakeholders expressed the perception that there would not be an employment benefit for local people:

> *"Around here – coal mining produces most of the workforce. Kandos in a more so older generation, as there isn't a great deal of work, other than Mudgee/Lithgow mines. Younger people moving away."*
>
> *"I know we need jobs – Hydro won't create long term jobs, will cause loss of more jobs than it creates – workforce come in from overseas."*
>
> *"Don't see any benefit. There will be no jobs."*
>
> *"For me not driven by jobs. Creating indigenous rangers to put jobs and look after country."*
>
> *"How many of our people will be employed? Not many."*

The unenhanced significance of business, employment and training opportunities for Indigenous people is **Low**. The likelihood is **Possible** and the magnitude is **Minimal**.

Preparation of an Industry and Aboriginal Participation Plan (IAPP) is required to confirm the project's commitments for increasing employment and income opportunities for Aboriginal peoples and communities in the construction and operation of new electricity infrastructure projects in NSW delivered under the NSW Electricity Infrastructure Roadmap. According to the First Nations Guidelines (NSW Government, 2022), 1.5% of project cost (over the life of the project) will be reserved for the subcontracting of Aboriginal-owned businesses and/or the direct employment of Aboriginal people, and/or the education and training initiatives for Aboriginal people. Regarding employment of Aboriginal people, it is proposed that the project focus on long term employment including career progression targeting semi-skilled and skilled roles.

It is proposed that further enhancement measures are explored including consideration of partnerships with indigenous employment providers and TAFE to understand and address the training needs of Aboriginal employees. Further, the project should provide periodic progress reports on the commitments made in the IAPP to the local Aboriginal community and the broader community throughout the life of the project.

The enhanced significance of business, employment and training opportunities for Indigenous people is assessed as **High.** The likelihood is **Likely,** and the magnitude is **Major**.

A summary of the assessment is presented in Table 7.32.

Table 7.32 Indigenous employment, training and business opportunities

Impact category	Matter	Affected parties	Duration	Extent	Unenhanced	Enhanced
Livelihoods	Indigenous employment, training and business opportunities	Aboriginal stakeholders and businesses	Construction, operation	Regional area	Low	High

7.9.7 Business opportunities for residents in the regional area

Regional business stands to benefit from procurement opportunities during construction and operation of the project. The project will procure various goods and non-goods to construct the project, and smaller, long term work packages are likely to be available during the 80-year operation phase.

As outlined in the social baseline Section 5.4.2, 21.1% of registered businesses in the region were in construction. Lithgow has historically shown relatively slow growth, and its principal income is derived from the mining industry.

The Economic Assessment calculates the average annual economic benefits of the construction phase on the regional economy is up to $260 million in local business revenue over five years. For the NSW economy, total business revenue from the construction phase of the project is estimated to be up to $524 million. During the 80-year project operation, the Economic estimates $238 million in annual direct and indirect regional output for NSW.

The Economic Assessment identifies the sectors of the regional economy most impacted by output, value-added, income and employment production induced flow-ons are likely to be:

- professional, scientific and technical services
- wholesale and retail trade
- cement lime and ready-mixed concrete manufacturing
- road transport
- non-residential property operators and real estate services
- employment, travel agency and other administrative services
- building cleaning, pest control and other support services.

The flow on effects of the construction phase will likely include demand for accommodation and food services, transport, postal and warehousing, financial and insurance services, rental, hiring and real estate services, retail and wholesale trade, education and training, health care and social assistance and administrative and support services.

During the SIA engagement, interviewees noted:

> *"Silly to say there won't be a little bit of money spent in town. But compared to the effect of it, I don't see it outweighing the impact."*
>
> *"security issues around businesses closing as there will be empty buildings, negative thing for a community to have empty spaces"*

The unenhanced significance of business opportunities is assessed as **Low.** The likelihood is **Possible,** and the magnitude is **Minor**.

Given existing conditions for local businesses associated with mine closures, it is proposed that the project develop and implement a procurement strategy to target local and regional procurement. It is proposed that the project undertake direct engagement with businesses to provide regular project updates including on timelines and upcoming procurement opportunities.

LLP will work with the local council and community to ensure that the region received maximum benefit from the economic growth the project brings and minimises any impacts. This may be in the form of local procurement, participation in business groups, events or programs, and establishment of a community benefit fund (Gillespie Economics, 2025). The Economic Assessment also recommends Locally sourcing non-labour inputs to production where local producers can be cost and quality competitive.

The enhanced significance of business opportunities is assessed as **High.** The likelihood is **Likely,** and the magnitude is **Moderate**.

A summary of the assessment is presented in Table 7.33.

Table 7.33 Business opportunities for residents in the regional area

Impact category	Matter	Affected parties	Duration	Extent	Unenhanced	Enhanced
Livelihoods	Business opportunities for residents in the regional area	Regional community, Local businesses	Construction	Key urban area Regional area	Low	High

8 Town camp option assessment of social impacts and benefits

The methodology for this assessment has been outlined in Chapter 3 of this report, in Stages 4,5 6 and 7, and is consistent with the approach applied to assessment of impacts in Chapter 7. The impacts have been arranged under social impact categories from the SIA Guideline (DPHI, 2025). A separate assessment for the town camp was completed as it would have impacts experienced by a distinct subset of the community, that would otherwise experience limited impacts from the main project.

The assessment of relative social risk utilises the methodology outlined in section 2.3 of the SIA Guideline Technical Supplement and a copy of the risk matrix is provided in Figure 3.2 of this report.

Table 8.1 Town camp option impacts and benefits

Social impact categories[4]	ID	Impact/benefit on people (unmitigated/unenhanced)	Project phase(s)	Section addressed
Community	Co03	Alteration of community cohesion and character due to workforce influx and associated with the Town camp option	Construction, operation and decommissioning of the Town camp	8.1.1
Way of Life	W06	Reduced residential amenity associated with changing land use	Construction, operation and decommissioning of the Town camp	8.2.1
Surroundings	S05	Potential for impacts to local environment values associated with Town camp construction	Construction, operation and decommissioning of the Town camp	8.3.1
Culture	Cu03	Direct impacts to cultural heritage values, including impacts to heritage items and sites	Construction, operation and decommissioning of the Town camp	8.4.1
Health and Wellbeing	HW05	Changes to traffic movements related to the Town camp option creating road safety risks	Construction, operation and decommissioning of the Town camp	8.5.1
Livelihoods	L08	Workforce influx supporting the Lithgow economy	Operation of the Town camp	8.6.1

8.1 Community

8.1.1 Alteration of community cohesion and character due to workforce influx associated with the Town camp option

The proposed Town camp option will have the capacity to house up to 500 workers, for approximately four to five years while the project takes place. The project workforce is expected to impact the social composition and dynamics of the local area during construction, with peaks of 545 workers in in Q3 2026 and 606 workers in Q2 2029. Approximately 65% (394 workers) are expected to be non-local, contributing to a temporary population increase up to 6.3% in the local area (home to 6,258 people in 2021). This non-local increase in population would exceed the 5% threshold for population change identified by Burdge (2015) as impactful to community cohesion and service provision.

Most people in the urban local area reside in Lithgow SAL (4,956 people), with a small proportion living in Pottery Estate SAL (112 people), where the Town camp would be located. A population influx of 394 workers to Pottery Estate, which is below the total capacity of the camp, would still see the suburbs population increase by 351.8%, resulting in changes to social cohesion in Pottery Estate. By contrast, the regional area with a population of 20,842, will experience less than a 2% population increase, which would have a negligible effect on regional community composition.

As is the case with the Lakeside camp impact identified in Section 7.2, the potential population change in the local area associated with Pottery Estate will be significant, and result in noticeable changes in community composition. These are likely to include noticeable shifts in demographic characteristics such as age and gender, as well as introducing workers as temporary residents who are likely to have less of a personal investment in the overall local social character of the area.

The urban local area's demographic and social profile highlights a stable population with a strong sense of community. With reference to the social baseline in Annexure C, in 2021, 6,258 people lived in the urban local area, a decrease of 4% from 2016. A significant majority of local residents (58.9%) reported living at the same address five years ago, compared to the NSW average of 53.9%. The gender distribution in the local area mirrors the NSW average, with a marginally higher ratio of females to males. The urban local area also recorded a relatively older population and a high proportion of Aboriginal and/or Torres Strait Islander people, with the largest proportion living in Pottery Estate (9 people, or 8.0%) and the highest number living in Lithgow (364 people or 7.3%).

As noted in previous community cohesion impact, the Lithgow community overall have relatively high incidences of volunteerism, and local council plans reflect a community-wide commitment to resilience and connectedness.

Some residents of the urban local area advised LLP that felt that locating the workforce close to town could alter local amenity and character, particularly if the camp operated at full capacity during construction peaks.

A resident of the Lithgow Pottery Estate area advised 7 News (2025) that he believes:

> *"It'll be an eyesore, with that many men coming in and out"*

During the interview, Bathurst MP Paul Toole also raised concerns rate payers would foot costs for service infrastructure to support the camp.

Due to the proposed location of Town camp close to nearby residential and commercial areas, the project workforce is likely to interact frequently with the local community. Workers may move around Lithgow and surrounds on their days off and engage in recreational and leisure activities.

The residential estates of Pottery Estate & Sheedy's Gully are likely to be most directly affected by population and character changes, and particularly the adjacent streets, e.g. Mantle Street and Silcock Street. The nearby shopping centre is also within walking distance from the camp and is likely to experience visitation from the workforce.

New people to the area can lead to changed community cohesion and can also potentially lead to an increase in community resilience brought about by economic growth and additional community investment and improvement to services.

While the Town camp will generate a substantial temporary increase in the population of Pottery Estate, it is not expected to change the expression of project community service demand impacts or the potential for perceived diminishment of community wellbeing assessed in Section 7.8.4, or pre-camp construction accommodation demands articulated in Section 7.7.6, as these will principally be sought in the broader Lithgow area and mitigated through provision of the same workforce services available within both camp options.

During the interim period before the camp is built, demand for short-term accommodation may increase the visibility of the non-local workforce within host communities and elevate community concerns regarding safety, fairness, and social cohesion during camp operation.

As identified in Section 7.3.1, the project and the Town camp option represent an opportunity to contribute long-term to the social fabric and development of the local area, and workforce presence in the area will be temporary.

The unmitigated significance of 'alteration of community composition and character' is assessed as **High**. The likelihood is **Almost certain** and the magnitude is **Moderate**.

In addition to mitigation measures proposed in Section 7.3.1, including development and implementation of Community Engagement Plans throughout the project lifecycle, the following mitigation measures are proposed:

- Minimising disruption to residents by implementing workforce behaviour and management plans around the Town camp, with clear safety and security requirements.
- Providing appealing and private open space within the site to minimise the potential for workers to congregate on the street.
- Identifying opportunities for workers to participate in local sports teams, volunteering and events.

The mitigated significance of 'alteration of community composition and character' is assessed as **Medium**. The likelihood of the impact occurring is **Likely** and the magnitude is **Minor**.

A summary of the assessment is presented in Table 8.2.

Table 8.2 Alteration of community cohesion and character due to workforce influx

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Community	Alteration of community composition and character due to workforce influx	Near neighbours Regional businesses – Regional area Local community, including service users, businesses and shopping centre	Construction	Local area – Urban Regional area	High	Medium

8.2 Way of life

8.2.1 Reduced residential amenity associated with changing use of the Town camp land use

The camp will temporarily introduce construction activities over a period of two to three months, followed by occupation of the site by up to 500 workers for four to five years, then decommissioning activities over two to three months. During this time, nearby residents will experience impacts to local amenity through visual changes, noise, and dust, as well as in the overall density and temporary building style potentially affecting the character of the area.

Prefaced by identification that studies on this site were about to commence, Bathurst MP Paul Toole advised 7 News (2025) that:

> *"we need to be aware of the consequences…"*

The social baseline identified that the urban local area has over 80% of residents living in the same area for an extended period of time, and that the urban local area has experienced a 7.7% population decline over the last 10 years, alongside most of Lithgow. The current community has an average age of 50 years old, and only 9.5% of the local population is 14 years old or under. Comparatively, 47.6% of people are over 65. This means a high number of local residents are likely to be over working age, and therefore spend more time at home.

a Visual

The LVIA (EMM, 2025) notes the town accommodation camp is located on Pottery Estate, at the base of a valley along the southern edge of Lithgow. The site is separated from the residential areas by existing large retail stores. The camp design has allowed for buffers along the perimeter, especially where it is close to the residential areas along the north boundary and south-west boundary. The eastern and southern boundaries abut existing bushland on hillsides.

The area around the camp is suburban, with dwellings, retail buildings, and street trees that screen most residential views. While there may be views of the camp from residences immediately adjacent to the camp location (Silcock Street, Mantle Street, Hill Street, Valley Drive, and Hassans Walls Road) the potential for views diminishes rapidly beyond these streets. Views from within Lithgow are expected to be blocked by the existing buildings and landscape. Locations at higher elevations that have views over the buildings in Lithgow may have views of the camp. Locations along the Great Western Highway may have some glimpses of the camp rooftops.

During the construction of the camp, there is expected to be additional traffic on the adjacent streets as the camp elements are being installed. After the camp is completed, there will be shuttle bus traffic transporting workers to the Lake Lyell construction site. These buses would enter the camp via Silcock Street and Bent Street.

The Town camp is aligned with two landscape character zones in the LVIA. These are 'forested mountains, ridges and valleys' which was deemed to have a 'high' impact principally related to the broader project, rather than the Town camp and 'Lithgow and surrounding urban areas', which was deemed to have a 'low' impact.

The LVIA (Figure 6.5) identifies the Town camp option will be highly visible through parts of the Lithgow township and surrounding hillsides, including viewpoints 13 and 14. Though the camp is visible, it is determined to have an overall low visual impact.

b Noise

The NVIA (EMM, 2025) assesses the extent of impact to the surrounding community under noise-enhancing weather conditions, during both the early works and main construction phases.

The noise contours indicate that camp construction will be the most impactful activity with properties close to the project, including residential receivers, predicted to receive noise levels in the order of 45 to 55 dB (considered to be “clearly audible” above existing ambient noise levels). Residents along Silcock Street, Bent Street and the western end of Hill Street may experience noise levels up to 65 dB, which may be considered “moderately intrusive”.

During camp operation, the worst-affected residential receivers, located on Silcock Street, are predicted to experience construction noise levels up to 55 dB (considered to be “clearly audible”). Noise levels are not predicted to exceed the highly noise affected noise level of LAeq,15minute 75 dB at any assessment location.

During the night period, noise from the Town camp is expected to emanate primarily from mechanical services equipment (e.g. air conditioning units, fans, pumps), which produce a consistent level of noise (i.e. steady state) and, as such, are not anticipated to generate maximum noise level events. Accordingly, no sleep disturbance is expected during operation of the Town camp, and detailed assessment was not required under current guidelines.

Road traffic movements associated with the Town camp are anticipated to comply with the Road Noise Policy (RNP) 2 dB relative increase criteria, given existing road traffic noise levels are predicted to be above the relevant RNP criteria for all roads on the proposed route and road traffic noise level increases are predicted to be less than 1 dB.

The NVIA doesn’t include assessment of human noise, which may have different characteristics to the currently experienced ambient noise.

These activities may result in disturbance to the peaceful enjoyment of property for residents, and temporary increases in frustration and/or stress levels due to disruptions to near neighbours and, to a lesser extent, urban local area residents’ day to day way of life. The degree of disturbance will likely be related to individual vulnerabilities, such as who is likely to occupy property during daytime construction works periods, as well as the detailed design of the site and equipment to prevent both Town camp operation and construction impacts.

c Vibration

Vibration impacts may arise from some camp construction activities for near neighbours and structures, given the small separation distances to residences and heritage significance of nearby sites. No vibration-generating activities are anticipated during camp operation.

Vibration impacts can alter peaceful enjoyment of property, as well as cause physical damage to buildings, should the vibration be significant.

d Dust

The AQIA assesses dust deposition at 76 residential receivers close to the Town camp. No exceedances to dust or air quality criteria are expected at these locations as part of direct project or cumulative disturbances during construction or operation. As there are some amounts of potential dust deposition recorded, mitigation measures are recommended to reduce the chance of any potential impacts to near neighbours way of life associated with how residents experience and maintain their properties.

The unmitigated significance of Reduced residential amenity associated with changing use of the Town camp land’ is assessed as **High**. The likelihood is **Almost certain** and the magnitude is **Moderate**.

In addition to mitigation measures proposed in Sections 7.4.1 and 7.4.3, including development and implementation of a CSEP throughout the project lifecycle, the following mitigation measures are proposed:

- Dust suppression measures, noise, vibration and visual mitigation measures where needed during construction, to be incorporated in construction environmental management plans as per direction in relevant technical studies.
- Community Engagement Strategy – ongoing and responsive engagement with residents of Sheedy's Gully and Pottery Estate in development of site management plan; early notice of high-impact works, presentation into accessible formats, and dedicated liaison staff for point-of-contact availability.
- Grievance mechanism in the form of a 24-hour hotline accessible during operation of the Town camp providing responsive mechanisms to log and act on real-time community concerns.

The mitigated significance of reduced residential amenity associated with changing use of the Town camp land' is assessed as **Medium**. The likelihood of the impact occurring is **Likely** and the magnitude is **Minor**.

A summary of the assessment is presented in Table 8.3.

Table 8.3 Reduced residential amenity associated with changing use of the Town camp land

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Way of Life	Reduced residential amenity associated with changing use of the Town camp land	Near neighbours in Silcock Street, Bent Street and Hill Street Local community	Construction, operation and decommissioning of the Town camp	Local area – Urban	High	Medium

8.3 Surroundings

8.3.1 Potential for impacts to local environment values associated with Town camp construction

The Town camp area adjoins the Hassans Walls Reserve managed by Council. The community has consistently expressed strong environmental and recreational values associated with this reserve through Council-led engagement. The Town camp will temporarily create additional visual and physical separation from the reserve, and may affect values associated with flora and fauna, as well as the overall perceived lack of environmental disturbance of the area.

The Hassans Walls Reserve is subject to a Management Plan (Lithgow City Council, 2017a), and covers a 780 ha area of both Crown Land reserved for Public Recreation and Community Land located immediately south of the Lithgow CBD Lithgow City Council. It is also identified by Visit NSW (2025) as a tourist destination. It is south and east of much of the town's residential area, and is identified by the Council as a significant environmental and recreation asset, which contains infrastructure to support essential services. More than 121 community responses were received during the council engagement conducted during preparation of the Hassans Walls Reserve Management Plan. Residents of the regional area identified the following values associated with the reserve:

1. Aesthetics – views from and of the reserve (73 responses)
2. Nature values - Flora, Fauna, biodiversity (54 responses)
3. A natural area accessible and close to town (46 responses)

4. Passive Recreation (44 responses)

5. Active recreation (35 responses).

The Management Plan states "Community consultation has consistently identified the natural environment as one of the most highly valued aspects of the Reserve. Respondents valued the diversity of flora and fauna found within the Reserve (both common and rare or endangered species), the large and un-fragmented character of the bushland (extending from valley to ridgetop), and the bushland's "high quality" (as generally weed-free vegetation) and habitat value. The usage and aesthetic benefits of such a large and accessible expanse of the natural environment adjoining an urban setting were also highly valued – notably the area's "peace and quiet", its scenic qualities, and as a place offering a physical, visual and recreational respite from urban living." The BDAR (EMM, 2025) identifies the accommodation camp sites are in a landscape that has largely been cleared of native vegetation for agriculture, infrastructure and residential development. Vegetation in access road and accommodation camp areas varies from relatively intact roadside forest remnants to areas of highly disturbed grassland growing on fill material, and doesn't identify impacts to any key flora or fauna associated with the site.

The LVIA (Table 1.2) identifies views to the escarpment on the same side as the Town camp will be affected, but it is unlikely key viewpoints from Hassans Wall will be affected.

The unmitigated significance of 'Potential for impacts to local environment values associated with Town camp construction' is assessed as **Medium**. The likelihood is **Likely** and the magnitude is **Minor**.

In addition to mitigation measures proposed in Section 7.5.2 and 7.6.2, including development and implementation of Community Engagement Plans throughout the project lifecycle, the following mitigation measures are proposed:

- Detailed design to retain lines of sight, where feasible, from local residences to the reserve.
- Restoration measures to enhance the views through and biodiversity of the site, particularly on-site boundaries adjoining the reserve.
- Application of mitigation measures outlined in the BDAR to avoid impacts to local flora and fauna.

The mitigated significance of 'Potential for impacts to local environment values associated with Town camp construction' is assessed as **Low**. The likelihood of the impact occurring is **Possible** and the magnitude is **Minor**.

A summary of the assessment is presented in Table 8.4

Table 8.4 Reduced residential amenity associated with changing use of the Town camp land

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Way of Life	Potential for impacts to local environment values associated with Town camp construction	Near neighbours in Silcock Street, Bent Street and Hill Street Local community Key Urban Area community Regional community	Town camp construction, operation and decommissioning	Local area – Urban Key urban area Regional area	Medium	Low

8.4 Culture

8.4.1 Direct impacts to culture, heritage and community values, including impacts to heritage items and sites

The Town camp is located within the Pottery Estate property, and has been designed to exclude the area of high heritage sensitivity from the disturbance footprint. However, this site is listed on the State Heritage Register and is highly significant as a piece of NSW's cultural heritage.

At first glance, the heritage site contains old red brick buildings which are slowly being reclaimed by nature. This holds a certain amount of visual appeal and may generate a sense of connection for the community to the site as it stands at present. The site bears strong linkages to the regions' development and industrial and coal mining past, as well as nation-wide commercial trends. Beginning from 1976 the site produced bricks, and later grew to produce domestic, sanitary and agricultural pipes and pottery. Cultural connections may also be associated with continued use of the site "as an artists collective where painters, potters and a sculptor display their work." (Lithgow Tourism, 2024b)

The Statement of Heritage Impact (SoHI) (EMM, 2025) has identified two additional sites were identified within the curtilage of the Lithgow Valley Colliery & Pottery Site (State Heritage Register #00078), which include the Lithgow Valley Pottery and Brickworks (Lithgow Local Environmental Plan #A124), and the Pottery Estate Heritage Conservation Area (#C11) where the alternative Town camp workforce accommodation location is proposed.

The SOHI found that the current landscape is disturbed and varied, with terraced and heaped clay to the east and flatter ground to the west, where artefact scatters of bricks, tiles and pottery are more concentrated. In the north-west of the footprint, two in-ground brick features were identified: a small brick footing consistent with a machinery base near the former boiler or engine house, and a curved brick wall segment attributed to a beehive pottery kiln. Both display mixed brick types and appear to continue beneath shallow capping fill, indicating high archaeological potential. Outside the footprint but within the heritage curtilage, the brick stack and clay store remain, with additional remnant brickwork; views to nearby heritage items to the north are largely screened by vegetation and intervening structures. Overall, the Town camp area is likely to contain archaeological relics that contribute to the State significance of the Lithgow Pottery Estate.

The SOHI identifies the remaining buildings on this site are held in high esteem by the Lithgow community and feature in many local tourism promotions and documentation. The pottery products of the former works are also highly collectible. There is a high potential for community interest in archaeological investigations, given the potentially substantial nature of the archaeological resource. Social esteem focuses on Lithgow pottery products and the surviving buildings outside of the Town camp footprint. The Town camp footprint contributes indirectly to community interest through the potential to investigate and interpret archaeology, rather than through standing fabric. The Town Camp area contributes to social value indirectly by enabling investigation and interpretation of archaeology that keeps the site's story legible to the community.

Governance feedback summarised in the Engagement and Consultation Report provided as Appendix D, Chapter 7 of the EIS identifies a preference for avoidance of the town camp site to prevent heritage impacts.

Given the significance of the site, community groups with a potential interest in its preservation include the collection of creative individuals and groups centered around the historic Old Lithgow Pottery site (4 Silcock Street) and venues like the Art House at the Pottery and the adjacent café. Other groups with a potential interest include the Lithgow & District Family History Society, Eskbank House & Museum, the Lithgow Small Arms Factory Museum, and the State Mine Heritage Park & Railway. Other resources include the Blue Mountains & Lithgow Memories History & Heritage Facebook group and professional Lithgow Heritage Tours.

Dimensions of current social interest in the Pottery Estate property predominantly occur at the 'Old lithgow pottery Café' at 4 Silcock Street, and are associated with the Pottery Estate's ongoing role as a:

- Historic site: Known as the 'Old Lithgow Pottery'

- Art school and workshops: The site houses an art school offering workshops delivered by local artists, and the gallery spaces showcase a diverse range of artistic talent (The Seven Valleys Tourism, 2025)
- Performance venue: The Art House at the Pottery hosts a variety of performances, including live music, theatre, poetry, and other creative acts (NSW Government, 2025)
- Exhibitions: The Pottery features three gallery spaces showcasing local and diverse artists, with regular ceramic displays available for purchase (The Seven Valleys Tourism, 2025)
- Community hub: A space for local artists to present their work, engage with the community, and foster a vibrant arts scene in Lithgow, including the Café and community library (The Seven Valleys Tourism, 2025).

The NSW SES Lithgow Unit and RFS also adjoin the Town camp site, and these services generally act as social hubs for involved members of the community. While these uses are unlikely to be affected by the project directly, traffic, amenity and heritage impacts associated with construction works may negatively affect these stakeholders and relating cultural and community cohesion values.

The unmitigated significance of 'Direct impacts to culture, heritage and community values, including impacts to heritage items and sites' is assessed as **High**. The likelihood is **Likely** and the magnitude is **Moderate**.

Mitigations including development and implementation of Community Engagement Plans throughout the project lifecycle, the following mitigation measures are proposed:

- identification of opportunities for the project to provide legacy and community benefits to affected community groups and collectives
- application of mitigation measures outlined in the SoHI to avoid impacts to heritage items, sites and artefacts.

The mitigated significance of 'Direct impacts to culture, heritage and community values, including impacts to heritage items and sites' is assessed as **Medium**. The likelihood of the impact occurring is **Possible** and the magnitude is **Moderate**.

A summary of the assessment is presented in Table 8.5.

Table 8.5 Direct impacts to culture, heritage and community values, including impacts to heritage items and sites

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Culture	Potential for impacts to local environment values associated with Town camp construction	Local community groups, including Pottery Estate artists collective, rural fire services and NSW SES Regional community State heritage, development and pottery interest groups	Town camp construction, operation and decommissioning	Local area – Regional Area State of NSW	High	Medium

8.5 Health and wellbeing

8.5.1 Changes to traffic movements related to Town camp option creating road safety risks

During the construction of the Town camp option, there is expected to be additional traffic on the adjacent streets as the camp elements are being installed. After the camp is completed, there will be shuttle bus traffic transporting workers to the project area. These buses would enter the camp via Silcock Street and Bent Street, and will then travel to and from the site through Lithgow urban centre, where there are existing high volumes of traffic.

Travel to and from the Town camp may disrupt existing traffic flows in surrounding areas. Any disruptions to existing traffic patterns may affect nearby residents in the urban local area and impede on safety for road users. The Traffic Impact Assessment (EMM, 2025) identifies that there will be approximately 21-day shift shuttle bus movements and five night-shift buses, totalling approximately 26 daily shuttle bus movements to and from the accommodation facility. There will also be light and heavy vehicle movements throughout project construction, which will total to around 276 vehicle movements daily. It is expected that local workers will generate 146 trips per day, assumed to occur during commuter peak hours.

The Town camp is expected to impact upon traffic at key intersections within Lithgow. This includes the intersection of Lithgow Street and Kirkland Link, which was assessed as not being able to accommodate to project traffic under current controls (EMM, 2025).

During SIA engagement, a local bus service stakeholder indicated that safety is the main concern, with Magpie Hollow Road and intersections along the Great Western Highway identified as high-risk roads, as outlined in Section 7.7.5, and further comments below:

> *"Safety aspect of main intersections is a big deal - wide vehicles, slow vehicles, anything different here is a safety issue…Traffic becomes a safety issue because it's unexpected."*
>
> *"Not a safe intersection to cross (Great Western Highway/Rabaul St, near La Salle Academy)."*

These comments were made before the Town camp was identified as an option however are still considered relevant as the transport route to the Town camp would also utilise the same sections of the Great Western Highway.

Residents living near the Pottery Estate site were concerned about increased traffic, noise, and parking demand in a residential area.

The TIA has identified that roads close to the Town camp have been identified as being generally safe, with project related traffic likely to worsen existing conditions if unmitigated. Local public bus routes in Lithgow traverse through parts of the assessed road network. The TIA has identified the Town camp location requires vehicles to travel for approximately 10 km along Lithgow Street, Wrights Road, Methven Street, Musket Parade, Bayonet Street, and the Great Western Highway, causing several issues:

- Intersection capacity issues at the Great Western Highway / Magpie Hollow Road intersection, the right-turn queue on the north approach exceeds the available turn bay capacity under the scenario where most construction traffic originates from Lithgow, requiring extension of the turn lane pocket. This constraint does not occur if most construction traffic originates from the Blue Mountains and Sydney.
- At the Great Western Highway / Bayonet Street intersection, the right-turn queue on the south approach exceeds the available turn bay capacity, requiring extension of the turn lane. Otherwise, the northbound through movement may be impeded.

- The Lithgow Street / Kirkland Link intersection would perform poorly under existing give-way control regardless of project-only or cumulative traffic including the impact from the nearby Bunnings store. The intersection requires an upgrade to signal control.
- Several sight line issues have been identified:
    - right turn from Magpie Hollow Road onto Great Western Highway; upgrade to signal control is recommended to address this issue
    - left and right turn from Sir Thomas Mitchell Drive onto Magpie Hollow Road, requiring realignment of the intersection
    - left turn from Lockyers Line onto Magpie Hollow Road, requiring installation of truck warning signs on Magpie Hollow.

Public transport, pedestrian, and cycling routes are not expected to be impacted by the project. The TIA determined project related light and heavy vehicle traffic movements in the urban area are expected to have minimal impact on pedestrians, public transport and school bus activity. Stakeholders who are expected to be more vulnerable to any traffic related safety impacts associated with the project are those without private vehicles, including older people ad children.

The unmitigated significance of changes to traffic movements related to the Town camp option creating road safety risks is assessed as **Medium**. The likelihood of the impact occurring is assessed as being **Possible** and the magnitude of the impact is assessed as being **Moderate**.

To mitigate this risk, measures include:

- control measures recommended in the TIA, including new traffic signals and a Traffic Contral Signal (TCS) plan, should be implemented to accommodate project related traffic
- to mitigate impacts on local school bus operations, truck drivers will be notified of the presence of school buses in the Driver Code of Conduct prepared for the project
- Community Engagement Strategy to include:
    - that community members should be notified of any significant expected traffic movements
    - a 24-hour community hotline that is available during the project construction period as a grievance management mechanism, so that the community may enquire about the project or lodge complaints about project vehicles travelling on the public road system.

The mitigated significance of Changes to traffic movements related to Town camp option creating road safety risks is assessed as **Low**. The likelihood of the impact occurring is assessed as being **Possible** and the magnitude of the impact is assessed as being **Minor**.

Table 8.6 Changes to traffic movements related to the Town camp option creating road safety risks

Impact category	Matter	Affected parties	Duration	Extent	Unmitigated	Mitigated
Health and wellbeing	Changes to traffic movements related to the Town camp option creating road safety risks	Road users Children commuting via school bus Pedestrians	Construction, operation and decommissioning of the Town camp	Broader community	Medium	Low

8.6 Livelihoods

8.6.1 Workforce influx supporting the Lithgow economy

The Town camp workforce accommodation option is located in close proximity to a range of goods and service providers. In addition to the economic benefits associated with the project requirement for workforce accommodation outlined in Section 7.9.7, the Economic Assessment identifies "some portion of the non-local construction workforce wages may be spent in the region. The likelihood and magnitude of this spending is greater the more integrated the WAF is with the Lithgow township. However, the overall magnitude of this spending is likely to be a small component of the regional economic impacts of the project."

Early project engagement identified that the regional community saw the potential for increased economic benefit from the workforce, should the accommodation be located in or near the Lithgow town centre.

The proposed Town camp location is behind the Lithgow Valley Plaza, which provides a range of retailers including fresh food, dining, fashion, services and gift shops. Proximity to local goods and services may encourage the non-local workforce to interact with the local economy. Increased purchasing at retailers due to workforce influx will provide opportunities.

Workforce interactions with local businesses will result in increased demand during the operation of the accommodation camp, and this is particularly the case should the Town camp option be selected, because it provides improved accessibility for workers.

In alignment with the livelihood benefits associated with employment and procurement opportunities outlined in Sections 7.9.4, 7.9.6 and 7.9.7, it is anticipated that the Town camp will offer the opportunity to increase local procurement and employment, and therefore enhance local and regional benefits, though not beyond existing benefits identified in those report sections.

The unenhanced significance of workforce influx supporting the Lithgow economy is assessed as **Low.** The likelihood is **Possible**, and the magnitude is **Minor**.

In addition to methodologies proposed in Section 7.9.7 and the essential services that are to be provided within the accommodation facility, including a first aid facility, gym and kitchen, the project may apply further mitigation measures to enhance this benefit. In consultation with local businesses, the project may identify opportunities for partnerships to advertise or endorse local opportunities not provided within the site, where businesses have capacity to serve additional customers without affecting prices for existing customers. These may include local stores, recreation providers, and healthcare services.

The mitigated significance of workforce influx supporting the Lithgow economy is assessed as **Medium.** The likelihood is **Likely**, and the magnitude is **Minor**.

A summary of the assessment is presented in Table 8.7.

Table 8.7 Workforce influx potentially leading to inflation of local economy

Impact category	Matter	Affected parties	Duration	Extent	Unenhanced	Enhanced
Livelihoods	Workforce influx potentially leading to inflation of local economy	Residents of the key urban area	Construction	Key urban area	Low	Medium

9 Cumulative impacts

9.1 Overview

This section examines the potential for the project to contribute to cumulative impacts and/or benefits in the rural and urban local, and regional study areas. Cumulative impacts occur when multiple projects occur in a similar timeframe or will be located in a similar geography to other projects, intensifying their combined effects on communities and environments.

The *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022a) are part of the Rapid Assessment Framework introduced in 2021, aimed at improving the assessment of major projects in NSW. The project is located within the Lithgow LGA, with cumulative impacts and community concerns about impacts potentially extending throughout the area. The cumulative impact assessment has considered other projects (as listed on the DPHI Major Projects Planning Portal) that have the potential to interact with the project.

Key considerations outlined by the community include:

- water quality
- Aboriginal cultural heritage
- energy transition
- workforce.

The focus within this SIA is on projects and impacts as they relate to social impacts, and so cumulative impacts which relate to water quality and Aboriginal cultural heritage have been assessed for cumulative impact potential under the relevant technical studies, and in the EIS.

An indicative construction period of 2026-2031 (approximately five years) has been assumed for this assessment. Projects with overlapping work programs are summarised in Table 9.1. This is consistent with the list of projects identified in the EIS.

Table 9.1 Cumulative impacts with projects

Project	Approximate straight-line distance from project	Project status	Indicative construction timing	Indicative operational timing	Indicative construction workforce (average & peak)	Indicative operational workforce (average & peak)	LGA	Potential cumulative impact pathways
Wallerawang Battery Energy Storage System (SSD-14540514)	6.2 km north	Approved – MOD submitted	• Construction: 12–24-month period from Q2 2026 (overlaps project construction)	Operation: 2028–2053 (overlaps project construction and operation)	100 (peak)	5	Lithgow City Council	• biodiversity • visual • social and economic
Great Western Highway Blackheath to Little Hartley (SSI-22004371)	10.4 km south-east	On hold	Project on hold with no forecasted timeframe for recommencement		900 (peak) 100 (average)	Unknown	Lithgow City Council, Blue Mountains City Council	• not considered further
Mt Piper Battery Energy Storage System (SSD-50903958)	13.4 km north-west	Approved – not yet constructed	• Construction: 18–24-month period from 2026 (overlaps project construction)	Operation: 2028–2053 (overlaps project construction and operation)	200 (peak)	0 (average) 2 (routine maintenance)	Lithgow City Council	• biodiversity • social and economic
Great Western Battery Energy Storage System (SSD-12346552)	8.3 km north	Approved—not yet constructed	• Construction: 12–16-month period (overlaps project construction)	Operation: 2028–2048 (overlaps project construction and operation)	Unknown	5-6	Lithgow City Council	• biodiversity • social and economic
Wallerawang Quarry (MOD 4) (DA344-11-2001)	4.4 km north	Operational – Modification under assessment		Operation: current –2050 (overlaps project construction and operation)	Unknown	Unknown	Lithgow City Council	• biodiversity
Mount Piper to Wallerawang Transmission Line Upgrade Project (SSI-70279722)	8.5 km north	Proposed – response to submissions	Construction: 20-month period from 2026 (overlaps project construction)		150 (peak) 60 (average)	Unknown Regular maintenance required	Lithgow City Council	• biodiversity • social and economic

Project	Approximate straight-line distance from project	Project status	Indicative construction timing	Indicative operational timing	Indicative construction workforce (average & peak)	Indicative operational workforce (average & peak)	LGA	Potential cumulative impact pathways
Ben Bullen Wind Farm (SSD-79294216)	24 km north-west	Proposed – EIS in preparation	Construction: 12–24-month period from 2028 (overlaps project construction)	Operation: 2030–2065. (overlaps project construction and operation)	200 (peak)	15 FTE	Lithgow City Council	• biodiversity • social and economic
Sunny Corner Wind Farm (SSD-80027992)	15.2 km north-west	Proposed – EIS in preparation	construction: 36-month period from 2027 (overlaps project construction)	Operation: 2032–2062 (overlaps project operation)	475 (peak)	35 (peak)	Lithgow City Council	• biodiversity • visual • social and economic
Mount Lambie Wind Farm (SSD-86097208)	4.9 km west	Proposed – EIS in preparation	construction: 18-month period from 2027 (overlaps project construction)	Operation:2029–2034 (overlaps project construction and operation)	150 (peak)	6–8	Lithgow City Council	• biodiversity • social and economic
Pinecrest Battery Energy Storage System (SSD-83308708)	9.7 km north	Proposed – EIS in preparation	Construction: 18-month period from Q4 2026 (overlaps project construction)	Operation: 2028–2053 (overlaps project construction and operation)	250 (peak)	5	Lithgow City Council	• social and economic
Marrangaroo Quartzite Quarry Extension	2.8 km north	Operational – EIS in preparation for extension of operations		Operation: current–2056 (overlaps project construction and operation)	Unknown	9 FTE	Lithgow City Council	• groundwater
Angus Place Coal Mine (MP06_0021)	10.7 km north	Operational – MOD submitted		Operation: current–2046 (overlaps project construction and operation)	Unknown	Unknown	Lithgow City Council	• biodiversity • water

Project	Approximate straight-line distance from project	Project status	Indicative construction timing	Indicative operational timing	Indicative construction workforce (average & peak)	Indicative operational workforce (average & peak)	LGA	Potential cumulative impact pathways
Mount Piper Power Station (DA80/10060)	13.2 km north-west	Operational – MOD submitted		Operation: current–2040 (overlaps project construction and operation)	N/A	250 (direct and indirect)	Lithgow City Council	• water
Springvale coal mine (SSD-5594)	10.17 km north-east	Operational		Operation: current–2040 (rehabilitation thereafter) (overlaps project construction and operation)	N/A	310 FTE	Lithgow City Council	• water
Springvale Water Treatment Facility (SSD-7592)	9.4 km north	Operational – MOD submitted		Operation: current–unknown (overlaps project construction and operation)	N/A	22	Lithgow City Council	• water
Western Coal Services (SSD-5579)	12.8 km north-west	Operational – MOD submitted		Operation: current–2040 (consent end date) (overlaps project construction and operation)	N/A	Unknown	Lithgow City Council	• water

9.2 Energy transition

Lithgow has identified itself as a key part of the transition to renewable energy. The Lithgow City Council Local Emerging Economy Project (LEEP) (2024) states that Lithgow's existing high voltage transmission infrastructure can provide a link between the Central-West Orana REZ and Sydney. The LEEP plan also identifies Lithgow's natural assets as being well suited to renewable energy generation, with mentions of solar power, pumped hydro, battery storage and green hydrogen production (Lithgow City Council, 2024).

The energy transition towards renewables is being driven by the retirement of ageing coal-fired power stations, the relatively low costs of wind, solar and pumped hydro as replacement technologies, as well as legislation, policies and plans being implemented by the Australian Government and states targeting a net zero emissions future. The last five years has also seen the proliferation of renewable projects across much of NSW. These include solar and wind energy projects, large scale battery and pumped hydro projects.

The community have identified the Mt Piper BESS project should be considered as an alternative to the project, as it is seen as having a lesser potential for social and environmental concerns.

During the Council meeting on 28 October 2024, Council voted against pumped hydro and energy from waste in the Lithgow local government area. There was also an amendment whereby the administration is to prepare workshops on "existing and emerging energy production technologies. That the workshops will provide factual information on the positive and negative aspects of each technology and the potential risks to the broader Lithgow Community."

9.3 Workforce

Based on the project description, more than 20% of the construction workforce would be recruited locally, with 80% constituting non-local hires. This is equal to approximately 120 workers from the region, based off the estimated peak of 600. 80% of the workforce will require accommodation, and the remaining 20% are likely to travel to the project site from the regional area. Travel to the project site from the accommodation camp will be facilitated via shuttle bus from the workforce accommodation (EMM, 2025). The regional workforce will be expected to independently drive to and from the site daily. The project's on-site parking will be sufficient to accommodate workers driving individual light vehicles, with no public roads being used for parking (EMM, 2025).

Nearby projects which may contribute to cumulative impacts relating to a high workforce demand within travelable distances of the project include Wallerawang BESS, Mt Piper BESS, Mount Piper to Wallerawang Transmission Line Upgrade Project, Sunny Corner Wind Farm, Mount Lambie Wind Farm and Pinecrest Battery Energy Storage System. Potential combined impacts may occur. Known peak workforce numbers including the project equal to 2,125 workers, which may exceed the region's immediate capacity to provide workers, depending on timing and what specialisations and skills are required for regional recruitment.

These projects, along with others with similar construction schedules, may also share access along the Great Western Highway, and generate cumulative demand for products and services. Given the community has identified these issues are of importance, per comments in Chapter 6, it is advised that the project liaise with key stakeholders and projects with similar demand to minimise any potential impacts, in alignment with mitigations suggested to resolve relevant impacts under Sections 10.1, 10.4 and 10.5 and 10.6 of this report.

10 Enhancement, mitigation and management

This chapter outlines the mitigation and management strategies designed to address identified social impacts, in addition to the mitigation and management measures identified in other technical studies supporting the EIS (and discussed previously throughout Chapters 7 and 8).

10.1 Community and stakeholder engagement plan

Transparent, honest and upfront engagement was an underlying theme of community feedback on the project. LLP has developed a CSEP for the project to ensure consultation pathways remain open. This includes a project website, a stakeholder register, and other platforms to provide access to information as the EIS progresses. This CSEP would continue to be updated and guide the planning phase of the project (i.e. until a determination is made on the project) as well as future phases (i.e. pre-construction). To manage social impacts through the planning phase, the following is recommended for delivery as part of the CSEP:

- Mechanisms to share key findings of EIS technical studies with the community prior to submission of the EIS, to 'close the loop' on engagement to date, and to:
    - consult on management measures for identified impacts and stakeholders associated with Farmers Creek
    - facilitate a greater understanding of the Aboriginal cultural heritage in the project area and the broader local area via both Aboriginal and public outreach.
- Providing a dedicated central point for information, liaison and relationship management across all Aboriginal Parties affected by the project during planning and construction stages of the project.
- Continuing consultation with surrounding landowners and tourism businesses to address amenity concerns and visual impacts.

Should the project proceed, the following additional community engagement activities are recommended:

- A dedicated Construction CSEP that will include:
    - a 24-hour community hotline as a grievance management mechanism during construction, and dedicated relationship manager/s for adjacent landowners
    - engagement with the broader Aboriginal community such as key-knowledge holders and RAPs. Activities will include holding monthly project briefings to provide updates on project activities and upcoming activities, Aboriginal employment and opportunities to be directly involved in the project
    - notifications to the local community (including business owners) on the timing and frequency of any road closures, over-sized over-mass vehicle movements and other key traffic movements in the local and regional area
    - signage posted at the beginning of key 4wd access routes to Mount Walker denoting any access changes
    - ongoing engagement with stakeholders along the access route, emergency services and bus service providers to reduce the risk of traffic related safety impacts.

- Targeted engagement with service providers, including:
    - NSW Health to confirm capacity of existing services and implement measures such as provision of on-site medical facilities. Focus on GP, hospital and mental health and drug and alcohol services to ensure integration of project workforce health offerings with existing community health resources
    - NSW Police, NSW Ambulance, NSW Fire and Rescue, Rydal RFS and NSW SES to ensure they are aware of potential resource requirements, negotiate provisional arrangements and ensure they are familiar with the site in case of an incident
    - TAFE to align course offerings with project workforce demand, where feasible.
- During detailed design, it is recommended that the project identify objectives for decommissioning, and communicate these to the community.
- Continue to provide a dedicated local engagement resource to strengthen relationships with the community during project planning and construction.

Community responses provided through project engagement provide a key touchpoint for ongoing monitoring of, and identification of efficacy for management frameworks. Regular monitoring or survey is recommended to ensure engagement for the project has been effective.

10.2 Neighbour Agreement Guide

The project's Neighbour Agreement Guide (within Appendix D of the EIS) offers a range of targeted resolutions for eligible neighbours which address issues associated with the project's social impacts, such as:

- enhanced communication around EIS findings, project impacts and benefits
- respite or relocation support for impacted residents
- at-property mitigations including screening and double glazing to reduce landholders experience of impacts related to the whole project area, including the accommodation camp.

Planned adaptation and ongoing co-design of the Neighbour Agreement Guide will assist in addressing the findings of EIS impact assessments, including through ongoing focus on:

- health and wellbeing, including improving access to mental health support through psychologist services
- addressing the needs of local recreation and tourism providers, including the offer of a business viability payment if the business will be impacted by the project.

Monitoring of this program should continue to include strategic review of community engagement plans and policies, timed to align with key project milestones. These reviews should include information on uptake of the program and any outlying claims the program did not address.

10.3 Shared Benefits Program

The project is proposing a Shared Benefits Program to be implemented throughout construction and operation. It is suggested that the program be considered alongside detailed design of the project and be reviewed every 5 years to ensure it can be adapted to changing community needs. It is also suggested that objectives of this program include:

- improving cohesion through local community events, activities and project design outcomes

- funding community events to the region's goals to 'develop a diverse and collaborative visitor economy through the creation of festivals and events in the region and the enhancement of recreational offerings', as outlined in the Lithgow Regional Economic Development Strategy (Department of Regional NSW, 2023)
- providing a simple and accessible application process for any grants
- delivery of direct benefits for local community members affected by the project, including First Nations people, local residents and tourism businesses
- providing legacy benefits for the community, including identification of opportunities for adaptive re-use of project materials and infrastructure, in consultation with Lithgow City Council. Measures may include:
    - walking paths around the lake
    - alternate or enhanced lake access for boats (currently the only formal access is via the recreation park)
    - improvements to the picnic and child play area, e.g. bathrooms, benches, child play area, shade tree planting and more BBQ facilities
    - retention of accommodation camp facilities for future tourism uses, e.g. enhanced amenity blocks for the rec park (which have been identified as an existing weakness of the park by users) or a visitor centre and associated environment and heritage education opportunities
    - a commitment out of the Project's Shared Benefits Program community co-design workshops is to further investigate a project to "incorporate a legacy plan into the design of the proposed Lake Lyell workers camp to offer long term value to communities in need
- related to the above, upgrade of recreation facilities at Lake Lyell, including improved picnic areas and boating infrastructure, is key to enhancement of regional tourism benefits.

Stakeholders involved in contributing to the plan should include a representative sample of members from:

- local residents and businesses
- local and regional community organisations, including sporting, interest and environmental groups
- Lithgow City Council.

The benefit sharing program should be reviewed through annual analysis of grants provided and their effect, and any community feedback on accessibility of benefits from the plan.

10.4 Workforce management plan

To manage potential social impacts and benefits associated with the influx of workers to Lithgow, it is recommended that a Workforce Management Plan is prepared. The workforce management plan would:

- document services to be provided to workers and strategies for supporting workers, including:
    - mental health support
    - project provision of attractive employment opportunities for nurses to service the project workforce

- project bus services facilitating access from site to Lithgow to prevent safety concerns such as drunk or sleep-deprived driving, particularly prior to the establishment of the accommodation camp
- ensure all staff have access to phone and internet services at the accommodation camp
- drug and alcohol testing and an established project safety response

- document expectations around worker behaviour through a Worker Code of Conduct, as well as services to be provided to workers and strategies for supporting workers including mental health support
- include a workforce accommodation strategy to secure worker accommodation that enhances project benefits for local accommodation suppliers, without negatively influencing capacity available to tourists and visitors. To prevent impacts on key visitor markets the project should, where possible, avoid accommodating the project workforce away from the accommodation camp during peak periods including holidays and weekends. The strategy should also avoid use of rental housing and be prepared in collaboration with local and regional service providers, and with consideration of demand associated with nearby mines and potential future projects. This is to be determined through engagement with these stakeholders
- set targets to support and enhance recruitment of workers from the regional and local areas of more than 20% of employees within 1-hour drive of the project area
- consider long term partnership opportunities with schools and tertiary institutions, such as TAFE, to support employment targets and upskill local workers. Upskilling opportunities may be enhanced by:
  - training for former and/or displaced mining industry workers, as well as local young people in partnership with education and training providers
  - contribution to skills and training initiatives that support other local industry strengths. This contribution to the development of transferrable skillsets within the local labour force may represent a strong legacy outcome from the project's 80-year operation
- target key local skillsets expected to be available within the region and relevant to the project, including but not limited to:

  Construction and demolition

  - plant and labour resources for installation (cranes, excavators, graders)
  - plant and labour resources for demobilisation
  - landscaping services as part of installation and after demobilisation
  - labour for concreting / plumbing / electrical / fencing works
  - supply of materials (quarry products, concrete, timber, general fixings)
  - CCTV supply and install
  - security and waste services
  - worker village catering, cleaning and maintenance

Operation

- staff (kitchen, cleaning, asset management, administration / reception)
- supplies (food and beverage, etc.)
- dry-cleaning/linen laundering
- maintenance services
- bus shuttles (to and from site / bus station)
- security

- provide a detailed overview of baseline employment in the Lithgow region to affirm the balance of labour supply from inside the region, outside the region and drive-in drive-out or fly-in fly-out, as well as the adjustment of the overall labour market to respond to increased demand, e.g. increased labour force participation." The Workforce Management Plan should appropriately moderate these impact pathways and avoid undue impact through engagement with potentially vulnerable members of the community to identify detailed potential for impact and avoidance measures. It is noted that this is particularly the case for local trades.

Given demographic data provided in the SIA social baseline also indicates vulnerabilities for low-income earners in Lithgow and Bowenfels, the project workforce strategy may also be prepared in partnership with local employment agencies to identify and target employment opportunities for vulnerable residents, thus improving related social dynamics, such as targeted opportunities for education and enhanced income.

10.5 Procurement and employment strategy

It is recommended that a procurement and employment strategy is developed alongside detailed design and delivery that:

- is prepared in consultation with Council and local and regional businesses and Business Chambers
- targets for local and regional suppliers for project procurement opportunities, where the relevant skillsets are available, and local procurement would not result in a lack of availability to meet local demand
- includes regular project updates for local and regional businesses on opportunities and tenders, including on timelines and upcoming procurement opportunities
- aligns with the workforce management plan to support trades traineeships with existing local businesses, to increase overall regional availability following the culmination of the construction phase of the project
- targets local recruitment and recruitment of a workforce with diverse skills, age and gender. A suggested target is 30% local procurement during the construction phase of the project
- supports training and education opportunities to upskill locally hired workers, in both construction and operation of the project.

10.6 Industry and Aboriginal Participation Plan

To confirm the project's commitments for increasing employment and income opportunities for Aboriginal peoples and communities (in line with the NSW Electricity Infrastructure Roadmap), it is recommended that an Industry and Aboriginal Participation Plan (IAPP) is prepared. The IAPP should be aligned with the procurement strategy and workforce management plan, and prepared in consultation with Aboriginal stakeholders.

It is proposed that further enhancement measures are explored in the IAPP, including consideration of partnerships with Aboriginal employment providers and TAFE to understand and address the training needs of Aboriginal employees.

The project should provide periodic progress reports on the commitments made in the IAPP to the local Aboriginal community and the broader community throughout the life of the project.

10.7 Public access and awareness

Public access to Lake Lyell and Mount Walker for recreation will be maintained throughout construction and operation of the project. However, there will be certain measures needing to be implemented to ensure site safety and public safety, during construction and operation.

To manage potential impacts on recreational users on Lake Lyell and the access trails leading to Mount Walker and Marrangaroo National Park, it is recommended appropriate signage and notification is provided to the community. This includes:

- implement signage and a notification process for any changes to public access due to construction or road works
- implement new hazard signs around the lake, including signage indicating the lake is subject changing water levels and signage of any access restrictions (such as restrictions to the intake structure).

Any notifications should also form part of the CSEP for the project.

10.8 Summary of mitigation and management strategies by impact

Table 10.1 provides identifiers for each of the management strategies described in the previous sections. These measures are considered appropriate to mitigate the social impacts identified in this assessment and enhance any benefits of the project. Further opportunities should be explored with the contractor, should the project proceed, to further minimise residual risks of the project.

Table 10.1 Reference table for mitigation measures

Mitigation measure ID	Mitigation measure	Reference to mitigation description
SIA01	Implementation and update of Community and Stakeholder Engagement Plan	Section 10.1
SIA02	Implementation of Neighbour Agreement Guide	Section 10.2
SIA03	Development and implementation of Community Benefits Sharing Program	Section 10.3
SIA04	Development and implementation of Workforce Management Plan	Section 10.4
SIA05	Development and implementation of Procurement Strategy	Section 10.5

Mitigation measure ID	Mitigation measure	Reference to mitigation description
SIA06	Development and implementation of Industry and Aboriginal Participation Plan	Section 10.6
SIA07	Public access and awareness	Section 10.7

A summary of the identified social impacts along with the corresponding perceived stakeholder risk rankings and mitigated technical risk rankings (as assessed in Chapters 7 and 8) is provided in Table 10.2. Mitigation measures include those recommended by other EIS technical studies, as referenced in the relevant assessments in Chapters 7 and 8.

As separate impacts and ratings have been identified should the Town camp be selected, a summary of these impacts and mitigations are presented in Table 10.3.

Table 10.2 Summary of mitigation and management strategies by impact – project with Lakeside camp

ID	Matter (Impact on people)	Duration / project phase	Perceived impact and benefit (Unmitigated / Unenhanced)	Proposed mitigation and management measures specific to the SIA	Residual impact and benefit significance (Mitigated / Enhanced)
Decision-making systems					
D01	Community dissatisfaction with planning and approval process (Negative)	Planning	High	• SIA01 –sharing findings of EIS technical studies and providing ongoing updates to the community	Medium
Community					
Co01	Alteration of community composition and character due to workforce influx (Negative)	Construction	Very high	• SIA01 – including initiatives to contribute to maintain social cohesion • SIA03 – including addressing specific needs of the local area • SIA04 and SIA05 – providing for the upskilling and training of local workers, worker code of conduct and site safety rules, incentivising local and regional businesses • Encourage volunteerism and community involvement	High
Co02	Loss of community cohesion due to distrust and conflicting views on the project (Negative)	Planning Construction	Very high	• SIA01 – appointing a dedicated Aboriginal Engagement Advisor to act as a central point for information, and a dedicated local communication resource for the site • SIA02 – adaptation and ongoing co-design of the Neighbour Agreement Guide to address the findings of EIS impact assessments and targeting enhanced local community cohesion	Medium
Way of life					
W03	Visual impacts of the proposed upper reservoir and supporting infrastructure affecting community sense of place (Negative)	Construction Operation	Very high	• SIA01 – ongoing consultation with surrounding landowners to address amenity concerns and visual impacts • SIA02 – providing neighbour agreements for impacted landowners in accordance with the Neighbour Agreement Guide	High
W04	Impeded access to water due to water quantity and quality impacts (Negative)	Construction Operation	High	• SIA01– ongoing consultation with recreational users • SIA07 – public access for recreation will be maintained • Applying the mitigation measures described in the SWA, including the project operating principles	Low

ID	Matter (Impact on people)	Duration / project phase	Perceived impact and benefit (Unmitigated / Unenhanced)	Proposed mitigation and management measures specific to the SIA	Residual impact and benefit significance (Mitigated / Enhanced)
W05	Changes to quality of life and rural lifestyle values caused by amenity impacts (Negative)	Construction	High	• SIA01 – including provision of a 24-hour community hotline as a grievance management mechanism during construction and dedicated relationship manager/s for adjacent landowners. • SIA02 – applying the Neighbour Agreement Guide • Applying the mitigation measures from the NVIA and AQIA • Managing amenity impacts through relevant construction management plans in alignment with Neighbour Agreements	High
W06	Change to water quality and water levels affecting recreation values and use associated with operation of the PHES (Negative)	Construction Operation	Medium	• SIA01– ongoing consultation with recreational users and management of safety concerns • SIA03 – pursue lake recreation enhancement opportunities • SIA07 – public access for recreation will be maintained and provision of new signage • Applying the mitigation measures described in the Surface Water Assessment, including the project operating principles	Low
W07	Operational noise and dust resulting in disruption to local residences and businesses (Negative)	Operation	Low	• SIA01 – sharing information on impacts	Negligible
Surroundings					
S01	Diminished enjoyment of the natural environment of Mount Walker (Negative)	Construction Operation	High	• Applying the mitigation measures from the LVIA and BDAR	Medium
S02	Impact on scenic and environmental values due to construction activities in and around Farmers Creek (Negative)	Construction Operation	High	• SIA01 - sharing information and impacts and consulting with community • Applying the mitigation measures from the LVIA, BDAR Aquatic Ecology Assessment.	Medium

ID	Matter (Impact on people)	Duration / project phase	Perceived impact and benefit (Unmitigated / Unenhanced)	Proposed mitigation and management measures specific to the SIA	Residual impact and benefit significance (Mitigated / Enhanced)
S03	Land use conflicts and loss of amenity to allow for workforce accommodation (Negative)	Construction	Medium	• Applying the mitigation measures from the LVIA and SULRA • SIA03 – exploring opportunities for adaptive reuse of the site, including improvement of amenities at the Recreation Park, in consultation with Lake Lyell Recreation Park and Council	Low
S04	Concerns regarding plans for site rehabilitation (Negative)	Decommissioning	High	• SIA01 – identify minimum standards for decommissioning and communicate these to the community • SIA03 – exploring opportunities for adaptive reuse of the site	Medium
Culture					
Cu01	Direct impacts to Aboriginal cultural heritage values, including impacts to heritage items and sites (Negative)	Life of project	High	• Applying the mitigation measures from the Aboriginal Cultural Heritage Assessment, including enabling ongoing access to the site for Aboriginal stakeholders, where feasible • SIA01 – continued Aboriginal engagement	High
Cu02	Landscape changes and changes to access affecting cultural connections to place (Negative)	Construction Operation	High	• Applying the mitigation measures from the ACHA, including enabling ongoing access to the site for Aboriginal stakeholders, where feasible • SIA01 – continued Aboriginal engagement	Medium
Access					
A01	Changed recreational use and access to Mount Walker and sections of Farmers Creek (Negative)	Construction Operation	Medium	• SIA07 – continued public access, including NPWS, RFS, and 4WD recreation	Low
A02	Reduced access for nearby neighbours due to increased traffic and road upgrade works (Negative)	Construction	High	• SIA01 – providing advanced notifications to the local community on access conditions • Applying the mitigation measures from the TIA	Low
A03	Altered and reduced public access to Lake Lyell and Mount Walker (Negative)	Construction Operation	High	• SIA01 – providing advanced notifications to the local community on access conditions • SIA07 – providing appropriate signage	Medium

ID	Matter (Impact on people)	Duration / project phase	Perceived impact and benefit (Unmitigated / Unenhanced)	Proposed mitigation and management measures specific to the SIA	Residual impact and benefit significance (Mitigated / Enhanced)
A04	Continued access to Lyell for recreation during project operation (Positive)	Operation	High	• This benefit does not require enhancement	High (no change)
A05	Changed local access to health and community services during construction (Negative)	Construction	Low	• SIA01 – Plan for engagement with all service providers including NSW Health, NSW Police, NSW Ambulance, NSW Fire and Rescue, Rydal RFS and NSW SES and TAFE NSW • SIA04 – a workforce management plan that documents services to be provided to workers and strategies for supporting workers	Negligible
A06	Increased competition affecting access to rental and short stay accommodation (Negative)	Construction	High	• SIA04 - including a workforce accommodation strategy to secure benefits for local accommodation suppliers, without affecting capacity for tourists or renters in collaboration with service providers, nearby mines and potential future projects	Low
A07	Improved access, stability and sustainability of the energy network (Positive)	Operation	Medium	• SIA01 – continued communication and engagement will strengthen stakeholder understanding of the project need	Medium (No change)
Health and wellbeing					
HW01	Mental health of local stakeholders and First Nations people affected by uncertainty and potential for loss of livelihood, amenity, and personal agency (Negative)	Planning	High	• SIA01 –ongoing engagement with Aboriginal stakeholders and the broader community through monthly project briefings and updates • SIA02 –including a focus on health and wellbeing	Medium
HW02	Community safety and wellbeing risks due to construction activities and road upgrade works (Negative)	Construction	High	• SIA01 – ongoing engagement with impacted stakeholders and service providers, and advanced notification procedures • SIA04 – worker policies • Applying the mitigation measures from the TIA	High

ID	Matter (Impact on people)	Duration / project phase	Perceived impact and benefit (Unmitigated / Unenhanced)	Proposed mitigation and management measures specific to the SIA	Residual impact and benefit significance (Mitigated / Enhanced)
HW03	Community safety and wellbeing risks during construction and operation of the reservoir and intake (Negative)	Construction Operation	Medium	• Project design exclusion measures (lake diversion, floating boom) • SIA07 – hazard signage	Low
HW04	Perceived diminishment of community wellbeing due to the influx of the non-local workforce (Negative)	Construction	Medium	• SIA01 – including provision of a 24-hour community hotline as a grievance management mechanism during construction and dedicated relationship manager/s for adjacent landowners • SIA04 – a workforce management plan that enhances local recruitment, includes a Worker Code of Conduct and services to be provided to workers • SIA02 –measures for visual and noise affected landowners in accordance with Neighbour Agreement Guide • Ensuring site security fencing and signage, in alignment with the CEMP	Low
Livelihoods					
L01	Potential for loss of income to tourism businesses (Negative)	Construction Operation	High	• SIA01 – including targeted initiatives to keep the community and accommodation service providers informed as the project progresses • SIA02 – Ongoing implementation of the Neighbour Agreement Guide • SIA03 –Community Benefit Sharing Program initiatives • A benefit of roadworks required by the TIA will be long-term access to recreational and tourism areas through road upgrades and improved conditions • A reduction in conditions leading to algal blooms as a result of the project would significantly improve the accessibility and safety of recreational use of the lake	Low
L02	Reduced ability for near neighbours to use or gain value from their land (Negative)	Construction Operation	Medium	• SIA02 – Ongoing implementation of the Neighbour Agreement Guide	Low
L03	Procurement and competition for skilled local workers affecting the availability of workers and resources in the regional area (Negative)	Construction	Medium	• SIA04 and SIA05 – Preparation of the workforce management plan and Procurement strategy with consideration of existing trends, availability, capacity and vulnerability with regards to the local and regional labour force	Low

ID	Matter (Impact on people)	Duration / project phase	Perceived impact and benefit (Unmitigated / Unenhanced)	Proposed mitigation and management measures specific to the SIA	Residual impact and benefit significance (Mitigated / Enhanced)
L04	Construction employment and training opportunities for residents in the regional area (Positive)	Construction	Low	• SIA04 – targets to enhance recruitment of regional and local workers, including opportunities to upskill local workers	Medium
L05	Operational employment and training opportunities for residents in the regional area (Positive)	Operation	Low	• SIA04 and SIA05 – Regional procurement and training opportunities and initiatives. Contribution to skills and training initiatives that support other local industry strengths. This contribution to the development of transferrable skillsets within the local labour force may represent a strong legacy outcome from the project's 80-year operation	High
L06	Indigenous employment, training and business opportunities (Positive)	Construction Operation	Low	• SIA06 –an IAPP in consultation with aboriginal stakeholders	High
L07	Business opportunities for residents in the regional area (Positive)	Construction	Medium	• SIA05 – targets local and regional procurement, in consultation with key business stakeholders	High

Table 10.3 Summary of mitigation and management strategies by impact – Town camp

ID	Matter (Impact on people)	Duration / project phase	Perceived impact and benefit (Unmitigated / Unenhanced)	Proposed mitigation and management measures specific to the SIA	Residual impact and benefit significance (Mitigated / Enhanced)
Community					
Co03	Alteration of community composition and character due to workforce influx (Negative)	Construction	High	• SIA04 –a workforce management plan with clear safety and worker standards, including appealing private open space within the Town camp, opportunities for workers to participate in local community	Medium
Way of life					
W06	Reduced residential amenity associated with changing use of the Town camp land (Negative)	Construction	High	• SIA01 – ongoing and responsive engagement in particular with residents of Sheedy's Gully and Pottery Estate • Applying mitigation measures from relevant technical studies and the CEMP	Medium
Surroundings					
S05	Potential for impacts to local environment values associated with Town camp construction (Negative)	Construction	Medium	• Applying the mitigation measures from the LVIA with regard to the detailed design of the Town camp • Applying the mitigation measures outlined in the BDAR to avoid and minimise impacts to local flora and fauna	Low
Culture					
Cu03	Potential for impacts to local environment values associated with Town camp construction (Negative)	Construction	High	• SIA03 – identification of opportunities for the Town camp to provide legacy and community benefits • Applying the mitigation measures from the SoHI, and considering opportunities to enhance educational benefits of heritage finds on the site through conservation, signage, reporting and display	Medium
Health and wellbeing					
HW05	Changes to traffic movements related to the Town camp option creating road safety risks (Negative)	Construction	Medium	• SIA01 – ongoing and responsive engagement in particular with residents of Sheedy's Gully and Pottery Estate • Applying the mitigation measures from the TIA, including Driver Code of Conduct	Low

ID	Matter (Impact on people)	Duration / project phase	Perceived impact and benefit (Unmitigated / Unenhanced)	Proposed mitigation and management measures specific to the SIA	Residual impact and benefit significance (Mitigated / Enhanced)
Livelihoods					
L08	Workforce influx (at the Town Camp) supporting the Lithgow economy (Positive)	Construction	Low	• SIA01 – including initiatives to contribute to maintain social cohesion • SIA03 – including addressing specific needs of the local area • SIA04 and SIA05 – providing for the upskilling and training of local workers, worker code of conduct and site safety rules, incentivising local and regional businesses	Medium

11 Conclusion

This SIA identifies and evaluates the potential social impacts and benefits of the project. The SIA was completed in compliance with applicable legislation and guidelines, including the SIA Guideline (DPIE, 2023a) and Technical Supplement (DPHI, 2025) and the SEARs specific to the project.

The SIA study areas were defined to reflect the geographic distribution of different types of social impacts and benefits. The local study areas include communities which directly surround the project and are most likely to experience direct social impacts, the urban area was identified as Lithgow, and the regional study area was Lithgow LGA where broader socio-economic effects may be felt. This regional area sits within the broader area of reference (NSW).

Through primary and secondary research, this SIA has sought to identify social impacts and benefits associated with the construction and operation of the project. The project will have various social impacts and benefits, accruing particularly in the local area but also in the key urban areas and regional study area.

The communities of the rural (Rydal, Bowenfels, South Bowenfels, and Marrangaroo) and urban (Pottery Estate, Sheedys Gully, Littleton, South Littleton localities and Lithgow suburb) local areas will most likely experience direct social impacts associated with the project due to its recreational importance and existing values placed on amenity. Such social impacts include those related to the local environment, community cohesion, mental health, amenity (i.e. dust, noise, and visual amenity), traffic and road safety, demands on social infrastructure and services, housing and accommodation and culture impacts.

The urban local area population is nearly double that of the population present in the regional local area. The rural local area demonstrates a relatively higher presence of vulnerability associated with age, mental health, income, employment and education. As outlined in the Baseline data, South Bowenfels demonstrates a particularly high vulnerability, and a higher proportion of Aboriginal and Torres Strait Islander people.

Key differences between the Town camp and Lakeside camp accommodation options are:

- Lakeside camp impacts and benefits are related to:
  - significant amenity impacts for a small number of local residents and a high number of Lake Lyell recreation users and visitors, with potential for associated impacts to local tourism businesses. The temporary development density is also very different to existing local character
  - benefits to the workforce associated with access to the lake
  - significant changes to local demographic characteristics because of workforce influx, though there would likely be less intersection of the workforce and local community, as there are fewer social opportunities
  - existing vulnerability of the local population, which may be compounded by other project impacts.
- Town camp impacts and benefits are related to:
  - moderate amenity impacts to a larger number of local residents and some visitors to Pottery Estate associated with arts and history interest groups. The development density is more similar to existing local character, but will still be more dense than nearby single dwellings
  - benefits to the workforce and Lithgow businesses associated with access to local shops and services
  - moderate changes to local demographic characteristics because of workforce influx, with more opportunities for social mixing outside of the site

- cultural impacts related to the State heritage significance of the site and use of 4 Silcock Street as an arts hub
- Traffic and road safety risks associated with journey through Lithgow.

Both options will result in changes to local social values.

The key urban area (Lithgow City) and in the regional area (Lithgow LGA) may experience more indirect impacts associated with community cohesion, visual amenity, enjoyment of the natural environment, accommodation demand, tourism, culture, safety, housing and accommodation, business and industry opportunities and employment, along with cumulative impacts arising from the history and baseline context of the area, and other projects in the region.

Identified social impacts and benefits were assessed according to their relative level of significance.

Social benefits of the project relate to:

- construction employment and training opportunities for residents in the regional area
- business opportunities for residents in the regional area
- business, employment and training opportunities for Aboriginal people in the area
- operational employment and training opportunities for residents in the regional area
- improved sustainability and stability of the energy network and support for transition to renewable energy, with resulting benefits for climate change
- ensuring a long-term purpose and recreational availability of Lake Lyell
- repurpose of construction village buildings for affordable housing
- road condition and safety improvement to some local roads.

Key negative social impacts with high residual significance following mitigation include:

- visual impacts of the proposed Mount Walker reservoir and supporting infrastructure affecting community
- changes to quality of life and rural lifestyle values caused by amenity impacts
- direct impacts to Aboriginal culture and heritage, including impacts to heritage items and sites
- community safety and wellbeing risks due to construction activities and road upgrade works
- alteration of community composition and character due to influx of non-local workforce.

To address these challenges, the project has committed to a range of mitigation and management measures presented in Chapter 10. LLP's adaptive management approach ensures flexibility to respond to community feedback, refine strategies, and continuously improve to achieve intended social outcomes. Ongoing community and stakeholder engagement, clear communication and collaboration with stakeholders are central to this process and commitment.

The SIA provides a framework to guide the project's management of social impacts, risks and opportunities, ensuring the project can support community wellbeing while securing Australia's sustainable energy solutions.

A summary of impacts and benefits and their associated level of significance is provided in Table 11.1.

Table 11.1 Impact and benefit summary

ID	Matter (Impact on people)	Duration	Affected parties	Extent	Residual impact or benefit significance (Mitigated or Enhanced)
Project area					
Decision-making systems					
D01	Community dissatisfaction with planning and approval process (Negative)	Project planning and approvals	Nearby neighbours	Local area	Medium
Community					
Co01	Alteration of community composition and character due to workforce influx (Negative)	Construction	Local community	Local area	High
Co02	Loss of community cohesion due to distrust and conflicting views on the project (Negative)	Project planning and approvals	Residents of the local and regional areas	Regional area	Medium
Way of life					
W01	Visual impacts of the proposed upper reservoir and supporting infrastructure affecting community sense of place (Negative)	Construction Operation	Local communities Traditional Owners and Aboriginal communities	Local area/s Key urban area	High
W02	Impeded access to water due to water quantity and quality impacts (Negative)	Construction Operation	Nearby neighbours Broader community Local businesses Recreational users of Lake Lyell Agricultural water users	Local area	Low
W03	Changes to quality of life and rural lifestyle values caused by amenity impacts (Negative)	Construction	Nearby neighbours Accommodation providers	Local area	High
W04	Change to water quality and water levels affecting recreation values and use associated with operation of the PHES (Negative)	Construction Operation	Nearby neighbours Broader community Recreational users of Lake Lyell, Farmers Creek and the Coxs River	Local area, regional area	Low

ID	Matter (Impact on people)	Duration	Affected parties	Extent	Residual impact or benefit significance (Mitigated or Enhanced)
W05	Operational noise and dust resulting in disruption to local residences and businesses (Negative)	Operation	Nearby neighbours and accommodation providers	Local area	Negligible
Surroundings					
S01	Diminished enjoyment of the natural environment of Mount Walker (Negative)	Construction Operation	Residents Recreational users Broader community	Local area	Medium
S02	Impact on scenic and environmental values due to construction activities in and around Farmers Creek (Negative)	Construction Operation	Local residents Recreational users Environmental groups, Wiradjuri Peoples	Local area	Medium
S03	Land use conflicts and loss of amenity to allow for workforce accommodation (Negative)	Construction	Nearby neighbours Accommodation providers Recreational users of Lake Lyell	Local area	Low
S04	Concerns regarding plans for site rehabilitation (Negative)	Decommissioning	Current and future residents of the region	Regional area	Medium
Culture					
Cu01	Direct impacts to Aboriginal cultural heritage values, including impacts to heritage items and sites (Negative)	Life of project	Local Aboriginal groups	Local and regional area	High
Cu02	Landscape changes and changes to access affecting cultural connections to place (Negative)	Construction Operation	Aboriginal groups	Local area	Medium
Access					
A01	Changed recreational use and access to Mt Walker and sections of Farmers Creek (Negative)	Construction Operation	Recreational users of Mt Walker and Farmers Creek	Regional area	Low
A02	Reduced access for nearby neighbours due to increased traffic and road upgrade works (Negative)	Construction	Nearby neighbours	Local area	Low

ID	Matter (Impact on people)	Duration	Affected parties	Extent	Residual impact or benefit significance (Mitigated or Enhanced)
A03	Altered and reduced public access to Lake Lyell and Mount Walker (Negative)	Construction Operation	Broader community, recreational users of Mount Walker and Lake Lyell	Regional area	Medium
A04	Continued access to Lyell for recreation during project operation (Positive)	Operation	Broader community	Regional area	High
A05	Changed local access to health and community services during construction (Negative)	Construction	Broader community Vulnerable members of local community, particularly people with long-term health conditions and the Aboriginal and Torres Strait Islander community	Regional area	Negligible
A06	Increased competition affecting access to rental and short stay accommodation (Negative)	Construction	Broader community Vulnerable community members, including low-income earners, homeless people, and Aboriginal and/or Torres Strait Islander Peoples	Local area Regional area	Negligible
A07	Improved access, stability and sustainability of the energy network (Positive)	Operation	Energy users connected to the grid	NSW	Medium
Health and wellbeing					
HW01	Mental health of local stakeholders and First Nations people affected by uncertainty and potential for loss of livelihood, amenity, and personal agency (Negative)	Project planning and approvals	Near neighbours Traditional Owners and Aboriginal communities Local businesses	Local area	Medium
HW02	Community safety and wellbeing risks due to construction activities and road upgrade works (Negative)	Construction	Near neighbours	Local area, particularly near neighbour properties, key urban area	High
HW03	Community safety and wellbeing risks during construction and operation of the reservoir and intake (Negative)	Construction Operation	Regional community Recreational users	Project area	Low

ID	Matter (Impact on people)	Duration	Affected parties	Extent	Residual impact or benefit significance (Mitigated or Enhanced)
HW04	Perceived diminishment of community wellbeing due to the influx of the non-local workforce (Negative)	Construction	Local community Near neighbours	Local area	Low
Livelihoods					
L01	Potential for loss of income to local tourism businesses (Negative)	Construction Operation	Local tourism and accommodation providers	Local area, broader community	Low
L02	Reduced ability for near neighbours to use or gain value from their land (Negative)	Construction Operation	Nearby neighbours Accommodation providers	Local area	Low
L03	Procurement and competition for skilled local workers affecting the availability of workers and resources in the regional area (Negative)	Construction	Small businesses and vulnerable members of the community, including low-income earners, Aboriginal and Torres Strait Islander People and young families	Regional area	Low
L04	Construction employment and training opportunities for residents in the regional area (Positive)	Construction	Broader community	Regional area	Medium
L05	Operational employment and training opportunities for residents in the regional area (Positive)	Operation	Broader community	Regional area	High
L06	Indigenous employment, training and business opportunities (Positive)	Construction	Indigenous stakeholders and businesses	Regional area	High
L07	Business opportunities for residents in the regional area (Positive)	Construction Operation	Broader community Local businesses	Key urban area Regional area	High
Town camp area					
Community					
Co03	Alteration of community composition and character due to workforce influx (at the Town camp) (Negative)	Construction, operation and decommissioning of the Town camp	Near neighbours (Town camp) Regional businesses – Regional area Urban local community, including service users, businesses and shopping centre	Local area – Urban Regional area	Medium

ID	Matter (Impact on people)	Duration	Affected parties	Extent	Residual impact or benefit significance (Mitigated or Enhanced)
Way of life					
W06	Reduced residential amenity associated with changing use of the Town camp land (Negative)	Construction, operation and decommissioning of the Town camp	Near neighbours in Silcock Street, Bent Street and Hill Street Local community	Local area – Urban	Medium
Surroundings					
S05	Potential for impacts to local environment values associated with Town camp construction	Town camp construction, operation and decommissioning	Near neighbours in Silcock Street, Bent Street and Hill Street Local community Key Urban Area community Regional community	Local area – Urban Key urban area Regional area	Low
Culture					
Cu03	Potential for impacts to local environment values associated with Town camp construction (Negative)	Construction, operation and decommissioning of the Town camp	Local community groups, including Pottery Estate artists collective, rural fire services and NSW SES Regional community State heritage, development and pottery interest groups	Local area Regional Area State of NSW	Medium
Health and Wellbeing					
HW05	Changes to traffic movements related to the Town camp option creating road safety risks (Negative)	Construction, operation and decommissioning of the Town camp	Road users Children commuting via school bus Pedestrians	Broader community	Low
Livelihoods					
L08	Workforce influx (for the Town camp) supporting the Lithgow economy (Positive)	Operation of the Town camp	Residents of the key urban area	Key urban area	Medium

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Acronyms and terminology

Acronym	Meaning
ABS	Australian Bureau of Statistics
ACHA	Aboriginal Cultural Heritage Assessment
AHRC	Australian Human Rights Commission
BESS	Battery energy storage system
BDAR	Biodiversity Development Assessment Report
BOCSAR	Bureau of Crime Statistics and Research
BRA	Bushfire Risk Assessment
CSSI	Critical state significant infrastructure
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPHI	Department of Planning, Housing and Infrastructure
ECVT	emergency, cable, and ventilation tunnel
EIS	Environmental Impact Statement
EMM	EMM Consulting Pty Ltd
EnergyAustralia	EnergyAustralia NSW Pty Ltd
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
FSL	Full Supply Level
Ha	Hectares
HV switchyard	High voltage switchyard
IAIA	International Association for Impact Assessment
IEO	Index of Education and Occupation
IER	Index of Economic Resources
IFC	International Finance Corporation
IRSAD	Index of Relative Socio-Economic Advantage and Disadvantage
IRSD	Index of Relative Socio-Economic Disadvantage
km	Kilometres
kV	Kilovolts
Lakeside camp	Preferred lakeside accommodation camp located to the south of the project off Magpie Hollow Road
LALC	Local Aboriginal Land Council
LGA	Local Government Area
LRA	Land and Rehabilitation Assessment

Acronym	Meaning
LU	Land use
LVIA	Landscape and Visual Impact Assessment
MAT	main access tunnel
MW	megawatts
MWac	Mega-watts, alternating current
NSW	New South Wales
NVIA	Noise and Vibration Impact Assessment
PHES	Pumped Hydro Energy Storage Scheme
PHN	Primary Health Network
RAP	Registered Aboriginal Party
SAL	Suburbs and Localities
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Areas
SES	State Emergency Service
SIA	Social impact assessment
SIA Guideline 2023	Social Impact Assessment Guideline for State Significant Projects
SIA Guideline 2025	Social Impact Assessment Guideline for State Significant Projects – updated July 2025
SIA Technical Supplement 2023	Technical Supplement: Social Impact Assessment Guideline for State significant Projects
SIA Technical Supplement 2025	Technical Supplement: Social Impact Assessment Guideline for State significant Projects – updated July 2025
SSC	state suburb classification
SSD	State significant development
SSI	State significant infrastructure
SUA	Significant Urban Area
the project	Lake Lyell Pumped Hydro
Town camp	The alternative accommodation camp located off Silcock Street in Lithgow (Pottery Estate)
TIA	Traffic Impact Assessment

Annexure A

Author's curricula vitae

EMM
creating opportunities

Samantha McCrea

Associate Director Social Scientist
EMM Consulting Pty Limited

Professional Overview

Samantha is a seasoned social performance and consulting leader, having worked across Australia and Asia for over ten years collaborating with a range of companies from financial institutions through to private sector mining, oil and gas and renewables companies. She has over 20 years' experience focused on consulting, specializing in the consideration of community impacts, human rights and modern slavery, green energy transition, stakeholder engagement and social risk management.

Qualifications and licences

Master of Science (Environmental Technology), Imperial College London, 1999-2000

Bachelor of Engineering (Chemical Engineering), University College London, 1994-1998

Specialisation

Social Performance

Business Development

Project Leadership

Stakeholder Management

People Leadership & Development

Sustainability/ESG Advisory

Representative experience

Fortescue Energy, Global Social Performance Manager

- Responsible for leading the governance and compliance aspects of our global developments with respect to communities; this role required a high level of collaboration across all sustainability and project functions. Key responsibilities included development, implementation training of "S" standards and guidance notes for all global projects across the business. Design of corporate community investment and funding processes and oversight of corporate stakeholder relations.

JLL Asia Pacific, Energy & Sustainability Solution Lead

- Led the business development activities for the sustainability team with a focus on decarbonization and ESG across south-east Asia within the real estate sector. Responsibilities included collaborating with APAC business functions and existing clients to identify ESG opportunities, lead the development of proposals and track sales and opportunities pipeline.

ERM Indonesia, APAC Social Performance Partner

- Responsible for the implementation of projects led by ERM in Indonesia and South East Asia for a range of sectors including renewables, power, financial, mining and oil and gas. Samantha led a team of 20 plus social performance consultants and was responsible for business operations and performance in Indonesia. Her role entailed advising a range of lenders and developers on project development, to ensure community risks were identified and mitigated to acceptable levels that adhere to relevant international standards whilst managing reputation risks. She also was the businesses' social performance lead for Asia Pacific, advising clients on specialized matters to embed and operationalize sustainability into business and build the regional team's capacity. She worked closely with multinational clients including Engie, Shell, Chevron, Freeport McMoran, Macquarie Group, ANZ, IFC and Sinarmas as well as numerous government entities, research and lobbying bodies (including the Indonesian Business Council for Sustainable Development) and NGOs. I also held the role of sustainability lead internally across Asia Pacific, executing and driving the development of action plans, sustainability initiatives and employee awareness across ten countries.

ERM Australia, Australia Social Performance Lead

- Responsible for the delivery of a range of social studies across Australia and South East Asia for mining, power and oil and gas clients. Key clients included Rio Tinto, BHP Billiton, Woodside, BG, Origin and Wesfarmers all seeking approvals as well as to mitigate reputational issues and ESG impacts. Sam frequently participated and led numerous assessments, stakeholder consultation activities and due diligence projects across the region identifying risks, outlining actions to address risks and monitoring their implementation. She was accountable for the West Australian business KPIs, managing commercial aspects, leading existing and new client accounts as well as people recruitment and development and thought leadership with the industry.



Breannan Dent

Senior Social Planner
EMM Consulting Pty Limited

Professional Overview

Breannan is a Senior Social Planner with 8 years' experience in urban planning and community engagement.

With a track record of robust research and a comprehensive understanding of planning policy, Breannan can distil complex information into simple and approachable documents and conversations.

Breannan has managed and delivered planning proposals, new local planning controls and community engagement strategies.

Breannan taps into existing expertise and opportunities by fostering collaborative relationships through genuine interest and integrity.

Breannan's outstanding customer focus, intrapersonal skills, problem solving skills and work ethic have allowed her to support her colleagues in delivering future-focused projects with excellent design, sustainability and resilience outcomes for the community.

Qualifications and licences

Masters of Urban Management and Planning, University of Western Sydney, 2014

Bachelor of Social Science, University of Western Sydney, 2013

Major in Urban Geography, University of Western Sydney, 2013

Sub-Major in Peace and Development Studies, University of Western Sydney, 2013

Specialisation

Social Impact Assessment

Community and Stakeholder Engagement

Statutory Planning

Representative experience

Senior Social Planner EMM Consulting

- Olive Downs Coking Coal Project lead author of desktop review to identify social opportunities of a Development Application for workforce accommodation, including assessment of circular economy, sustainability, amenity, economic and mental health and wellbeing benefits for workers and the community, and inclusion of best-practice design and amenity outcomes.
- Birriwa Solar EIS SIA Addendum Report, Accommodation and Employment Strategy and Modification lead author responsible for assessment of proposed workforce accommodation and project employment planning, including community and worker needs, access constraints and opportunities for co-benefit. Also responsible for further addressing alterations to the approved project through a proposed modification.
- Hillview Energy Hub (Solar, BESS and Wind EIS SIAs) Lead author of scoping and social impact assessment reports, inclusive of working alongside external consultant and client teams to deliver engagement across three EIS projects with an extended delivery schedule packaged as the Hillview Energy Hub, within the changing cumulative context presented by the New England Renewable Energy Zone.
- Lake Lyell Social Scoping Report and EIS Social Impact Assessment lead author. Tasks included planning and scheduling, collaborating with client to deliver combined social and engagement deliverables, guiding preparation of the social baseline, stakeholder engagement, data analysis, impact identification and risk assessment, development of social impact mitigation framework and reporting. Actions also included an options analysis comparing potential benefits and drawbacks of workforce accommodation sites.
- Greater Parramatta and Olympic Peninsula SIA Scoping Report and Social Impact Assessment project manager and lead author responsible for delivery of effective and collaborative engagement in a metropolitan context. Scope includes addressing complex impacts and benefits across an extended project area, with pipelines crossing industrial and residential communities and the Parramatta River.
- Cowal Gold Operations EIS SIA author. Tasks included collaborating with the project team to deliver enhanced and cohesive social benefits aligned with broader project objectives, data analysis, impact identification and risk assessment, and development of social impact mitigation framework and reporting.
- Collaborator on Hunter Valley Operations Coal Mining Continuation Project EIS Social Impact Assessment, preparing analysis around economic benefits and climate change and community cohesion impacts.
- Wallacia Quarry Expansion Project lead author of social scoping assessment, identified key perceived and actual social risks associated with views and vistas of the escarpment, water quality of local swimming holes, proximity of residences to the project site and road safety for traffic movements.
- New Dungowan Dam EIS Social Impact Assessment, SIA project lead for finalisation and delivery of the New Dungowan Dam EIS, including preparation of the social impact assessment. Tasks included planning and scheduling, guiding preparation of the social baseline, stakeholder engagement, data analysis, impact identification and risk assessment, development of social impact mitigation framework and reporting.
- Sutton Forest Quarry EIS combined Social Impact Assessment and Response to Submissions report lead author. Prepared a response to submissions in a context of high community sensitivity to the Project, with tasks including data analysis, impact identification and risk assessment, and development of social impact mitigation framework and reporting.
- Collaborator on Oven Mountain Pumped Hydro Energy Storage Project EIS Social Impact Assessment, analysing around water, recreation, infrastructure and livability impacts.
- Lead author of scaled SIA assessments in western Sydney for government and industry clients including Parramatta City Council, and various social impact assessments for industrial warehouse and distribution projects in Penrith.

Annexure B
Planning context

EMM
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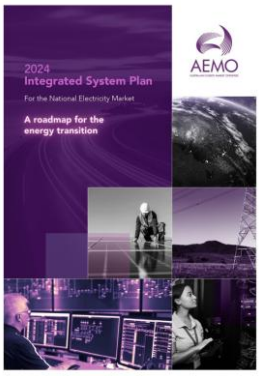
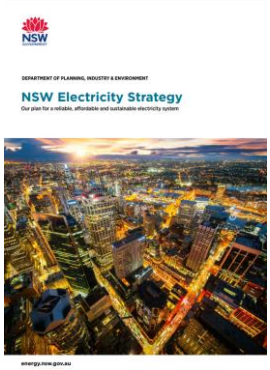
B.1 Introduction

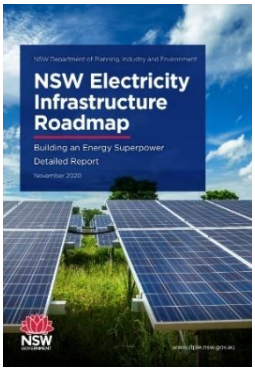
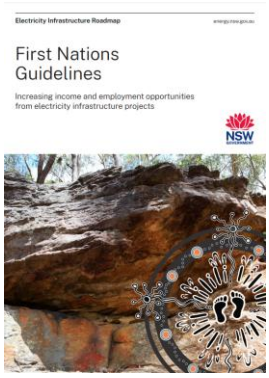
This annexure provides a summary of the relevant policy, plans and strategies that inform an appreciation of potential social impacts and benefits associated with the amended project. The project's overall consistency with relevant policies and plans is also addressed in Section 2 of the EIS.

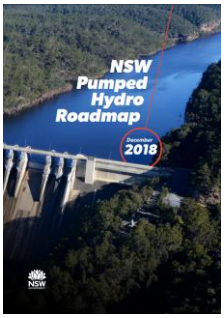
The following sections provide an overview of relevant state, regional and local plans and policies.

B.2 State strategies, plans, and guidelines

Table B.1 National and state strategies, plans and guidelines

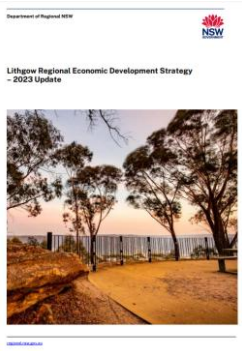
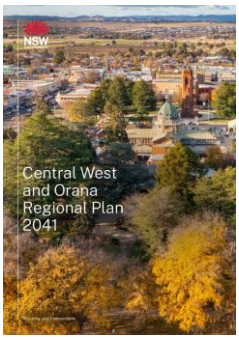
Name	Description and relevance to the amended project
2024 Integrated System Plan (AEMO, 2024) 	AEMO's *Integrated System Plan* (ISP) is a roadmap for the transition of the National Electricity Market (NEM) power system, with a clear plan for essential infrastructure that will meet future energy needs. The ISP's optimal development path (ODP) sets out the needed generation, storage and network investments to transition to net zero by 2050 through current policy settings and deliver significant net market benefits for consumers. Published every two years, the ISP modelling approach applies the inputs to four separate yet integrated analytical models to find the optimal mix of generation, storage and transmission. The objective is to determine an 'optimal development path' (ODP) that will meet the NEM power system's reliability and security needs, aligned with government emissions reduction and other policies, at the lowest long-run cost to consumers. In addition to connecting consumers, distribution networks will host consumer energy resources (CER) and some utility-scale renewable and storage projects – facilitating coordinated two-way flow of electricity between grids. The ISP assumes that upgrades and other investments necessary for enabling distribution networks and their operation will be addressed through other mechanisms, ultimately supporting the forecasted levels of CER and their integration. The Lake Lyell PHES is anticipated to provide between 300 and 350 megawatts (MW) of electricity generating capacity for up to 8 hours during peak demand, and as such supports the need for firming capacity identified by the *2024* ISP, which acknowledges the need for strategic pumped hydro projects to smooth out the variations in renewable supply and address longer-term and seasonal variations not supported by battery technology (p.24).
NSW Electricity Strategy (DPIE, 2019) 	The *NSW Electricity Strategy* is the NSW Government's plan for a reliable, affordable and sustainable electricity future that supports a growing economy (DPIE, 2019). The strategy posits that renewables (firmed by dispatchable technologies including pumped hydro) are the most economic form of reliable electricity, and to satisfy electricity demand, variable generators need to be complemented by technologies that can provide electricity on demand (such as pumped hydro energy storage) (DPIE, 2019). The first of four strategic propositions underpinning the *NSW Electricity Strategy* identifies the need for both private investment in renewable energy generation and storage and competitive markets to reduce electricity prices and ensure network reliability (DPIE, 2019). The NSW Government's preference as outlined in the strategy is for the market to deliver the investment required to ensure reliable and affordable electricity (DPIE, 2019). The project supports the NSW Electricity Strategy objective of providing reliable and affordable electricity via complementing variable generators, and contributing to overall network stability and price reduction.

Name	Description and relevance to the amended project
NSW Electricity Infrastructure Roadmap (DPIE, 2020) 	The *NSW Electricity Infrastructure Roadmap* (the Roadmap) completed in 2020 builds on the framework set out by the *NSW Electricity Strategy* (DPIE, 2020). The Roadmap establishes a rationale for the policies and programs that are specifically designed to attract and secure large-scale investment in new electricity infrastructure (DPIE, 2020). There is an expected $32 billion in private investment by 2030, providing approximately 6,300 construction jobs and 2,800 ongoing jobs mostly in regional NSW (DPIE, 2020). The Roadmap specifically identified that a "number of these jobs will be delivered through the development of energy storage infrastructure, such as pumped hydro projects which offer a significant boost to regional NSW…" (DPIE, 2020, pp. 14-15). The Roadmap also introduces the NSW Pumped Hydro Recoverable Grants Program, recognising the complexities and long lead times in developing pumped hydro projects (DPIE, 2020). On 2 September 2022, NSW Treasurer and Minister for Energy Matt Kean announced, "NSW's pumped hydro future is being fast tracked as five projects, with a combined capacity of almost 1.75 gigawatts (GW), have been awarded funding under the NSW Pumped Hydro Recoverable Grants Program". This includes funding support of $11M for the project. As a large infrastructure project, the Lake Lyell PHES will support the Roadmap by creating an anticipated peak of 606 jobs during construction and would directly support 20 jobs annually people to operate and maintain the asset over its approximately 80-year life.
First Nations Guidelines (Office of Energy and Climate Change , 2022a) 	The *First Nations Guidelines* was created to establish "the expectations for increasing employment and income opportunities for Aboriginal peoples and communities in the construction and operation of new electricity infrastructure projects in NSW delivered under the *NSW Electricity Infrastructure Roadmap*" (Office of Energy and Climate Change , 2022a, p. 5). The guidelines provide direction on establishing Aboriginal Participation Plans for relevant developments, including recommendations for best practice engagement with communities and local aboriginal land councils and mechanisms for recognition of land rights (Office of Energy and Climate Change , 2022a). This is an important consideration for planning EIS and SIA engagement activities to build respectful and ongoing relationships, particularly given the project's location at Mount Walker as a site of significance for Aboriginal people.
State Infrastructure Strategy 2022-2042 (Infrastructure NSW, 2022) 	Developed by Infrastructure NSW, the *State Infrastructure Strategy 2022-2042* aims to guide NSW Government infrastructure investment decisions to support anticipated economic and population growth (Infrastructure NSW, 2022). One of the nine objectives within the strategy is to "achieve an orderly and efficient transition to Net Zero" (Infrastructure NSW, 2022, p. 18), which will support the NSW Government's emissions reduction targets of 50% by 2030 and 100% by 2050. Specific to the project, the strategy highlights the need for increased and accelerated investment in replacement firming capacity including pumped hydro to support the rapid shift to renewables (Infrastructure NSW, 2022). This objective also includes strategic directions to ensure the cost-effectiveness of the clean energy transition, and to "preserve a market-based approach to investment in electricity generation…" (Infrastructure NSW, 2022, p. 18). Following the *NSW Electricity Strategy*, implementation of this objective requires policies that will secure a new wave of private sector investment in electricity reliability and affordability (Infrastructure NSW, 2022). The project will contribute to the *State Infrastructure Strategy 2022-2042* by providing firming and other ancillary grid services necessary to ensure the reliability of the electricity network.

Name	Description and relevance to the amended project
NSW Pumped Hydro Roadmap (DPE, 2018) 	The *NSW Pumped Hydro Roadmap* was launched as a tool to encourage private sector investment in pumped hydro projects that aim to deliver the long term, large-scale energy storage (DPE, 2018). The document proposes that the strategic development of pumped hydro in NSW will help improve the reliability of the energy network (DPE, 2018). Action 1 in the *NSW Pumped Hydro Roadmap* outlines the State government's intention to support the commercialisation of new, large-scale, on-demand electricity projects through brining forward private investment (DPE, 2018). This roadmap has complemented other planning documents including the *Lithgow Regional Economic Development Strategy – 2023 Update*. The project will directly support the *NSW Pumped Hydro Roadmap* as a private, state significant pumped-hydro development that will assist variable renewable energy generators to supply on-demand electricity.
Social Impact Assessment Guideline for State Significant Projects (DPIE, 2023a) 	The *Social Impact Assessment Guideline* (SIA Guideline) (DPIE, 2023a) provides direction on assessing impacts arising from SSD projects in the context of the environmental impact assessment process under the EP&A Act. In this guideline, SIA is the process of identifying, predicting, evaluating and developing responses to the social impacts of a proposed State significant development project which requires proportionate and tailored assessment to suit each project's context and the nature and scale of its potential impacts and benefits. The SIA Guideline requires that all State significant projects have a clear and consistent approach to assessing social impacts. The SIA Technical Supplement 2023 accompanies the SIA Guideline to provide specific methods and techniques for the identification and assessment of social impacts and benefits (DPIE, 2023b).
Cumulative Impact Assessment Guidelines for State Significant Projects (DPE, 2022a) 	The *Cumulative Impact Assessment Guidelines for State Significant Projects* (the CIA Guidelines) form part of the government guidelines that are to be taken into consideration during the assessment of State significant projects. The CIA Guidelines set expectations for assessing and addressing project interactions with other projects in the same area. The CIA Guidelines are relevant to project planning due to its position nearby to the Central-West Orana REZ, indicating potential to result in cumulative visual amenity and land use impacts. Concurrent major infrastructure projects in the region also have the potential to create cumulative impacts relating to the presence of large non-local workers in the area. This includes access to housing, accommodation, and services as well as traffic changes. Concerns regarding cumulative impacts were also raised frequently throughout EIS engagement and SIA specific engagement.
Undertaking Engagement Guidelines for State Significant Projects (DPHI, 2024) 	The *Undertaking Engagement Guidelines for State Significant Projects* (the engagement guideline) (DPHI, 2024) describes the requirements for effective engagement on State significant projects in NSW. The engagement guideline outlines requirements for proponents to engage with the community, councils and government agencies at each phase of the environmental assessment. The engagement guideline also outlines the actions that DPHI will take and identifies opportunities for community participation during each phase. It emphasises early planning and engagement, effective engagement, proportionate engagement, innovation, and transparency. The primary audience of this guideline is proponents and their teams, who are responsible for engaging with the community and other stakeholders during each phase of the environmental assessment. The engagement guideline also provides the community and other stakeholders with a better understanding of how, when and on what they can provide feedback, and how it will be addressed by proponents and decision-makers.

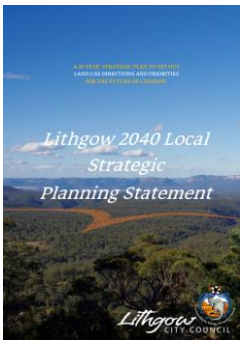
B.3 Regional strategies and plans

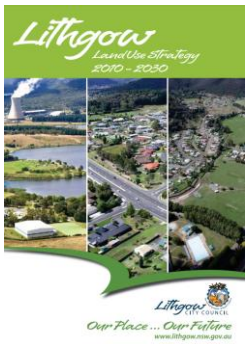
Table B.2 Regional strategies and plans

Name	Description and relevance to the project
Lithgow Regional Economic Development Strategy – 2023 Update (DRNSW, 2023) 	The Department of Regional NSW's *Lithgow Regional Economic Development Strategy – 2023 Update* (REDS) is the five year update to the 2018 REDS, and provides a revised evidence base to guide governments in making policy and investment decisions that enhance resilience and drive sustainable, long-term economic growth (DRNSW, 2023). The shift towards net zero is identified as a macro-economic trend for the region, where a key strategy to enable economic growth is "driv[ing] local capability and attract[ing] investment in emerging industries including renewable energy, circular economy processes, and advanced manufacturing" (DRNSW, 2023, p. 33). In fact, the project is specifically mentioned regarding the region's potential for expansion into the hydro-electricity sector (DRNSW, 2023). The project will contribute to the strategy through taking advantage of the site's proximity to major centres and existing energy infrastructure. As well as providing employment, LLP intends on establishing training and education initiatives for upskilling the local workforce, which may assist in retraining the region's mining workforce with complementary skill sets.
Central West and Orana Regional Plan 2041 (DPE, 2022c) 	The *Central West and Orana Regional Plan 2041* (DPE, 2022c) is the five-year update to the *Central West and Orana Regional Plan 2036*. The aim of the plan is to "guide land use planning decisions in the region by the NSW Government, councils and others to the year 2041" (p. 6), and includes Lithgow LGA (DPE, 2022c). The second objective in the plan involves supporting NSW's transition to Net Zero by 2050, noting the region's geographical advantage for renewable energy industries including pumped hydro (DPE, 2022c). The plan calls for careful management of the transition from fossil fuels to renewables to "ensure the region benefits from economic diversification opportunities" (p. 20), as well as ongoing support for existing industries (DPE, 2022c). The project aligns with the above objective as a renewable energy development that will significantly contribute to reduced emissions. Further, the project will provide local employment opportunities and a community benefit grant to produce a more equitable distribution of benefits for the community. The project will also support existing industries through working with the community and aiming to preserve as much of the recreational areas and facilities within and around the lakes as possible, ensuring that local values and lifestyles are preserved.

B.4 Local government strategies and plans

Table B.3 Local government strategies and plans

Name	Description and relevance to the project
Our Place Our Future Community Strategic Plan 2035 (Lithgow City Council, 2022a) 	*Our Place Our Future,* Lithgow City Council's Community Strategic Plan (CSP) describes the community's aspirations and priorities for the future of the region through to 2035 (Lithgow City Council, 2022a). The CSP reported that the community in the Lithgow LGA most value the sense of community and friendliness. The plan outlines the community's vision, which includes helping to efficiently and effectively managing the environment, community and economy for present and future generations (Lithgow City Council, 2022a). The shift to alternative energy was identified as a priority issue for the next ten years by the community (Lithgow City Council, 2022a). Within the CSP's identification of economic opportunities, investigation of renewable energy was identified as an area of focus (Lithgow City Council, 2022a). Further, transitioning from a coal-based economy to renewable energy was identified as a key challenge in the CSP's environmental theme (Lithgow City Council, 2022a). However, 72% of respondents in the Council's community engagement stated that the main barrier to implementing climate adaptation action across the LGA was vested political and economic interests, as well as lack of leadership and information (Lithgow City Council, 2022a). A measure of success defined in the plan for this focus will be the increased use of alternative energy sources (Lithgow City Council, 2022a). Enhancing the diversity and availability of affordable housing options was identified as a strategy within the infrastructure theme and is recognised as a challenge facing the community in the CSP and in the Lithgow Local Strategic Planning Statement, and Delivery Program and Operations Plan (reviewed below). The project supports the Council's CSP by providing an opportunity for community consultation throughout the project planning and development stages, and by contributing to the shift towards net zero for current and future generations.
Lithgow 2040 Local Strategic Planning Statement (Lithgow City Council, 2020) 	The Lithgow City Council's *Lithgow 2040 Local Strategic Planning Statement* (LSPS) is a 20-year land-use planning framework for predicted economic, social, and environmental trends in Lithgow LGA (Lithgow City Council, 2020). The statement addresses planning and development issues of strategic significance for the area through establishing planning priorities and actions which align with and support the *Central West and Orana Regional Plan 2036* and the Council's CSP. According to the LSPS, the community value the scenic and conservation areas and landscapes, local character, heritage and inclusivity in Lithgow LGA (Lithgow City Council, 2020). Relevant to the project's location at Lake Lyell as a multi-use recreation area, planning priority 8 in the LSPS is to "Protect the Economic Values of Rural Areas Through Managing Land Use Conflict" (Lithgow City Council, 2020, p. 41). The statement acknowledges that Lithgow is well positioned to promote effective renewable energy projects and provide an avenue to diversify Lithgow's economic base, and that it is the Council's role to ensure that existing economic values of rural areas are protected, and potential conflicts are mitigated through local planning instruments (Lithgow City Council, 2020). The project can contribute to this planning priority through working with the community and Council to minimise and mitigate any land-use conflict at the Lake Lyell.

Name	Description and relevance to the project
Our Place, Our Future Delivery Program 2022/23-2025/26 Operational Plan 2024/25 (Lithgow City Council, 2022b) *(Delivery Program and Operational Plan)* 	Lithgow City Council's Delivery Program and Operations Plan builds upon Lithgow's CSP and LSPS and provides specific deliverables for Council to work towards achieving community objectives (Lithgow City Council, 2022b). There are two strategies within the plan's objective of providing sustainable and planned growth that enhances the lifestyle choices of the community: • "Our parks and public spaces will be inviting, accessible, creative spaces for the enjoyment of families and visitors to our area… • Develop and maintain gardens, parks, reserves, street trees and other public spaces" (Lithgow City Council, 2022b, p. 93) Additionally, the plan includes an objective to ensure the availability of diverse affordable housing options, involving a strategy to use active partnerships with development to meet the community's housing needs (Lithgow City Council, 2022b). Through working with council and community to preserve recreation areas and enhance facilities at Lake Lyell, the project will assist in providing sustainable planned growth that benefits the community. Additionally, LLP will establish an accommodation camp available for up to 500 workers for the duration of site construction to reduce external demand for housing and accommodation.
Our Place, Our Future Workforce Management Strategy 2022-2026 (Lithgow City Council, 2022f) 	The Workforce Management Strategy (Lithgow City Council, 2022f) was developed to increase the effectiveness of Lithgow's workforce and attract and retain skilled employers in the region. Vulnerabilities to the workforce were identified as being high youth unemployment, downturn in mining and power station closures, and health and wellbeing due to natural disasters and COVID. Understanding of vulnerabilities was used to set context for the creation of actions. There were 12 actions outlined, one being to "promote initiatives to support/promote workforce diversity" (Lithgow City Council, 2022f). The project is relevant to the *Workforce Management Strategy 2022-2026* as the construction phase will attract workers to the region, as well as provide local opportunities which will aid in the diversification of Lithgow's workforce. This will also help to fill gaps in the market created by the closure of nearby mines and power stations.
Lithgow Land Use Strategy 2010-2030 (Lithgow City Council, 2010) 	The *Lithgow Land Use Strategy 2010-2030* is a comprehensive 20-year land-use plan that sets directions and policy to guide the LGA's land use management. The plan contains seven growth management strategies which guide strategic directions and planning principles. The fifth growth management principle within the plan pertains to character, identity and urban design, and includes guiding principles for future developments, stating that developments should: • be designed to allow adequate, appropriately located and accessible public open space and recreation areas for various recreational uses and visual amenity • retain and enhance the rural character of local areas and prevent urban development encroaching the surrounding rural hinterland (Lithgow City Council, 2010). Within the second growth management principle which relates to the suitability and capability of land use, the plan states that developments which adjoin with significant natural/or economic resources or those with high landscape value should incorporate buffers as necessary to preserve these values and avoid land use conflict. The Lake Lyell PHES is relevant to the *Lithgow Land Use Strategy 2010-2030* as a significant development within a valued natural and recreational site. The project's upper reservoir has already been moved from the original design from the Mount Walker ridge to reduce potential visual amenity and cultural impacts for the community and tourism. LLP will continue to work closely with the community to mitigate impacts and prevent land use conflicts, including through establishing a community benefits program.

Annexure C

SIA baseline

EMM
creating opportunities

C.1 Community profile

Lithgow LGA is located west of the Blue Mountains in central NSW in the Central West and Orana Region, about a two hours' drive from Sydney. Covering an area of 4,550 km^2, the LGA comprises a population of over 20,724 people spread over several towns such as Lithgow, Wallerawang, and Bowenfels among others (.id Community, 2024).

The region is predominately rural, with nearly two-thirds of Lithgow LGA being national park or state forest (.id Community, 2024). In Lithgow LGA, the rural land is mainly used for farming, grazing, and mining, in particular, coal mining (.id Community, 2024). However, there are rural-residential and residential areas in several townships as well as some industrial land use (.id Community, 2024). The Lithgow City Council's Community Strategic Plan (CSP) identified the region as "previously perceived to be an inland mining and industrial centre", however the area has been recognised as an important tourism destination, heritage centre and a desirable residential area due to recent developments (Lithgow City Council, 2022a).

Since 1868, Lithgow's economic and social growth had been supported and sustained by regional industrial activities, namely coal mining (Della Bosca, 2018). An example of this is the Lithgow Industrial Co-operative Society, a community welfare initiative "which connected pharmacies, grocers, and other retail operations with smaller mining communities throughout the region" (Della Bosca, 2018, p. 737). Furthermore, in the early mining days of Lithgow, houses were often provided for workers "resulting in spatial clusters of families with historical mining ties" (Della Bosca, 2018, p. 737). The connection between the mining industry and the Lithgow community continues today through mines' involvement in local sporting organisations and charitable causes (Della Bosca, 2018).

The Traditional custodians of the land and water that comprise Lithgow LGA are the Wiradjuri People of the Wiradjuri Nation, with the Gundungarra nation to the south and the Darug nation to the east (Lithgow City Council, 2022a). The language group is Wiradjuri language, previously the Wiradhuri language, and the spelling "Wiradyuri" is preferred by some members of the language community (AIATSIS, n.d.). Many National parks contain Aboriginal sites, places, and relics such as engravings, carved trees, and spiritual sites which provide a direct link to traditional Aboriginal culture. Further, Mount Walker in Lithgow is one of the highest peaks in the district and has been identified as a culturally important site (Lithgow Tourism Information, 2023) (EMM, 2025).

The social baseline shows a high proportion of voluntary work in the SALs of Rydal and South Bowenfels, which indicates a cohesive and engaged community. Volunteering organisations in the area include the RFS and HammondCare, which is an independent organisation that provides volunteer services in the aged and palliative care sector. Residents can also apply for volunteer work through the Council website. Many residents of the broader area are associated with sporting and recreational organisations, as well as business interest groups.

Further indications of community cohesion are provided in the Lithgow City Council Community Strategic Plan (2022), where community consultation identified "sense of community and friendly people" as one of the most valued aspects of living in Lithgow.

Many stakeholders in Rydal and South Bowenfels also identified that willingness to help each other was a key value of local residents, and that community strengths include a sense of connection to place and community.

Existing risks affecting community cohesion in the Lithgow area include a lack of employment opportunities resulting in young people moving away from the Lithgow area.

C.2 Demographic profile

C.2.1 Population trends

In 2021, the local study area had a total population of 3,835 people, of which the majority (53.4%) resided within Bowenfels SAL (refer to Table C.1). The urban local area had a population of 6,258 residents, of which most (79.1%) lived in Lithgow SAL.

The local study area experienced a higher growth rate between 2016-2021 than the urban local area, which experienced a small decline. A population decline also occurred in the key urban and regional areas. When examining the growth rate between 2011-2021, the data shows that the local study area experienced the greatest growth compared to the key urban and regional areas. In contrast, the urban local area experienced a population decline of -7.7% in the ten-year period, which is likely related to overall population decline in Lithgow. Population decline in Lithgow can largely be attributed to the decline of the coal mining industry, with the closure of the Angus Place Colliery leading to approximately 800 jobs lost in the region (Gregory, 2021). Across the study areas, South Bowenfels SAL saw the greatest population growth in the ten-year period, and Rydal SAL had the greatest population decline.

Table C.1 Population trends, 2011 to 2021

Location	2011[5]	2016	2021	Total % change 2016–2021	Total % change 2011–2021
Local study area					
Rydal SAL	188	213	163	-23.5	-13.3
Bowenfels SAL	1,789	2,048	2,049	0.0	14.5
South Bowenfels SAL	1,004	1,162	1,326	14.1	32.1
Marrangaroo UCL	297	302	297	-1.7	0.0
Total	**3,278**	**3,725**	**3,835**	**3.0**	**17.0**
Urban local area					
Pottery Estate	-	132	112	-15.2%	-
Sheedys Gully	-	86	136	58.1%	-
Lithgow	5,651	5,201	4,956	-4.7%	-12.3%
Littleton	875	799	737	-7.8%	15.8%
South Littleton	254	301	317	5.3%	24.8%
Toal	**6,780**	**6,519**	**6,258**	**-4.0%**	**-7.7%**
Key urban area					
Lithgow SA2	12,249	12,818	12,385	-3.4	1.1
Regional study area					
Lithgow LGA	20,160	21,090	20,842	-1.2	3.4

[5] Statistical areas with different boundaries in 2011 have been left blank to avoid sampling variability errors.

Location	2011[5]	2016	2021	Total % change 2016–2021	Total % change 2011–2021
			NSW		
NSW	6,917,658	7,480,228	8,072,163	8.1	16.7

Source: ABS 2011, 2016 and 2021, Census of Population and Housing: General Community Profiles.

Note 1. Population data is not available at a SAL level for the areas of Pottery Estate and Sheedys Gully in 2011

C.2.2 Population projections

Population projections by the DPHI suggest that the projected population in Lithgow LGA will increase to 21,603 people in 2041, representing an increase of 3.6%. Projected population growth is lower in the region than in NSW, where there is a predicted increase of 24.3% (DPHI, 2024).

Table 0.1 Population projections, 2021 to 2041

Study area	2021 population	2041 projected population	2021–2041 change	2021–2041 percentage change (%)
Lithgow LGA	20,855	21,603	748	3.6
NSW	8,097,095	10,070,500	1,973,405	24.3

Source: DPHI population projects (DPHI, 2024)

C.2.3 Population mobility

Population mobility is a measure of migration within a population. The ABS measures population mobility through length of residency at the same address, measured as one year ago and five years ago. A high proportion of population living at the same address five years ago shows relative stability in a community.

> Residential mobility is driven by a range of factors including housing and location choice, tenure, labour market related decisions as well as household composition. Renters are three times more likely to move as owners, while a person who is unemployed has a 20% change of moving compared to an employed person (James, Rowley, Davies, Viforj, & Singh, 2021).

Figure C.1 shows that there are slightly higher proportions of people living at the same address five years ago in the local study areas compared to the key urban area and NSW. The local study areas also have the highest proportion of people living at the same address one year ago than the rest of the study area. Overall, this suggests high levels of stability in the local area.

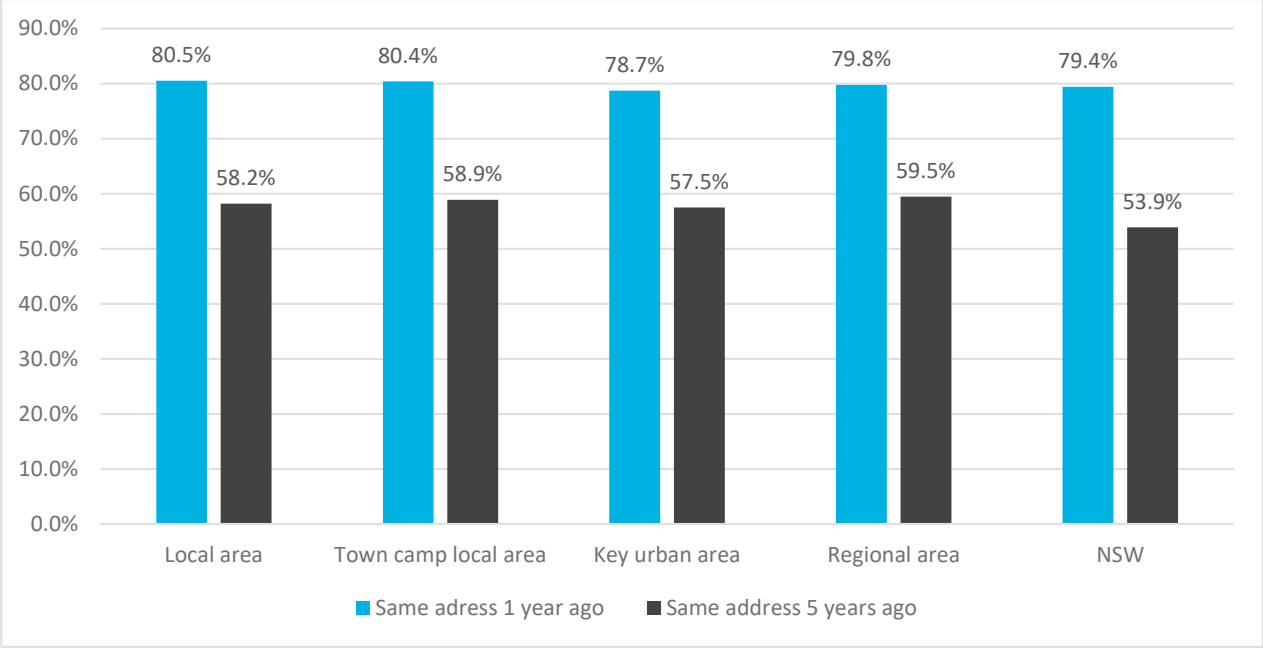


Figure C.1 Proportion living at same address one year or five years ago

C.2.4 Age and socio-cultural characteristics

The age and socio-cultural indicators in Table C.2 show that the local study area has higher proportions of people aged 14 years or under and people aged 65 years or over as well as a higher proportion of couples with no children and lone person households relative to NSW.

Of the local areas, Bowenfels SAL had the highest proportion of people aged 14 years or under. Conversely, South Bowenfels SAL had the highest proportion of people aged 65 years or older in the local area. The urban local area had a high proportion of elderly residents, with Pottery estate SAL having majority elderly residents. Rydal SAL and Sheedys Gully SAL had high proportions of couple families with no children, which is consistent with the high proportion of people aged 65 years or older. Rydal also had a significantly higher proportion of lone person households compared to NSW. In the local study areas, there was a lower proportion of people who speak a language other than English at home or people who do not speak English well or not at all compared to NSW.

Table C.2 Age and socio-cultural indicators, 2021

	Rural local area					Urban local area						Key urban area – Lithgow SA2	Regional area – Lithgow LGA	NSW
	Rydal SAL	Bowenfels SAL	South Bowenfels SAL	Marrangaroo UCL	Total	Pottery Estate SAL	Sheedys Gully SAL	Lithgow	Littleton	South Littleton	Total			
Female (%)	48.5	50.3	51.7	48.1	**50.6**	44.6	47.1	51.8	52.0	49.5	**51.5**	49.8	49.5	**50.6**
Male (%)	49.1	49.7	48.0	50.2	**49.2**	55.4	48.5	48.1	48.7	50.8	**48.5**	50.3	50.5	**49.4**
Median Age (no.)	53	41	48	47	**48**	50	47	49	47	39	**47**	46	46	**39**
People aged 14 years or under (%)	9.2	20.7	18.3	13.8	**19.0**	16.1	16.2	14.4	16.6	19.6	**15.0**	16.0	16.4	**18.2**
People aged between 15 and 64 years (%)	51.5	57.8	50.5	67.3	**55.6**	2.7	9.6	9.4	11.1	10.7	**9.5**	58.4	59.1	**64.1**
People aged 65 years or older (%)	30.7	20.7	31.4	19.2	**25.0**	50.0	44.9	47.4	47.9	49.5	**47.6**	25.5	24.5	**17.6**
Number of families (no.)	46	468	376	88	**978**	25	40	1,232	206	81	**1,584**	3,089	5,397	**2,135,964**
Couple family with no children (%)	54.3	33.3	49.7	43.2	**41.5**	20.0	57.5	45.5	45.6	43.2	**45.3**	42.8	44.1	**37.9**
Couple family with children (%)	21.7	34.0	41.0	51.1	**37.6**	24.0	30.0	28.2	31.6	42.0	**29.3**	33.0	35.0	**44.7**
One parent family (%)	10.9	29.5	8.0	8.0	**10.6**	11	5	307	39	14	**376**	11.2	19.2	**15.8**
Number of households (no.)	66	752	515	98	**1,431**	52	48	2,266	338	131	**2,835**	5,139	8,291	**2,892,714**
One family household (%)	63.6	60.9	71.1	88.8	**66.7**	51.9	77.1	53.6	60.9	60.3	**55.2**	59.0	63.5	**71.2**
Group households (%)	0.0	3.4	1.7	0.0	**2.4**	0.0	0.0	3.0	3.0	2.3	**2.8**	2.9	2.4	**3.8**

	Rural local area					Urban local area						Key urban area – Lithgow SA2	Regional area – Lithgow LGA	NSW
	Rydal SAL	Bowenfels SAL	South Bowenfels SAL	Marrangaroo UCL	Total	Pottery Estate SAL	Sheedys Gully SAL	Lithgow	Littleton	South Littleton	Total			
Lone person households (%)	40.9	36.3	26.0	17.3	**31.4**	44.2	14.6	43.7	37.6	37.4	**42.2**	38.1	34.0	**25.0**
Language other than English spoken at home (%)	2.5	4.4	3.5	1.0	**3.8**	4.5	4.4	5.3	4.1	3.5	**5.1**	4.5	4.1	**26.8**
People who do not speak English well or not at all (%)	0.0	0.7	0.2	0.0	**0.5**	0.0	0.0	1.0	0.7	0.0	**0.9**	0.7	0.5	**4.5**

Source: ABS 2021, Census of Population and Housing: General Community Profiles.

C.2.5 Aboriginal and/or Torres Strait Islander population

The local areas have a significantly higher proportion of Aboriginal and/or Torres Strait Islander people than the proportion across NSW, with a proportion of 8.7% in the local area and 6.9% in the urban local area. This can be attributed to particular suburbs and localities which are home to larger populations of Aboriginal and/or Torres Strait Islander people, such as Bowenfels SAL.

Table C.3 shows the proportion of persons who identify as Aboriginal and/or Torres Strait Islander.

Table C.3 Aboriginal and/or Torress Strait Islander status

Area	Aboriginal and/or Torres Strait Islander population	Aboriginal and/or Torres Strait Islander population (% total)	Male (%)	Female (%)	Median age
Rural local area					
Rydal SAL	11	6.7%	60.0%	40.0%	18
Bowenfels SAL	234	11.4%	50.0%	50.0%	23
South Bowenfels SAL	64	4.3%	47.5%	52.5%	24
Marrangaroo UCL	25	8.4%	24.0%	60.0%	-
Totals	**334**	**8.7%**	**47.6%**	**50.6%**	**–**
Urban local area					
Pottery Estate SAL	9	8.0%	50.0%	50.0%	60
Sheedys Gully SAL	3	2.2%	-	-	22
Lithgow SAL	364	7.3%	45.9%	54.1%	26
Littleton SAL	37	5.0%	60.0%	40.0%	25
South Littleton SAL	17	5.4%	56.2%	43.8%	26
Totals	**430**	**6.9%**	**53.0%**	**47.0%**	**26**
Key urban area					
Lithgow SA2	1033	8.3%	53.9%	46.1%	27
Regional area					
Lithgow LGA	1621	7.8%	53.1%	46.9%	26
NSW					
NSW	278,043	3.4%	49.7%	50.3%	23

Source: ABS 2021a, Census of Population and Housing: General Community Profiles; ABS 2021b Census of Population and Housing: Quickstats

C.3 Labour market and income

C.3.1 Labour force characteristics

Table C.4 presents unemployment and labour force participation rates for the study area. Labour force participation rates are a measure of those over 15 years who are employed or actively seeking work as a proportion of the total population (ABS, 2022). Labour force participation rates are similar in the local study and the key urban areas, but lower than the regional study and NSW.

At the time of the 2021 Census, the local areas and key urban area had higher unemployment rates compared to the regional area and NSW, with unemployment rates highest in Bowenfels SAL and South Littleton SAL.

The ABS categorises youth unemployment as unemployed people aged 15 to 24 years. There are higher levels of youth unemployment in all areas compared with the overall unemployment rate except in Rydal SAL and Marrangaroo UCL. The lower level of youth unemployment in these localities is consistent with a lower proportion of people aged 14 years or under. The local areas had lower levels of youth unemployment when compared to the region and NSW. Youth unemployment is prevalent in Bowenfels SAL, with the locality also having a slightly higher proportion of people aged 15 to 24 years compared to the other SALs in the local study areas. This is also true for Lithgow SAL and South Littleton SAL.

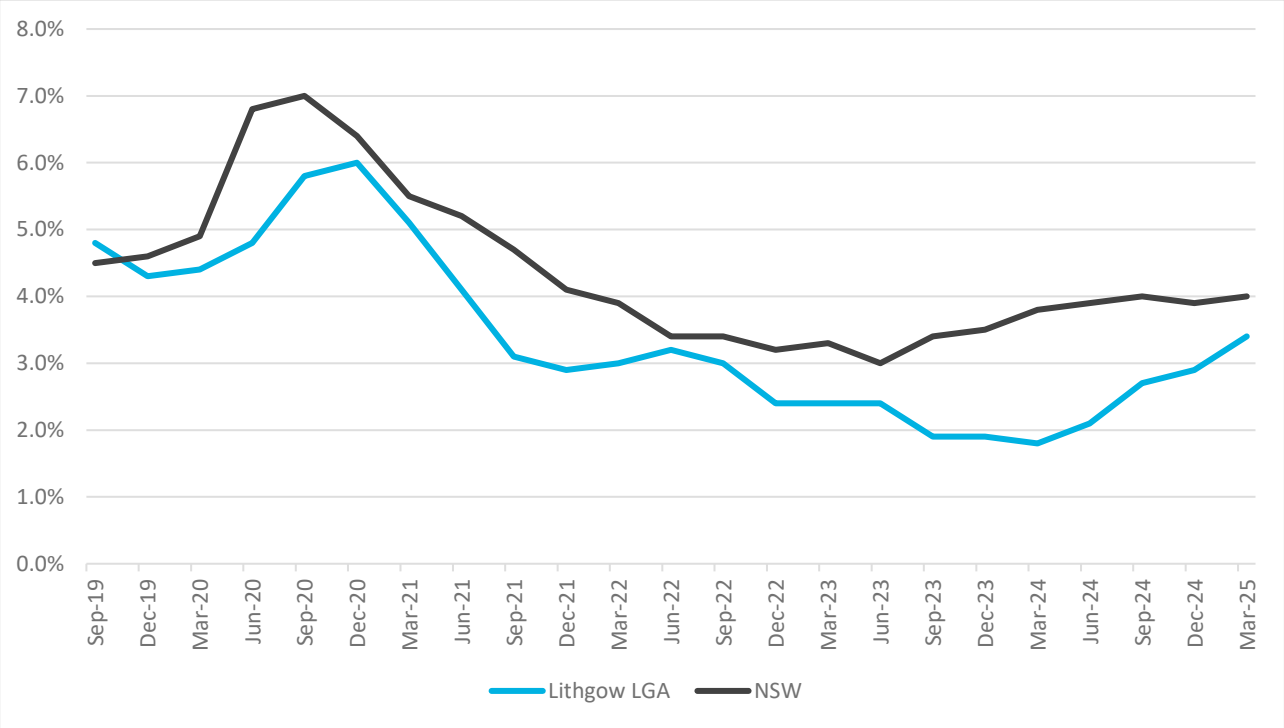
The rural local study area had higher rates of Aboriginal and/or Torres Strait Islander unemployment compared to the key urban area, the regional study area, and NSW. The urban local area had a lower prevalence of Aboriginal and/or Torres Strait Islander unemployment. Aboriginal and/or Torres Strait Islander unemployment could not be calculated in some areas of the local and urban local areas due to the small population and limited publicly available data.

Table C.4 Labour force characteristics, 2021

	Local area					Urban local area								
Indicator	**Rydal SAL**	**Bowenfels SAL**	**South Bowenfels SAL**	**Marrangaroo UCL**	**Total**	**Pottery Estate SAL**	**Sheedys Gully SAL**	**Lithgow**	**Littleton**	**South Littleton**	**Total**	**Key urban area**	**Regional area**	**New South Wales**
Number of people in labour force (#)	81	656	574	157	**1,468**	39	58	2,001	350	145	**2,593**	4,964	8,790	**3,874,012**
Labour force participation rate (%)	55.1	40.5	53.2	62.1	**47.4**	41.1	53.7	47.2	56.9	57.8	**48.9**	47.8	50.4	**58.7**
Female (%)	40.0	33.8	49.1	47.1	**41.0**	48.0	35.9	38.0	43.9	47.8	**39.3**	41.4	43.7	**45.8**
Male (%)	57.0	30.2	37.3	52.5	**35.4**	29.0	45.5	43.1	50.1	47.2	**43.9**	38.7	40.6	**50.2**
Youth (15 to 24 years) (%)	47.1	57.1	78.4	53.2	**62.0**	100.0	0.0	64.1	74.4	82.4	**65.3**	62.6	63.2	**59.3**
Indigenous (%)	-	24.4	53.1	-	**46.9**	55.6		34.3	45.9	29.4	**35.3**	44.4	49.4	**56.5**
Number of unemployed people (#)	5	71	14	5	**95**	3	3	122	17	14	**159**	321	483	**189,852**
Unemployment rate (%)	6.2	10.8	2.4	3.2	**6.5**	7.7	5.2	6.1	4.9	9.7	**6.1**	6.5	5.5	**4.9**
Female (%)	0.0	4.4	0.6	0.0	**2.6**	33.3	26.1	9.5	8.3	5.3	**9.9**	3.2	2.8	**10.8**
Male (%)	6.3	2.7	0.4	0.0	**1.9**	0.0	0.0	7.6	6.7	6.6	**7.1**	1.9	1.8	**5.3**
Youth (15 to 24 years) (%)	0.0	14.0	4.6	0.0	**9.0**	0.0	0.0	10.4	0.0	10.7	**8.7**	11.2	10.1	**9.8**
Indigenous (%)	-	26.3	0.0	-	**16.5**	-	-	6.4	-	-	**5.3**	13.6	11.8	**9.8**

Source: ABS 2021, Census of Population and Housing: General Community Profile.

Figure C.2 shows the quarterly unemployment rate for Lithgow LGA and NSW from September 2019 to March 2025. From December 2010 to September 2019, the unemployment rate of Lithgow LGA consistently stayed above the NSW rate, peaking in December 2012 and September 2015. From December 2019, Lithgow LGA's unemployment rate has remained under NSW's rate. Unemployment in NSW has been slowly increasing, rising from 3.4% in September 2023 to 4.0% in March 2025, with Lithgow following this trend, with unemployment increasing between March 2024 to March 2025 (DERW, 2025).



Source: Small Area Labour Markets, National Skills Commission, Australian Government – March quarter 2025.

Figure C.2 Unemployment rate, September 2019 to March 2025

C.3.2 Occupations

Table C.5 shows the top three occupations of the local study area are technicians and trades workers, community and personal service workers, and professionals. The urban local area shares the same top three industries with similar proportions of residents employed. This is similar to the key urban area and regional area which have the top occupation as technicians and trades workers, the second as community and personal service workers, and the third as professionals.

Table C.5 Occupations, 2021

Industry	Rural local area	Urban local area	Key urban area	Regional study area	NSW
Managers	10.9%	8.5%	9.2%	11.3%	14.6%
Professionals	14.2%	13.5%	13.7%	13.4%	25.8%
Technicians and trades workers	15.2%	16.5%	15.9%	16.6%	11.9%
Community and personal service workers	14.2%	14.6%	14.3%	14.0%	10.6%

Industry	Rural local area	Urban local area	Key urban area	Regional study area	NSW
Clerical and administrative workers	13.1%	13.2%	13.3%	12.9%	13.0%
Sales workers	8.3%	8.7%	8.7%	7.6%	8.0%
Machinery operators and drivers	12.4%	10.9%	11.2%	11.3%	6.0%
Labourers	10.2%	12.0%	11.5%	11.4%	8.2%

Source: ABS 2021, Census of Population and Housing: General Community Profiles.

C.3.3 Industry of employment

The top industries of employment are shown in Table C.6. Coal mining is the top industry of employment across the rural local area, parts of the urban local area, key urban area, and regional area. Other top industries include aged care residential services, which is the second top employing industry. Within the local area, there is some variation such as accommodation which is prevalent in Rydal SAL but does not rank in the top three of the other SALs. In the urban local area, other top industries of employment include takeaway food services and state government administration.

Table C.7 demonstrates the in-depth breakdown of industry of employment in the local study area, key urban area, regional study area and NSW from the 2021 Census. The key urban area has the highest proportion of retail trade and accommodation and food services, likely indicative of a regional centre.

Retail and accommodation are the second highest industries after mining, and both have higher proportions than the NSW average, unlike other industries. In the context of closing mines, this industry plays a role in bolstering the local economy, and potentially in smoothing the transition. Despite a traditional mining focus, economic data indicates a slow shift to tourism and repositioning the region.

Table C.6 Top three industries of employment, 2021

Area	First	%	Second	%	Third	%
			Local area			
Rydal SAL	Coal mining	16.0%	Accommodation	12.0%	Tiling and carpeting services	8.0%
Bowenfels SAL	Coal mining	9.9%	Takeaway food services	5.3%	Aged care residential services	4.8%
South Bowenfels SAL	Coal mining	12.1%	Hospitals	4.5%	Local Government administration	4.0%
Marrangaroo UCL	Coal mining	20.6%	Primary education	5.8%	Hospitals	5.2%
			Urban local area			
Pottery Estate SAL	Take away food services	13.9%	Supermarket and grocery stores	11.1%	Cafes and restaurants	11.1%
Sheedys Gully SAL	Coal mining	17.5%	Car retailing	7.0%	State Government Administration	7.0%

Area	First	%	Second	%	Third	%
Lithgow SAL	Coal mining	5.9%	Aged care residential services	3.9%	Supermarket and grocery stores	3.7%
Littleton SAL	State Government Administration	66.4%	Coal mining	6.1%	Supermarket and grocery stores	4.3%
South Littleton SAL	Coal mining	13.9%	Aged care residential services	6.6%	Supermarket and grocery stores	5.1%
			Key urban area			
Lithgow SA2	Coal mining	7.3%	Aged care residential services	3.8%	Supermarket and grocery stores	3.5%
			Regional area			
Lithgow LGA	Coal mining	6.9%	Aged care residential services	3.4%	Supermarket and grocery sores	3.1%

Source: ABS 2021a, Census of Population and Housing: General Community Profiles; ABS 2021b Census of Population and Housing: Quickstats

Table C.7 Industry of employment, 2021

Industry	Local study area	Urban local area	Key urban area	Regional study area	NSW
Agriculture, forestry and fishing	0.8%	0.3%	0.4%	2.6%	2.0%
Mining	12.1%	7.2%	8.3%	8.0%	1.0%
Manufacturing	4.2%	5.3%	4.9%	4.9%	5.5%
Electricity, gas, water and waste services	2.5%	3.0%	2.9%	3.3%	1.0%
Construction	7.9%	4.8%	6.2%	7.4%	8.6%
Wholesale trade	2.5%	2.4%	2.3%	2.1%	2.8%
Retail trade	9.2%	10.5%	10.3%	9.0%	9.0%
Accommodation and food services	8.3%	10.3%	9.3%	8.3%	6.2%
Transport, postal and warehousing	3.7%	4.1%	4.5%	4.3%	4.6%
Information media and telecommunications	0.4%	0.7%	0.6%	0.6%	1.8%
Financial and insurance services	2.0%	2.4%	2.2%	1.9%	5.3%
Rental, hiring and real estate services	1.0%	1.0%	1.1%	1.2%	1.7%
Professional, scientific and technical services	3.4%	3.3%	3.1%	3.3%	8.9%
Administrative and support services	2.7%	3.6%	3.4%	3.9%	3.2%

Industry	Local study area	Urban local area	Key urban area	Regional study area	NSW
Public administration and safety	10.5%	10.3%	10.7%	10.2%	6.1%
Education and training	8.0%	6.8%	7.1%	7.3%	8.7%
Health care and social assistance	12.3%	14.4%	13.6%	12.7%	14.4%
Arts and recreation services	1.0%	1.5%	1.2%	1.2%	1.4%
Other services	3.6%	4.0%	4.0%	3.8%	3.4%

Source: ABS 2021, Census of Population and Housing: General Community Profiles.

C.3.4 Workforce availability

Table C.8 shows the workforce availability in the study area for industries of employment relevant to the project. These include:

- electricity, gas, water, and waste services
- transport, postal and warehousing
- construction
- professional, scientific, and technical services.

The Australian construction industry faces a critical workforce shortage of more than 100,000 workers (Australian Constructors Association, 2022). A report published by Infrastructure Australia (2021a), estimates the anticipated demand for infrastructure workers will/has outstripped supply by up to 48% in 2023. The construction industry in NSW is facing an unprecedented amount of work with increased volatility in the levels of staffing, due to reliance on immigration for key trades. This has been exacerbated by the effects of COVID-19, with skilled migrant workers being delayed coming to Australia to fulfil this labour demand.

The study area demonstrates a further restriction within the construction industry, demonstrating minimal or negative growth over five years to 2021 compared to NSW (refer to Table C.8). The local study area had the greatest growth of the study area by 11.1%, attributed to South Bowenfels SAL (9.5%) and Bowenfels (4.8%). However, Marrangaroo experienced a decline of 100.0%, however a small sample size leads to greater statistical variability. This is compared to NSW's growth of 98.7% between 2016 and 2021. This trend is also true for the urban local area, which experienced a decline in the construction industry of -18.8% in the five years to 2021.

In contrast, the transport, postal and warehousing industry has shown robust growth, particularly in Bowenfels SAL and South Bowenfels SAL (35.3% and 38.2% respectively). These figures are a sharp contrast to the statewide decline of 40% in this industry.

The local study area and urban local area experienced the greatest growth in the professional, scientific, and technical services industry by 31.4% and 15.9% between 2016 and 2021. The regional study area also experienced growth in this area by 21.5% that was slightly higher than NSW's 19.2% growth rate.

Overall, the local study area experienced the greatest total growth of employment in industries relevant to the project by 15.4% from 2016 to 2021. The urban local area experienced a decline of 7.9%. However, the smaller sample size of this area should be considered. Employment in these industries grew by 13.4% in NSW as a whole. Thus, there could be workforce available in the industries of transport, postal and warehousing as well as professional, scientific and technical services in the local study area, namely in Bowenfels SAL and South Bowenfels SAL. However, there is a limited construction workforce in the local study areas, key urban area, and regional study area.

Table C.8 Industries relevant to project construction, 2021

Area	Electricity, gas, water and waste services			Transport, postal and warehousing			Construction			Professional, scientific and technical services			Total		
	2016	2021	Change (%)	2016	2021	Change (%)	2016	2021	Change (%)	2016	2021	Change (%)	2016	2021	Change (%)
Rydal SAL	0	0	-	11	11	0.0	0	5	-	3	3	0.0	14	19	35.7
Bowenfels SAL	20	8	-60.0	34	46	35.3	21	22	4.8	15	13	-13.3	90	89	-1.1
South Bowenfels SAL	20	22	10.0	34	47	38.2	21	23	9.5	17	25	47.1	92	117	27.2
Marrangaroo UCL	4	4	0.0	4	4	0.0	3	0	-100.0	0	5	-	11	13	18.2
Local study area	**44**	**34**	**-22.7**	**83**	**108**	**30.1**	**45**	**50**	**11.1**	**35**	**46**	**31.4**	**207**	**238**	**15.0**
Pottery Estate SAL	0	0	-	0	0	-	0	0	-	3	4	33.3%	3	4	33.3%
Sheedys Gully SAL	0	0	-	4	0	-100%	4	8	-50%	3	0	-100%	11	8	-27.3%
Lithgow SAL	53	48	-9.4%	86	84	-2.3%	105	87	-17.1%	57	67	-17.5%	301	286	-4.9%
Littleton SAL	14	18	-28.6%	16	11	-31.3%	24	17	-29.2%	3	6	-50%	57	54	-5.3%
South Littleton SAL	10	6	-40.0%	5	5	-	11	5	-54.5%	3	3	-	29	19	-34.5%
Urban local area	**77**	**72**	**-6.5%**	**111**	**100**	**-9.9%**	**144**	**117**	**-18.8%**	**69**	**80**	**15.9%**	**401**	**369**	**-7.9%**
Key urban area (Lithgow SA2)	149	134	-10.1	280	289	3.2	206	207	0.5	129	143	10.9	764	773	1.2
Regional study area (Lithgow LGA)	279	274	-1.8	519	613	18.1	359	353	-1.7	228	277	21.5	1385	1517	9.5
NSW	31,881	35,584	11.6	282,491	169,608	-40.0	158,760	315,520	98.7	274,078	326,595	19.2	747,210	847,307	13.4

Source: ABS 2021, Census of Population and Housing: General Community Profiles.

C.3.5 Income

Table C.9 illustrates the median income for the study area. At the time of the 2021 Census, most areas had a median individual weekly income lower than the NSW average of $813. The exception to this is Marrangaroo UCL. The areas with the lowest individual median weekly incomes were Bowenfels SAL and Pottery Estate SAL.

For median weekly household income, most of the study areas were lower than the NSW rate of $1,829. Marrangaroo UCL continued to have the highest median household incomes of $2,349. Bowenfels SAL and Pottery Estate SAL had the lowest household median weekly incomes ($917 and $949 respectively) which are substantially lower than the NSW figure.

Table C.9 Median income, 2021

Area	Individual (median income $ weekly)	Household (median income $ weekly)
Local area		
Rydal SAL	657	1,325
Bowenfels SAL	497	917
South Bowenfels SAL	727	1,608
Marrangaroo UCL	958	2,349
Urban local area		
Pottery Estate SAL	519	949
Sheedys Gully SAL	695	1,625
Lithgow SAL	602	1,010
Littleton SAL	713	1,161
South Littleton SAL	721	1,317
Key urban area		
Lithgow SA2	610	1,088
Regional area		
Lithgow LGA	632	1,196
NSW	**813**	**1,829**

Source: ABS 2021, Census of Population and Housing: General Community Profiles

Notes: Data for total median individual income and median household income is not available for the local area

C.4 Business and industry

C.4.1 Local and key urban area business and industry

In 2024, there were a total of 624 businesses in the Lithgow SA2, which is inclusive of the urban local area and areas of the local study area) Marangaroo, Bowenfels and South Bowenfels), however, does not consider Rydal. A majority of these businesses (347) were non-employing, with a further 168 with 1 to 4 employees (ABS, 2024).

There were 125 construction businesses in Lithgow SA2, which was the most prominent businesses industry, followed by retail trade (63 businesses), rental, hiring and real estate services (53) and transport, postal and warehousing (51 businesses) (ABS, 2024). Businesses in Bowenfels and South Bowenfels included house building, construction equipment providers and removalist businesses.

Desktop research showed that within the local area, the most common type of businesses are accommodation businesses. In particular, Rydal had a high proportion of accommodation businesses. However, there are a number of construction businesses within the local area, focusing on building, removalists and equipment providers. As shown in Table C.7, hospitals were also a prominent industry in the local area due to the Lithgow Hospital being located in South Bowenfels. Other local businesses include the Rydal Pub and the Lithgow Golf Club in Marangaroo.

Detailed analysis of the role of tourism and recreation in local business and industry is provided in Annexure D.

C.4.2 Regional business and industry

Data from the ABS (ABS, 2024) recorded 1,398 registered businesses in the Lithgow LGA, of which the most common industry was construction, which accounted for 295, or 21.1%, of registered businesses. The second most common industry was agriculture, forestry and fishing, which accounted for 248, or 17.7%, of total registered businesses in Lithgow LGA. Most businesses were low employing, with 878 businesses with no employees, and 495 businesses with 1 to 19 employees. As such, only 32 businesses in the Lithgow LGA had over 20 employees.

Of the 1,398 registered businesses in the regional area in June 2024, 295 operate in the construction industry. There were 27 new businesses and 28 business GST cancellations in the March 2025 quarter (economy.id, 2025). Lithgow has historically showed a relatively high number of closures and slow growth, and its principal income is derived from the mining industry, through it has a relatively low share of locally registered businesses. The data indicates slow growth in the number of businesses since March 2022, where net changed peaked at 26, with 44 new businesses and 18 closures (economy.id, 2025).

The largest business turnover is concentrated between $200,000 and less the two million dollars annually with 466 businesses in Lithgow LGA, closely followed by those making between $50,000 and less than $200,000 per year, comprising 464 of businesses in the area.

Figure C.3 shows the numbers of businesses in each industry within Lithgow LGA.

Figure C.4 shows the total business turnover of businesses in Lithgow LGA.

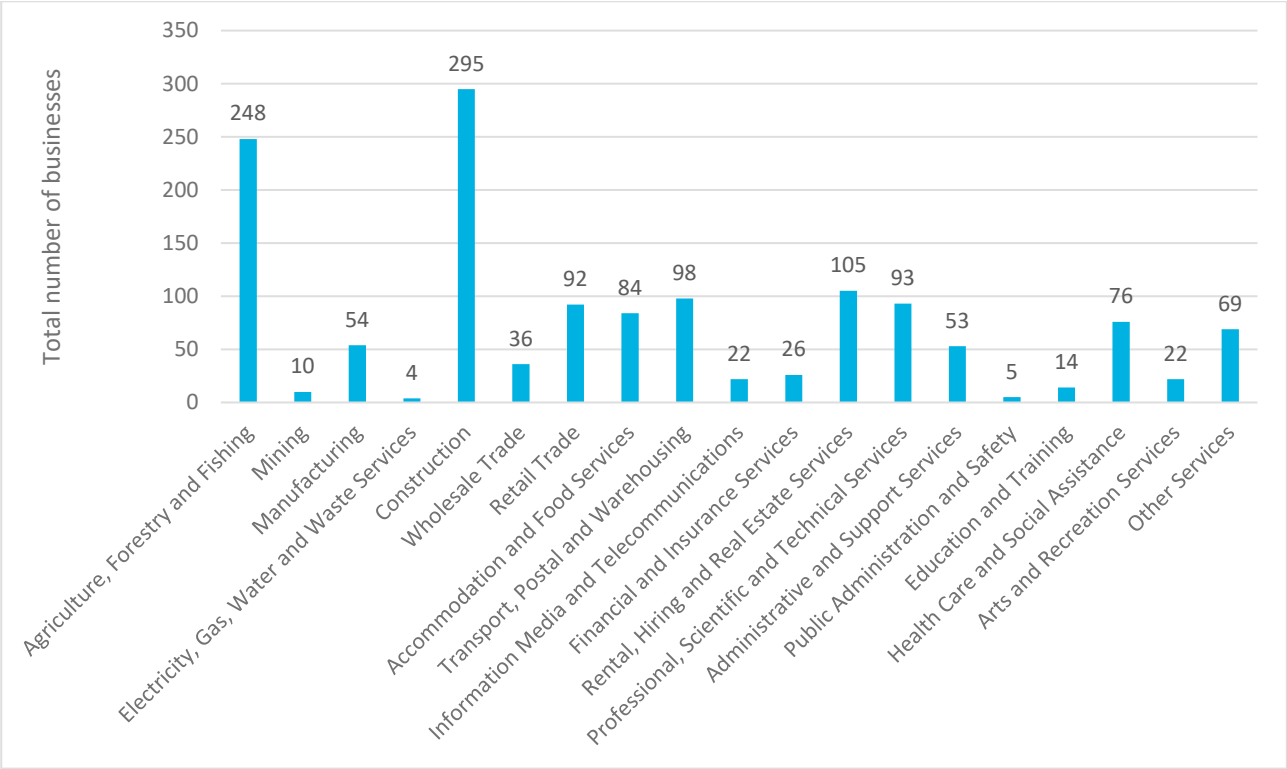


Figure C.3 Total number of businesses by industry

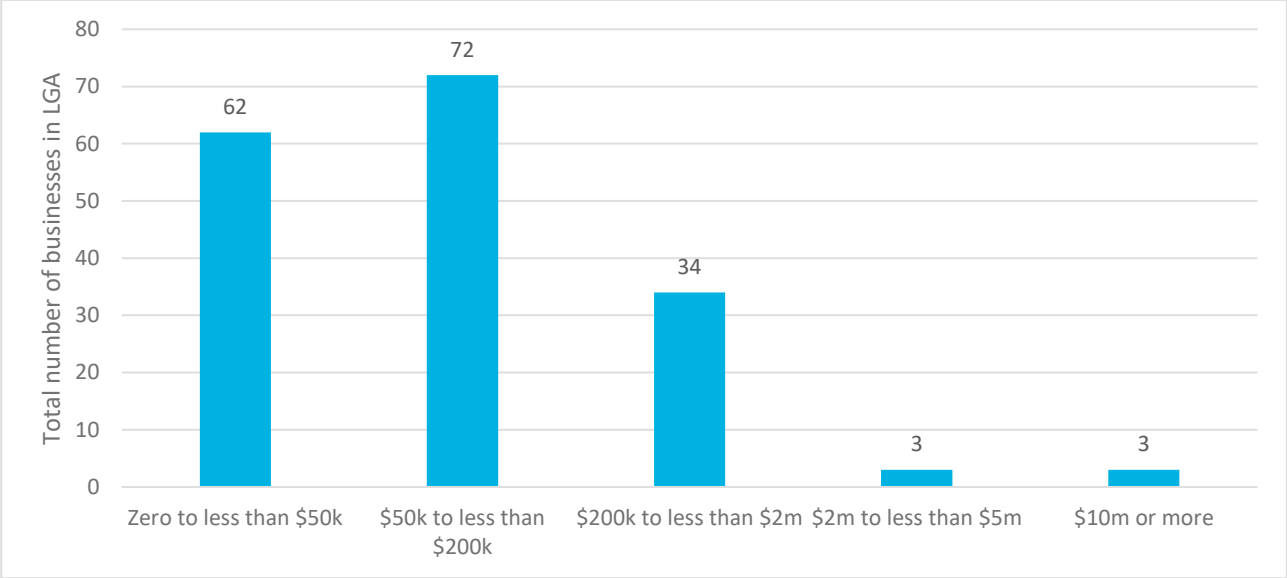


Figure C.4 Total business turnover

C.4.3 Aboriginal and/or Torres Strait Islander people business and industry

A search for Aboriginal and/or Torres Strait Islander businesses in the study area on Supply Nation found five I businesses within a 30 km radius from Lithgow (Supply Nation, 2024). These comprised one construction business and the other Indigenous-run businesses were in counselling and arts and culture.

C.5 Educational attainment and qualifications

C.5.1 Highest level of schooling

For the local area, of the highest schooling achievement groups, Year 12 or equivalent had the highest proportion. Year 12 completion is slightly higher in the local study areas than the key urban area and the regional study area but is much lower than NSW. Completing school at Year 10 is a more common occurrence in the local study areas compared to the key urban area and the regional study area. However, breaking down the local study area Bowenfels SAL has the lowest Year 12 completion of the study area.

The AIHW explained that "participation in secondary school enables young people to develop their skills and knowledge, increasing their productivity and often leading to higher personal earnings and improved health and wellbeing" (AIHW, 2021). People who complete Year 12 are also more likely to continue with further education or training (AIHW, 2021). Thus, it can be inferred that low rates of Year 12 or equivalent school completion could mean fewer opportunities in sectors requiring further education. These sectors often support higher incomes. Thus, lower Year 12 completion rates may indicate less availability of workforce opportunities.

The highest level of schooling completed within the study area is presented in Table C.10.

Table C.10 Highest level of schooling

Area	Year 12 or equivalent	Year 11 or equivalent	Year 10 or equivalent	Year 9 or equivalent	Year 8 or below
Local area					
Rydal SAL	48.9%	6.6%	29.9%	2.9%	8.0%
Bowenfels SAL	30.7%	9.1%	37.5%	14.7%	8.3%
South Bowenfels SAL	47.0%	5.4%	37.0%	7.6%	3.4%
Marrangaroo UCL	45.1%	7.5%	38.5%	4.4%	6.2%
Total	**35.5%**	**6.8%**	**33.9%**	**9.8%**	**5.8%**
Urban local area					
Pottery Estate SAL	31.8%	3.5%	29.4%	12.9%	12.9%
Sheedys Gully SAL	47.4%	5.3%	34.7%	6.3%	6.3%
Lithgow SAL	39.2%	7.9%	36.2%	10.6%	5.7%
Littleton SAL	32.2%	8.0%	42.3%	12.9%	3.0%
South Littleton SAL	41.7%	5.7%	35.2%	11.7%	6.5%
Total	**38.5%**	**7.7%**	**36.7%**	**10.9%**	**5.5%**
Key urban area					
Lithgow SA2	34.1%	7.0%	33.1%	9.6%	5.1%
Regional area					
Lithgow LGA	34.9%	6.9%	33.8%	9.2%	5.0%
NSW					
NSW	63.3%	5.3%	21.2%	5.1%	3.9%

Source: ABS 2021, Census of Population and Housing: General Community Profiles

C.5.2 Qualifications

Across the local study areas, key urban, and regional study area, persons with certificates comprises the largest proportion of non-school qualifications held by people over 15 years, with both the local area and urban local area. The high proportion of persons with certificate qualifications could be indicative of trades and technical workers as a prominent occupation in the study area (refer to Table C.11). This contrasts with NSW proportions which has the majority of non-school qualifications as a bachelor's degree followed closely by certificates. In the local study area, Marrangaroo UCL has the higher proportion of peoples with certificates. See Table C.11 for proportion of persons over 15 with a non-school qualification.

Table C.11 Proportion of persons over 15 with a non-school qualification, 2021

Area	Postgraduate degree level	Graduate diploma and graduate certificate level	Bachelor's degree level	Advanced diploma and diploma level	Certificates
Local area					
Rydal SAL	3.2%	0.0%	15.8%	14.7%	48.4%
Bowenfels SAL	2.2%	2.0%	9.4%	11.6%	44.5%
South Bowenfels SAL	5.4%	4.4%	17.6%	17.2%	44.9%
Marrangaroo UCL	1.9%	2.5%	12.5%	13.8%	54.4%
Total	**3.5%**	**2.9%**	**13.3%**	**14.2%**	**45.8%**
Urban local area					
Pottery Estate SAL	0.0%	0.0%	19.2%	0.0%	42.3%
Sheedys Gully SAL	0.0%	4.1%	21.9%	13.7%	43.8%
Lithgow SAL	3.3%	2.5%	15.6%	13.3%	43.7%
Littleton SAL	3.9%	2.7%	10.3%	11.8%	59.5%
South Littleton SAL	2.3%	5.3%	12.9%	16.7%	51.5%
Total	**3.2%**	**2.7%**	**15.1%**	**13.1%**	**45.8%**
Key urban area					
Lithgow SA2	3.2%	2.7%	13.3%	12.8%	44.4%
Regional area					
Lithgow LGA	3.6%	2.6%	13.8%	13.0%	45.4%
NSW					
NSW	11.5%	3.2%	28.8%	14.6%	28.3%

Source: ABS 2021, Census of Population and Housing: General Community Profiles

C.6 Housing and short-term accommodation

Access to safe, adequate and affordable housing is a critical pillar in enabling the physical, mental and social health of communities. While housing is generally provided in the private market, a distinct lack of affordable and appropriate housing options available for various income and cultural groups within the community it can result in a greater demand for housing assistance (Infrastructure Australia, 2019).

The Australian Government's Centre for Population estimated a net shift in migration away from capital cities in favour of regional areas from 2020 (Centre for Population, 2020). This has contributed to increased rents and lower rental availability (particularly affordable housing) in regional areas of Australia, including Lithgow LGA. In facilitating increased migration from urban centres to more regional areas of Australia, COVID has increased the number of people at risk of housing instability and homelessness for persons experiencing financial hardship (Anglicare Australia, 2021).

Evidence indicates that COVID-19 generated similar impacts to those experienced during the Global Financial Crisis in Australia, with housing prices increasing in 2021 after a period of uncertainty (Verdouw, Yanotti, De Vries, Flanagan, & Haman, 2021). Rising prices within the private housing market generally work to further exclude those who have low income and other vulnerable groups from the property market, leading to housing stress and insecurity (Verdouw, Yanotti, De Vries, Flanagan, & Haman, 2021). Data in the following section shows the residual impacts of COVID, and how the housing market has fluctuated. Data presented by ABC news reveals that the Lithgow housing market has experienced a 52.8% increase in value since March 2020 (ABC News, 2025)

C.6.1 Housing type and structure

As shown in Table C.12, the most common housing type was separate houses across all areas. The local study areas, key urban area, and regional study area all have percentages over 80.0%, which is significantly higher than the NSW proportion of 65.6%. Most localities in the local study area had a proportion of separate houses over 90.0% except for South Bowenfels, Pottery Estate and Lithgow. Instead, these areas had a significantly higher proportion of semi-detached, row or terrace house, or townhouses.

Table C.12 Housing type and structure, 2021

	Separate house	Semi-detached, row or terrace house, townhouse	Flat or apartment	Other dwelling
Local study area				
Rydal SAL	92.4%	6.1%	0.0%	0.0%
Bowenfels SAL	90.6%	7.3%	0.8%	0.9%
South Bowenfels SAL	70.5%	29.5%	0.0%	0.0%
Marrangaroo UCL	100.0%	0.0%	0.0%	0.0%
Total	**84.2%**	**14.7%**	**0.4%**	**0.5%**
Urban local area				
Pottery Estate SAL	78.8%	21.2%	0.0%	0.0%
Sheedys Gully SAL	93.8%	0.0%	0.0%	0.0%
Lithgow SAL	81.7%	0.0%	4.0%	0.3%
Littleton SAL	97.3%	0.0%	0.0%	0.0%
South Littleton SAL	100.0%	0.0%	0.0%	0.0%
Total	**84.6%**	**0.0%**	**3.2%**	**0.2%**
Key urban area				
Lithgow SA2	85.4%	11.6%	2.3%	0.4%

	Separate house	Semi-detached, row or terrace house, townhouse	Flat or apartment	Other dwelling
Regional study area				
Lithgow LGA	89.6%	7.7%	1.6%	0.8%
NSW				
NSW	65.6%	11.7%	21.7%	0.7%

Source: ABS 2021, Census of Population and Housing: General Community Profiles

C.6.2 Dwelling occupancy and tenure

Table C.13 shows 2021 Census data on the type of tenure within the study area. Within the local study areas, dwellings owned outright had the highest proportion out of all the categories. This is similar to the key urban area and regional study area which also had the highest proportion being dwellings owned outright. Breaking down the local study areas, most areas had highest percentages of dwellings being owned outright except for Marrangaroo UCL which saw a higher percentage of dwellings being owned with a mortgage. Notably, South Bowenfels had a significantly higher proportion of other dwelling tenure type. Bowenfels and Pottery Estate had the highest proportion of rented dwellings across the local areas.

Rates of renting are lower in the local study area than the key urban area and NSW. However, Bowenfels had a significantly higher proportion of those renting. A subset of renters is in social housing, where 70.2% of renters in Bowenfels SAL are using social housing.

Table C.14 demonstrates unoccupied dwellings in 2016 and 2021, along with the change between the five-year period. In 2021, the local study area had the lowest proportion of unoccupied dwellings compared to the Town camp local area key urban area, regional area, and NSW. This could indicate a restriction of housing available within the local study area. Overall, the local study area had a higher percentage change of unoccupied dwellings than the key urban area and NSW. This is contradicted by the urban local area, which experienced a decrease in unoccupied dwellings in the same period. Lithgow LGA demonstrated a significantly higher percentage change of unoccupied dwellings of 20.0%, which indicates that there could a growing availability of housing for the project workforce across the Lithgow region more broadly.

Table C.13 Tenure (based on total private dwellings), 2021

Area	Owned outright	Owned with a mortgage	Rented	Social housing[1]	Other tenure	Total private dwellings	Total occupied dwellings
Local study area							
Rydal SAL	57.6%	33.3%	6.1%	0.0%	0.0%	78	66
Bowenfels SAL	28.5%	23.3%	45.3%	70.2%	0.5%	818	755
South Bowenfels SAL	42.5%	33.0%	6.0%	0.0%	16.7%	574	515
Marrangaroo UCL	45.9%	46.9%	0.0%	-	3.1%	104	98
Total	**36.1%**	**28.9%**	**26.3%**	**63.7%**	**6.5%**	**1,574**	**1,434**
Urban local area							
Pottery Estate SAL	34.6%	11.5%	59.6%	0.0%	0.0%	58	52
Sheedys Gully SAL	60.4%	33.3%	0.0%	0.0%	0.0%	51	48

Area	Owned outright	Owned with a mortgage	Rented	Social housing[1]	Other tenure	Total private dwellings	Total occupied dwellings
Lithgow SAL	39.1%	22.6%	34.6%	14.0%	0.8%	2,568	
Littleton SAL	45.3%	32.2%	19.8%	0.0%	1.2%	369	
South Littleton SAL	36.6%	32.1%	26.0%	0.0%	0.0%	157	
Total	**40.0%**	**24.1%**	**32.3%**	**12.0%**	**0.7%**	**3,203**	
Key urban area							
Lithgow SA2	39.0%	26.0%	29.8%	23.7%	2.6%	5,778	5,149
Regional study area							
Lithgow LGA	41.9%	29.6%	24.1%	21.8%	2.3%	9,585	8,319
NSW							
NSW	31.5%	32.5%	32.6%	12.8%	1.9%	3,199,988	2,900,468

Source: ABS 2021, Census of Population and Housing: General Community Profiles

Notes: 1. As a proportion of total rented properties

Table C.14 Unoccupied private dwellings, 2016-2021

Area	Unoccupied dwellings 2016		Unoccupied dwellings 2021		Change 2016-2021 (%)	
	Number	Percentage	Number	Percentage	Number (+/-)	Percentage
Local study area						
Rydal SAL	4	6.2	8	10.3	+4	100.0
Bowenfels SAL	80	9.7	63	7.7	-17	-21.3
South Bowenfels SAL	46	10.0	58	10.1	+12	26.1
Marrangaroo UCL	-	0.0	9	8.7	+9	0.0
Total	**130**	**9.0**	**138**	**8.8**	**+8**	**6.2**
Urban local area						
Pottery Estate SAL	6	10.3	7	12.1	+1	16.7
Sheedys Gully SAL	8	15.7	8	15.7	-	-
Lithgow SAL	295	11.5	292	11.4	-3	-1.0
Littleton SAL	40	10.8	35	9.5	-5	-12.5%
South Littleton SAL	21	13.4	21	13.4	-	-
Total	**370**	**11.6**	**363**	**11.3**	**-7**	**-1.9%**
Key urban area						
Lithgow SA2	627	11.2	631	10.9	4	0.6

Area	Unoccupied dwellings 2016		Unoccupied dwellings 2021		Change 2016-2021 (%)	
	Number	Percentage	Number	Percentage	Number (+/-)	Percentage
Regional study area						
Lithgow LGA	1,051	11.8	1,261	13.2	210	20.0
NSW						
NSW	284,741	9.9	299,524	9.4	14,783	5.2

Source: ABS 2021, Census of Population and Housing: General Community Profile.

C.6.3 Affordable housing and homelessness

i Housing affordability

Housing stress is considered to occur when more than 30% of household income is spent on rental payments (rental stress) or mortgage repayments (mortgage stress). This may indicate that local people with lower-paying jobs may be unable to afford local rents which can be pushed up by those with higher salaries.

Table C.15 demonstrates housing affordability in terms of rent and mortgage, as well as low-income households. Of the study area, Bowenfels SAL has the highest proportion of low-income households, which is consistent with its low-income levels. Conversely, Marrangaroo UCL has a significantly lower proportions of low-income households with, also consistent with the high-income levels demonstrated in Table C.9.

In the urban local area, proportions of low-income households were in line with the Lithgow region, with the exception of Lithgow SAL, which was slightly higher.

In terms of rent stress, median rent is lower in Bowenfels SAL and Rydal SAL. However, despite the low median rent, over a quarter of renters in Bowenfels SAL experience rental stress. Rent stress was extremely high in the urban local area, with 80.0% of renters in Sheedys Gully experiencing rental stress, and 45.2% in Pottery Estate. Lithgow SA2 and Lithgow LGA demonstrate the highest proportion of low-income households experiencing rental stress.

For mortgage payments, Rydal SAL, Pottery Estate SAL, Littleton SAL and Lithgow SAL have the lowest median mortgage repayments falling around $1,300. Despite the high proportion of low-income households, Bowenfels SAL has the second highest value of median mortgage repayment with $1,560. This is consistent with Bowenfels SAL having the highest proportion of low-income households experiencing mortgage stress. In the urban local area, Littleton SAL and Lithgow SAL had the highest proportions of mortgage stress. South Bowenfels SAL and Marrangaroo SAL have the highest median mortgage repayments which is representative of the localities high household income as presented in Table C.9.

Table C.15 Housing affordability in local study area, key urban area, and regional study area, 2021

Indicator	Rydal SAL	Bowenfels SAL	South Bowenfels SAL	Marrangaroo UCL	Pottery Estate SAL	Sheedys Gully SAL	Lithgow SAL	Littleton SAL	South Littleton SAL	Lithgow SA2	Lithgow LGA
Low-income households[1] (%)	29.3	33.2	19.8	7.8	26.9	18.8	30.2	20.7%	16.8%	29.0	26.6
Median rent ($)	200	185	370	460	275	340	280	300	268	270	270

Indicator	Rydal SAL	Bowenfels SAL	South Bowenfels SAL	Marrangaroo UCL	Pottery Estate SAL	Sheedys Gully SAL	Lithgow SAL	Littleton SAL	South Littleton SAL	Lithgow SA2	Lithgow LGA
Households under financial stress from rent stress[2] (%)	0.0	29.5	29.0	0.0	45.2	80.0	39.8	35.8	38.2	37.2	35.4
Median mortgage repayment ($)	1,300	1,560	2,167	2,167	1,343	2,178	1,326	1,395	1,733	1,462	1,500
Households under financial stress from mortgage[3] (%)	0.0	12.5	7.6	8.7	0.0	0.0	14.5	17.4	0.0	12.1	12.4

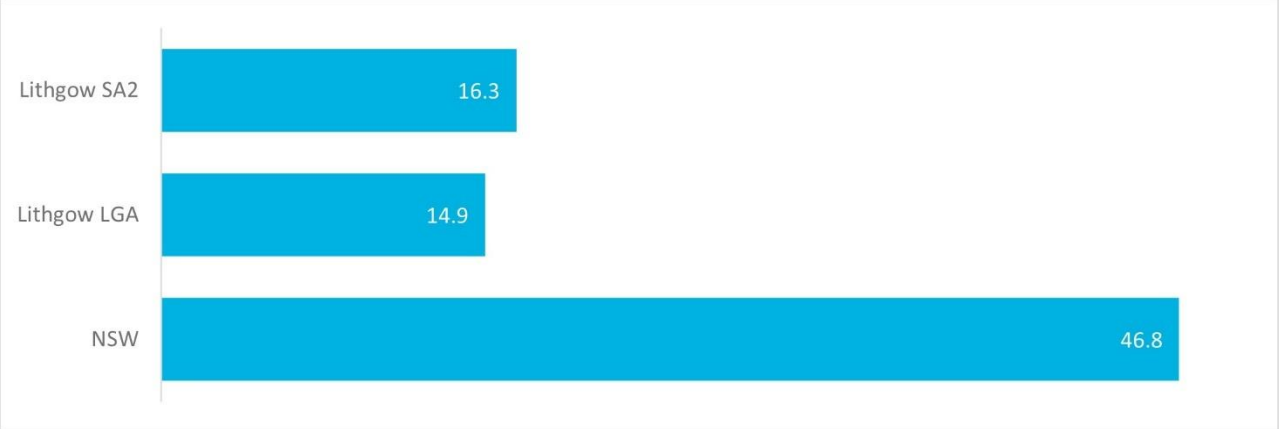
Source: ABS 2021, Quickstats

Notes: 1. Households that earn less than $650 per week
2. Rent payments are greater than 30% of household income
3. Mortgage payments are greater than 30% of household income

ii Homelessness

The 2021 Census estimates rates of homelessness per 10,000 persons, as shown in Figure C.5.

Rates of homelessness in Lithgow SA2 (16.3 persons per 10,000) were slightly higher than Lithgow LGA (14.9 persons per 10,000) but under half the rate per 10,000 persons for NSW (46.8 persons per 10,000).



Source: ABS 2021, Estimating Homelessness: Census

Figure C.5 Rates of homelessness per 10,000 persons, 2021

C.6.4 Short-term accommodation

The local areas provide a range of accommodation options including hotels/motels, bed and breakfasts, apartments, and homestays along with camping / cabin options. An overview of short-term accommodation within the local area and key urban area is provided in Table C.16. A web search initially conducted on 11 November 2025 found that the primary form of tourist accommodation is bed & breakfast/cottage/retreat as well as hotels/motels (13 types with approximately 29 rooms for bed & breakfast/cottage/retreat). There were also two caravan parks/camping grounds and 5 farm stays/homestays.

Table C.16 Short term accommodation in the local study area and key urban area, 2025

Location	Accommodation	Type	Rooms
Rydal SAL	Chapel House	Bed & breakfast/Cottage/Retreat	2
	Wattle Views a tiny house	Bed & breakfast/Cottage/Retreat	1
	The Hotel Alexander (Rydal Pub)	Hotel/Motel	7
	Rose Cottage B&B	Bed & breakfast/Cottage/Retreat	1
	Rydal Cottage	Bed & breakfast/Cottage/Retreat	1
	Pet Friendly Rydal Cottage	Bed & breakfast/Cottage/Retreat	1
	Springmead B&B	Bed & breakfast/Cottage/Retreat	3
	Lake Lyell Camping Area	Caravan park/Camping ground	No rooms 73 sites in main camping area 42 overflow sites
	Old Oak Tree Cottage Rydal	Bed & breakfast/Cottage/Retreat	1
	Eagle View Escape	Hotel/Motel	25
	Seclusions Blue Mountains	Bed & breakfast/Cottage/Retreat	6
	Kookawood	Bed & breakfast/Cottage/Retreat	2
	Mountain Ridge Escape	Bed & breakfast/Cottage/Retreat	4
South Bowenfels SAL	Bowen Inn Motel	Hotel/Motel Average 50% occupancy, fairly consistent throughout the year Most busy on weekends	25
	Japanese Bath House	Bed & breakfast/Cottage/Retreat	2
	Lake Lyell Tiny Cabin	Bed & breakfast/Cottage/Retreat	1
Bowenfels SAL	Lithgow Valley Motel	Hotel/Motel 50% occupancy rate October and April are particularly busy	20
	Lithgow Tourist and Van Park	Caravan park/Camping ground	*
Pottery Estate SAL	Short-term rental Airbnb, Vrbo and Stayz	Airbnb: 2 rentals, 6 bedrooms	6
Sheedys Gully SAL	N/A	N/A	0
Lithgow SAL (also fall within in Lithgow SA2)	Lithgow Motor Inn	Hotel/Motel	20
	Wenvoe Historic retreat	Bed & breakfast/Cottage/Retreat	5
	Commercial Hotel Motel	Hotel/Motel	29
	Courthouse Hotel Accommodation	Hotel/Motel	16

Location	Accommodation	Type	Rooms
	Lithgow Workies Club Motel	Hotel/Motel	40
Littleton SAL	Short-term rental Airbnb, Vrbo and Stayz	Airbnb: 2 rentals, 4 bedrooms	4
South Littleton SAL	Short-term rental Airbnb, Vrbo and Stayz	Airbnb: 1 rental,2 bedrooms	2
Lithgow SA2 (excl. Rydal SAL, Bowenfels SAL, South Bowenfels SAL, and Marrangaroo UCL)	Black Gold Motel	Hotel/Motel Average 80% occupancy, consistent throughout the year Weekdays -support industry for power stations and mines Weekends - support industry, people coming out of the city for the weekends and people travelling through	70
	Bushman's Motor Inn Lithgow	Hotel/Motel Average 60% occupancy, varies throughout the year Most busy on weekends Less busy at the end of the year (December to January) and the middle of the year (June and July)	36 rooms
	Fernbrook Cottage	Farm stay/Homestay	1
	The Cottage – Lithgow	Farm stay/Homestay	3
	Zig Zag Motel Lithgow	Hotel/Motel	50 rooms 2 houses 9 two-bedroom apartments throughout Lithgow
	Modern home	Farm stay/Homestay	4
	52 on Mort	Farm stay/Homestay	*
	Linden Tree Manor	Bed & breakfast/Cottage/Retreat	*
	Short-term rental Airbnb, Vrbo and Stayz Total 286 – including local area	1 bedroom 34% - 98 rentals, 98 bedrooms 2 Bedroom 23% - 65 rentals, 130 bedrooms 3 bedroom 22% - 64 rentals, 192 bedrooms 4 bedroom 13% - 38 rentals, 152 bedrooms 5+ bedroom 7% - 21 rentals, 105 bedrooms	677

Notes: *Information of number of rooms available often not attainable through desktop research. Findings from phone calls and interviews with key service providers included.

Airbnb, Vrbo and Stayz data from Airdna.com (2025)

Visitor data for Lithgow is unavailable for the 2023/2024 period, but data indicates 609,169 domestic visitor nights in the 2022/2023 period (.id Community, 2024). This represents an average of 1,668 visitors per night.

Engagement with the Seven Valleys Information Centre run by Council indicated a 75 to 80% occupancy rate for accommodation within the LGA, supported year-round by contract workers and overflow associated with wedding operators. Lithgow also accommodated overflow visitors for Bathurst Motor sports and the Blue Mountains.

AirDNA indicates an average occupancy of 45% for short-term rental listings, with a peak in July at 54% and a low in February at 34%. Average occupancy indicates availability of approximately 372 AirBnB rooms for use by the project.

C.7 Housing and rental market trends

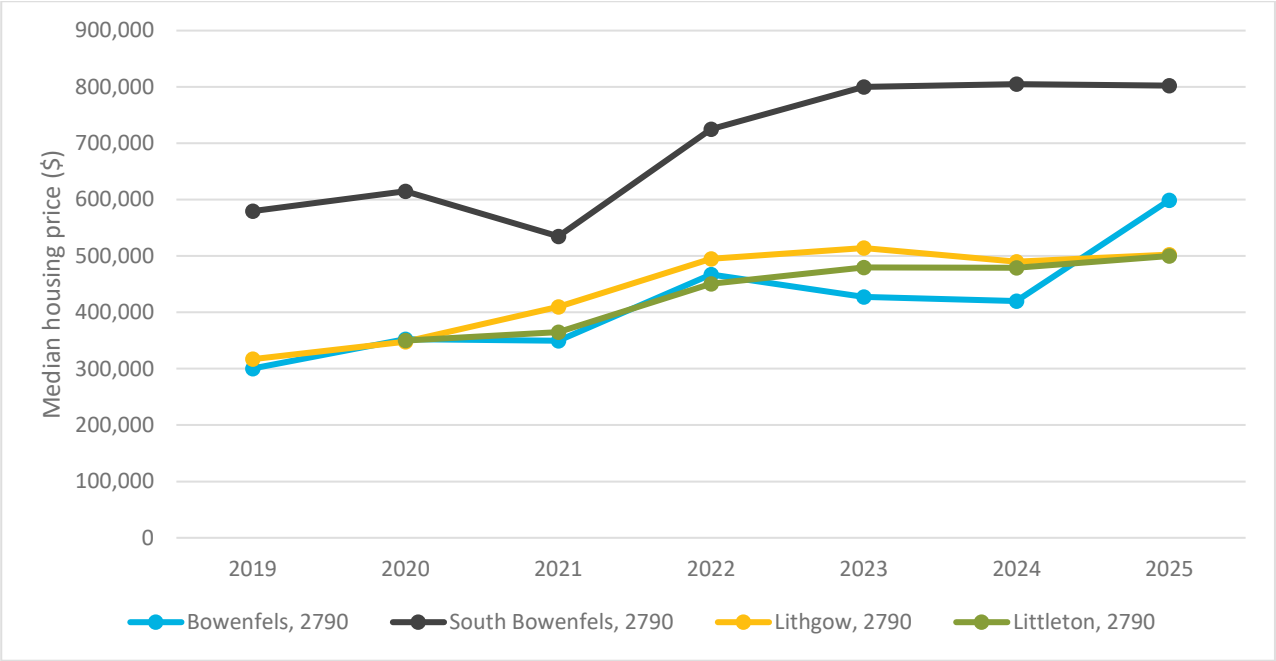
C.7.1 Median property prices

Median housing prices data is provided by postcodes, as such the postcode 2790 have been used as a proxy for the study area, incorporating most of Lithgow LGA including Lithgow SA2, Rydal SAL, Bowenfels SAL, South Bowenfels SAL, Littleton SAL, and Marrangaroo UCL as well as other localities. Information on median property prices was available for Bowenfels, South Bowenfels, Littleton and Lithgow within the study area but not for Rydal SAL, Marrangaroo UCL, and the remainder of the urban local area. This helps provide a representative snapshot of median housing prices across this area. Analysis of trend data shows a steady increase in housing prices across all areas, with South Bowenfels experiencing higher median housing prices overall.

Over a six-year period between 2019 to 2025 median housing prices in Lithgow increased by $197,150, from $317,000 to $514,150, before falling to $502,250 in mid-2025. This data represents an average annual house price increase of 8.3% in Lithgow. Littleton is comparable to Lithgow, with prices rising from $350,000 in 2020 to $500,000 in 2025, representing an average annual increase of 7.7%. South Bowenfels had the highest increase of $225,000 from $580,00 in 2019 to $805,000 in 2024, with the locality consistently having the highest median housing price. Bowenfels had the lowest asking prices, with an increase of $127,000 between 2019 and 2023. Despite having the lowest asking prices, Bowenfels had the highest average annual increase of 13.7%, with property prices increasing by 42.6% between 2024 and 2025. Fluctuations in the Bowenfels housing market can be attributed to the mixed character of available dwellings, with more established dwellings selling for significantly less than newer or renovated houses. In June 2025, a two-bedroom house sold for $465,000, whilst a four-bedroom house sold for $900,000.

In New South Wales, the average annual property price increase was 8.6% for the 2019-2025 period. Thus, majority of the study area was in line with state-wide property prices, with the exception of Bowenfels which experienced uncharacteristically high sale prices in 2025.

Median housing price trends for the regional study area are demonstrated Figure C.6.



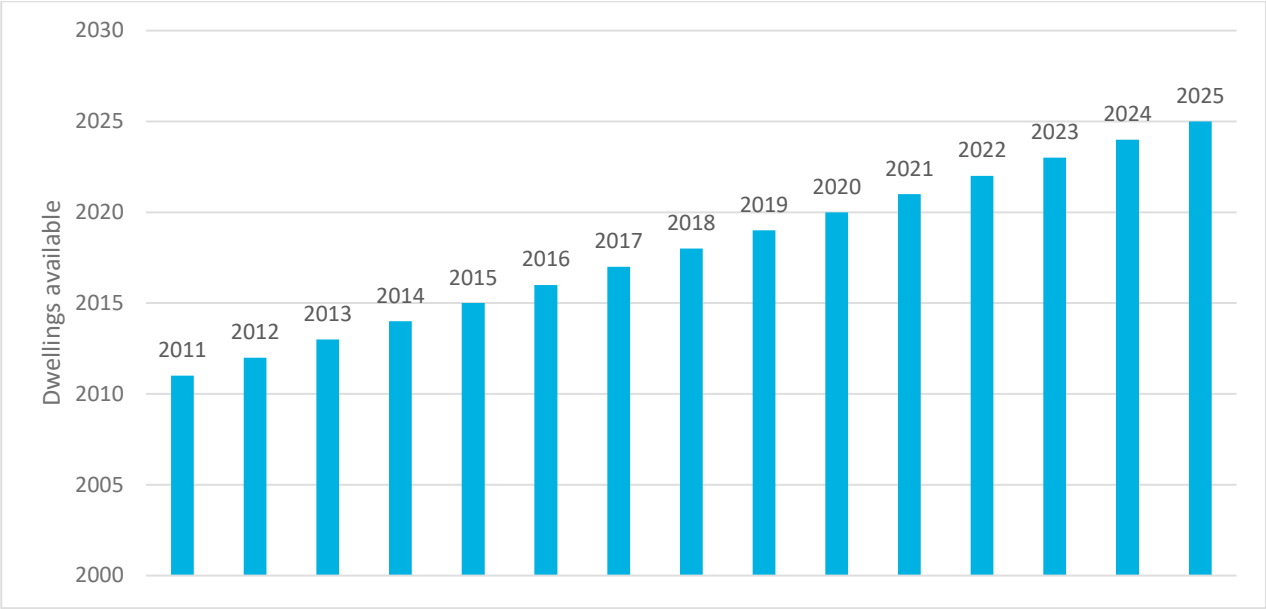
Source: REA Group 2025

Note: Local area property prices are only available for the suburbs represented in the figure. Other suburbs did not have data available at the time of reporting (July 2025) due to low number of sales

Figure C.6 Median property price trends within postcode 2790, 2019–2025

C.7.2 Housing availability

Figure C.7 shows the median yearly total property listings for postcode 2790. The figure shows from 2011 to 2015, total property listings were consistently above 200 before decreasing in 2016 to 199 listings. There was further growth in property listings with another peak in 2019 with a median of 272.5 listings. In particular, November 2019 had the highest number of property listings out of the time series with 340 listings. However, there was a significant decline in property listings in 2021 to a median of 102.5 listings. This continued in 2022, with a median of 112 listings as well as having the lowest number of listings out of the time series with 56 listings in January 2022. However, by December of 2022 property listings had slightly recovered with 159 properties listed, with this increase continuing slowly throughout 2023 and 2024. In terms of property types, houses were roughly above 80% of the type of stock on the market across the time series and units were roughly under 20%.



Source: SQM Research 2025, Total Property Listings https://sqmresearch.com.au/total-property-listings.php

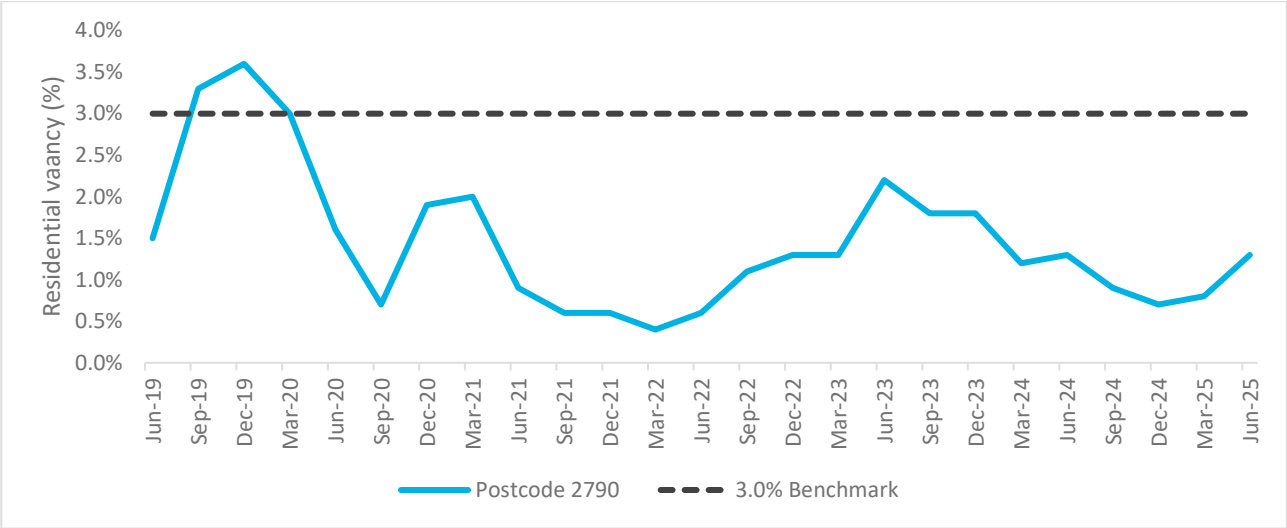
Note: Median number of dwellings for 2025 is only inclusive of data available in July 2025 (January-July), whilst all other data is reflective of a 12-month period (January-December).

Figure C.7 Median yearly total property listings in postcode 2790, 2011-2025

C.7.3 Residential vacancy rates

According to Real Estate Institute New South Wales (REINSW), rental vacancy rates are traditional market indicators that "measure the proportion of residential properties vacant and available for rent at any point in time" (REINSW, 2021). Vacancy rates under 3.0% are low and indicate a tight rental market with an undersupply of rental options while vacancy rates above 3.0% indicate an oversupply of rental options. A higher vacancy rate also indicates a higher proportion of unoccupied dwellings in that area. A rental market with a vacancy rate of about 3% is considered balanced (Brewsters Property Group, n.d.).

The residential vacancy rate trends for postcode 2790 is available in Figure C.8. In September 2019, residential vacancy rates rose to above to 3.3%, before falling below the benchmark in June 2020. By September 2020 the vacancy rate dropped to 0.7% and, after a brief rise to around 2.0% in December 2020 and March 2021, stayed below 1.0% until September 2022. Vacancy rates rose slightly to 2.2% in June 2023, before falling to 1.8% in September of 2023. Residential vacancy rates have remained low, with the latest vacancy rate of 1.3% in June 2025.



Source: SQM Research 2023, Residential Vacancy Rates

Figure C.8 Residential vacancy rate trends, 2019–2025

C.8 Health and community wellbeing

Social determinants of health, described as "the circumstances in which people grow, live, work, age, and the systems put in place to deal with illness…which are shaped by political, social, and economic forces" (AIHW 2022), indicate the health of a population. These include factors such as conditions of employment, provision of social services and support, and socioeconomic position.

C.8.1 Vulnerability and vulnerable groups

i Indicators of vulnerability

Vulnerability refers to an individual or group's capacity to adapt to, or cope with changes in their environment, and is influenced by a range of socio-economic factors operating at different scales (Spielman et al., 2020). Some individuals or groups may be more vulnerable than others due to certain existing socio-economic characteristics. Common indicators of vulnerability include:

- age, such as the very young and the elderly who are more likely to require care and may by financially dependent on the working population (people aged 15 to 64)
- socio-economic status, such as people who are recipient of welfare, reside in social housing, or who are unemployed
- people with a need for assistance, such as those people requiring assistance in the core activities of self-care, mobility or communication because of disability, long-term health condition, or old age
- culturally and linguistically diverse (CALD) populations, such as those who live in households where a non-English language is spoken.

ii Long-term health conditions

The local area has a notably higher proportion of people experiencing health conditions compared to NSW, including arthritis (13.1% vs 8.4%), mental health conditions (10.2% vs 8.0%), and asthma (9.9% vs 7.8%). The same is true for the urban local area, which had a high proportion of residents with arthritis (16.3%), mental health conditions (13.2%) and asthma (11.1%).

Prevalence of asthma is an indicator of respiratory health within communities as well as signalling a vulnerability to dust and other air impacts. Asthma can decrease resilience of the respiratory system against poor air quality that may result from construction activities (dust and other particulate matter). The urban local area had the highest prevalence of asthma with 12.5% in Pottery Estate, 11.6% in Lithgow and 11.0% in South Littleton. Out of the local study area, South Bowenfels had the highest rates of asthma with 10.8%.

Further, Bowenfels SAL had the highest prevalence of mental health conditions in the local study area (12.6%). In the urban local area, Pottery Estate, Sheedys Gully and Lithgow all had over 13% of residents with a mental health condition.

Some groups of people experience higher rates of mental illness and psychological distress than others (AIHW, 2022a). In rural areas, these groups often consist of younger men, elderly men, and Indigenous people (RANZCP, n.d.). Furthermore, management of mental health conditions can be impacted by the ability to access mental health services, which is further discussed in section 5.9.

All health indices, except for instances of kidney disease (which are lower or similar), are higher in the local area, key urban area, and regional area, than in NSW. The study area also has lower rates of people with no condition than NSW, which can indicate a vulnerability in the study area's population. Health indicators are displayed in Table C.17.

Table C.17 Type of long-term health condition, 2021

	Arthritis	Asthma	Cancer	Dementia	Diabetes	Heart disease	Kidney disease	Lung condition	Mental health condition	Stroke	No condition
Local area											
Rydal SAL	15.3%	6.1%	4.3%	0.0%	4.3%	6.7%	0.0%	4.9%	7.4%	3.1%	55.9%
Bowenfels SAL	12.7%	10.5%	2.9%	2.4%	6.2%	5.4%	1.1%	2.7%	12.6%	1.8%	45.6%
South Bowenfels SAL	14.6%	10.8%	4.1%	1.0%	5.7%	6.7%	0.3%	2.5%	6.9%	1.4%	54.1%
Marrangaroo UCL	10.1%	5.4%	3.0%	1.3%	6.7%	4.4%	1.0%	0.0%	6.4%	0.0%	58.6%
Totals	13.1%	9.9%	3.0%	1.7%	6.1%	5.8%	0.7%	2.4%	10.2%	1.2%	50.0%
Urban local area											
Pottery Estate SAL	12.5%	12.5%	5.4%	0.0%	6.3%	7.1%	0.0%	10.7%	13.4%	0.0%	50.9%
Sheedys Gully SAL	14.7%	8.8%	4.4%	0.0%	6.6%	4.4%	2.9%	2.9%	13.2%	0.0%	51.5%
Lithgow SAL	16.8%	11.6%	3.5%	1.5%	8.1%	6.8%	1.2%	3.6%	13.8%	1.7%	46.7%
Littleton SAL	16.3%	7.7%	3.5%	0.8%	6.4%	6.0%	0.8%	2.3%	9.4%	0.9%	53.6%
South Littleton SAL	10.1%	11.0%	2.2%	0.0%	6.0%	3.5%	1.9%	4.1%	12.0%	0.0%	57.4%
Total	**16.3%**	**11.1%**	**3.5%**	**1.3%**	**7.7%**	**6.5%**	**1.2%**	**3.6%**	**13.2%**	**1.5%**	**48.2%**

	Arthritis	Asthma	Cancer	Dementia	Diabetes	Heart disease	Kidney disease	Lung condition	Mental health condition	Stroke	No condition
Key urban area											
Lithgow SA2	14.7%	10.3%	3.5%	1.3%	7.2%	6.0%	1.0%	3.1%	11.8%	1.4%	47.8%
Regional area											
Lithgow LGA	13.9%	9.7%	3.6%	1.0%	6.7%	5.4%	1.0%	3.0%	10.7%	1.3%	49.4%
NSW											
NSW	8.4%	7.8%	2.8%	0.8%	4.8%	3.9%	1.0%	1.7%	8.0%	0.9%	61.0%

Source: ABS 2021, Census of Population and Housing: General Community Profiles

iii Mental health hospitalisations

In 2020/21, Lithgow had mental health related admissions at a rate of 1,057.3 per 100,00 people, which is higher than the NSW rate of 934.1. A high rate of hospitalisations indicates a potential vulnerability to mental health related conditions in the region.

iv Disability

According to the 2021 Census of Population and Housing, there were 365 people who identified as having a need for assistance in the local area, comprising 9.5% of the total local area's population. This is similar in the urban local area, which had a proportion of 8.4% of residents needed assistance. The proportion of those with a need for assistance is higher in the local area than the proportion of people identified as having a need for assistance in both the key urban area (8.5%) and the regional area (7.6%). This indicator is important to consider in relation to the project as any changes to Lake Lyell may affect the quality of the service that the Lake currently provides as a free recreational activity, such as reduced access to swimming areas for disabled peoples.

The 2021 census of population and housing also identified the number of people who identified as having provided unpaid assistance to a person with a disability, health condition, or due to old age. In the local area, 11.2% of the population (or 428 people) identified as aiding people in need, which is comparable to the urban local area (10.8%), in the key urban area (10.8%) and regional area (11.1%). This indicator is significant for identifying its impact on labour force participation rates and can also reflect the levels of care which are provided to disabled or elderly people outside of social services.

The proportions of people identified as having a need for assistance, and as providing unpaid assistance to people with a disability, health concern, or due to old age, are shown in Table C.18.

Table C.18 Disability and disability support, 2021

Area	Persons identified as having a need for assistance	% of total pop	Persons identified as providing unpaid assistance (for a person with a disability, health condition, or due to old age)	% of total pop
Local area				
Rydal SAL	7	4.3%	19	11.7%
Bowenfels SAL	254	12.4%	171	8.3%
South Bowenfels SAL	85	6.4%	185	14.0%
Marrangaroo UCL	19	6.4%	53	17.8%
Totals	**365**	**9.5%**	**428**	**11.2%**
Urban local area				
Pottery Estate SAL	7	6.3%	7	7.3%
Sheedys Gully SAL	11	8.1%	15	13.8%
Lithgow SAL	440	8.9%	543	12.8%
Littleton SAL	53	7.2%	86	13.8%
South Littleton SAL	16	5.0%	23	9.3%
Total	**527**	**8.4%**	**674**	**10.8%**
Key urban area				
Lithgow SA2	1049	8.5%	1337	10.8%
Regional area				
Lithgow LGA	1592	7.6%	2306	11.1%

Source: ABS 2021a, Census of Population and Housing: General Community Profiles; ABS 2021b Census of Population and Housing: Quickstats

C.8.2 Socio-economic advantage and disadvantage

The levels of disadvantage and advantage in the population can be indicated by the Socio-Economic Indexes for Areas (SEIFA). Using ABS Census data, these indexes measure aspects such as low-income earners, relatively lower education attainment, high unemployment, and dwellings without motor vehicles. SEIFA provides four summary measures including:

- the Index of Relative Socio-Economic Disadvantage (IRSD)
- the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD)
- the Index of Economic Resources (IER)
- the Index of Education and Occupation (IEO).

Each index is a summary of a different subset of Census variables and focuses on a different aspect of socio-economic advantage and disadvantage. Low rankings are deemed most disadvantaged and high rankings least disadvantaged within a decile ranking system where the lowest 10% of areas within Australia are given a decile number of 1 and the highest 10% of areas are given a decile number of 10.

The SEIFA index for the SALs in the local area, (Rydal SAL, Bowenfels SAL, and South Bowenfels SAL), the urban local area (Pottery Estate SAL, Sheedys Gully SAL, Lithgow SAL, Littleton SAL, and South Littleton SAL) the key urban area (Lithgow SA2) and the regional area (Lithgow LGA) are shown respectively in Figure 5.4.

Decile rankings for the IRSD and IRSAD are in the 1st decile for Bowenfels SAL, Pottery Estate SAL and Lithgow SAL, and the 2nd and 1st decile respectively for Lithgow SA2. This may indicate that these areas may have higher numbers of households with low income, fewer people with tertiary qualifications, more people in low skilled occupations, and/or fewer people with high income or skilled occupations. This is consistent with Bowenfels SAL, Pottery Estate SAL and Lithgow SA2 having the lowest income levels out of the study area as shown in Table C.9. Rates of Year 12 completion in Bowenfels SAL, Pottery Estate SAL, Littleton SAL and Lithgow SA2 are the lowest in the study area, as shown in Figure C.9. South Littleton was in the 2nd decline for IRSD and IRSAD whilst Rydal SAL, Sheedys Gully SAL, and Lithgow LGA ranked in the 3rd decile, whereas South Bowenfels SAL had the highest ranking in the 7th decile.

Bowenfels SAL and Pottery Estate SAL continue to have the lowest decile rankings for the IER, ranking in the 1st decile. Littleton SAL, South Littleton and Lithgow SA2 also had low decline ranks, falling in the 2nd decile for IER. Lower scores demonstrates that there may be high levels of unemployment, fewer people who are qualified and who are in low skilled occupations. Sheedys Gully and Lithgow LGA also had a lower decile ranking for the IER (3rd decile) while Rydal SAL ranked in the 5th decile and South Bowenfels SAL had the highest ranking in the 8th decile.

Finally, Bowenfels SAL, Littleton SAL, South Littleton SAL, Lithgow SAL and Lithgow SA2 had the lowest ranking for the IEO in the 1st decile. Pottery Estate SAL and Lithgow LGA also had a low ranking in the 2nd decile. These areas may have more households with low income and/or paying low rent, as well as fewer households with high income and fewer homeowners. Rydal SAL and South Bowenfels have middling IEO scores in the 4th decile.

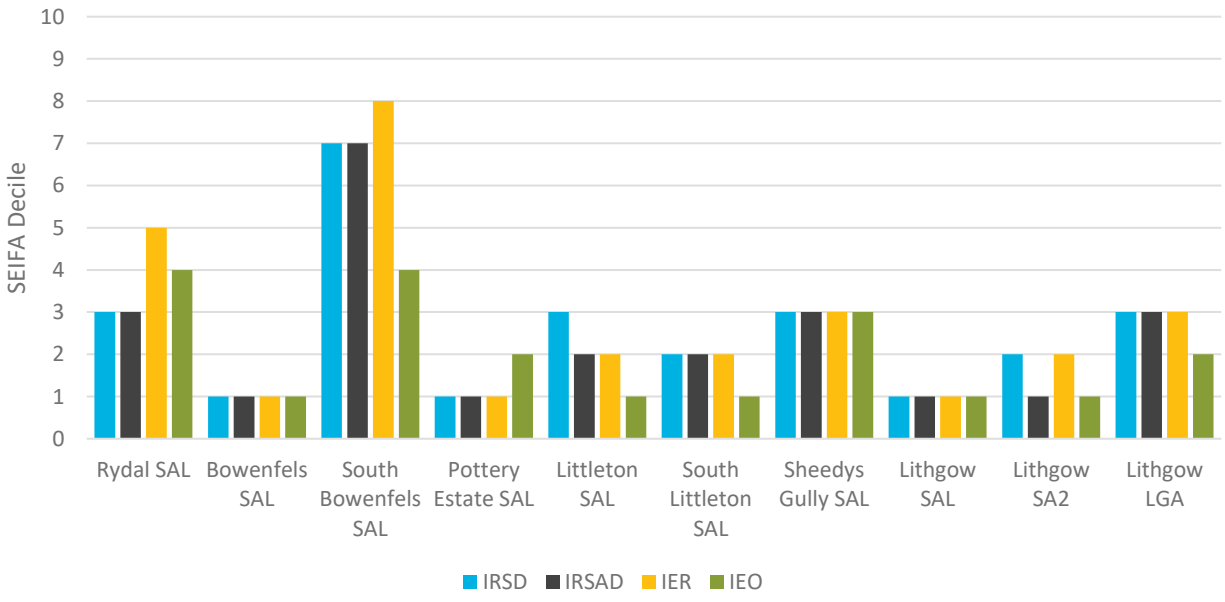


Figure C.9 SEIFA deciles for the local study area and regional study area, 2021

C.8.3 Voluntary work / volunteerism

An indicator of community strength and cohesion is the level of participation in volunteering, which reflects people's willingness to be involved in their local community.

Overall, the regional study area recorded higher rates of volunteering compared to New South Wales as a whole. At the 2021 Census, approximately 15.4% of residents aged 15 years or over in the local study area and 13.1% in the urban local area engaged in voluntary work, compared with 13.0% for New South Wales as a whole (ABS, 2021). This is primarily attributed to the SALs of Rydal and South Bowenfels in the local study area, as well as South Littleton and Sheedys Gully in the urban local area. This coincides with the older population of these localities (as demonstrated in Table C.19), which demonstrates the generational presence in the communities that is integral for building an enduring community value (Hales, 2008).

Table C.19 Volunteering rates, 2021

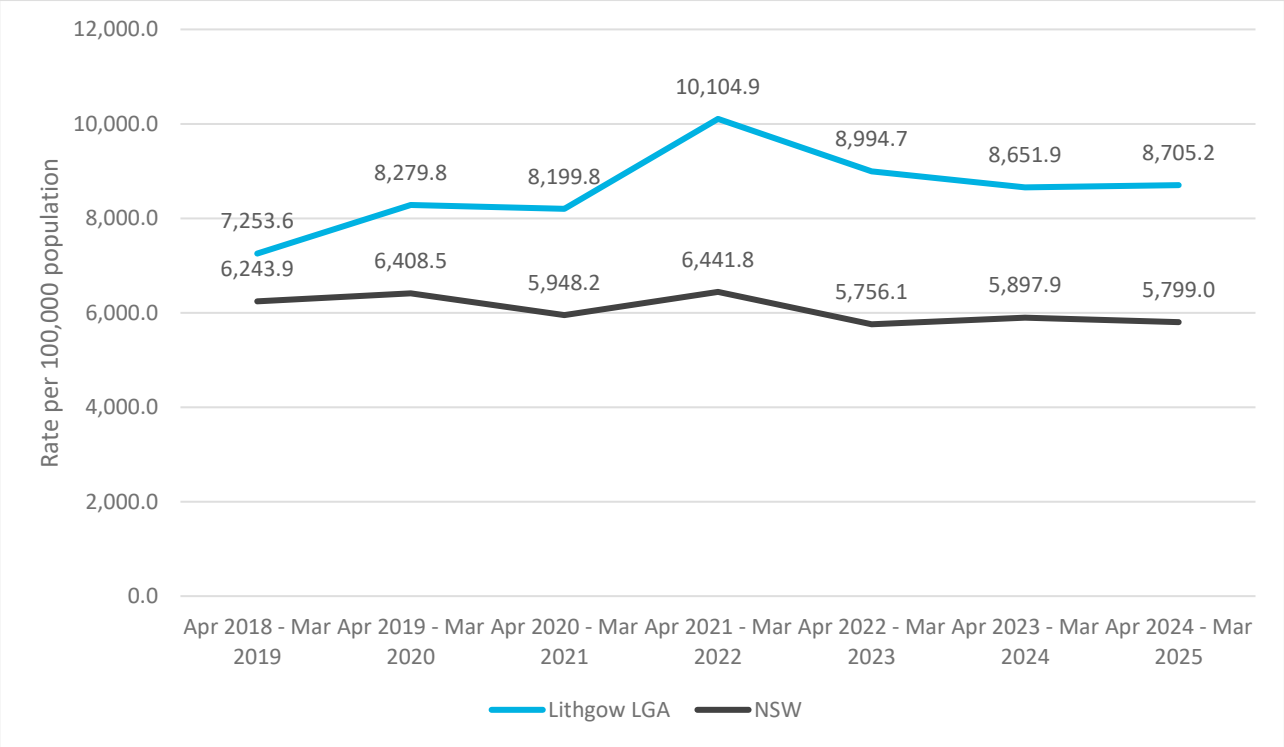
Area	Did voluntary work through an organisation or group (last 12 months)
Rural local area	
Rydal SAL	23.1%
Bowenfels SAL	9.8%
South Bowenfels SAL	21.9%
Marrangaroo UCL	19.4%
Total	**15.4%**
Urban local area	
Pottery Estate SAL	5.3%
Sheedys Gully SAL	18.5%
Lithgow SAL	12.6%
Littleton SAL	13.5%
South Littleton SAL	20.7%
Total	**13.1%**
Key urban area	
Lithgow SA2	13.5%
Regional study area	
Lithgow LGA	14.5%
NSW	
NSW	13.0%

C.8.4 Community safety

Analysis of reported rates of criminal offence contributes to a holistic understanding of the project's social environment and existing levels of community safety and wellbeing. Crime rates may also signal underlying social complexities, such as economic hardship, lack of social cohesion, or limitations in local access to social infrastructure and services.

Table C.19 shows the rate of offences per 100,000 population in Lithgow. In April 2024 to March 2025, Lithgow had higher rates of assault, sexual offences, theft, malicious damage to property, against justice procedures, drug offences and disorderly conduct compared to the NSW rates. However, NSW had higher rates of homicide and robbery than Lithgow LGA. In 2025, Lithgow's rate of offences was 8,705.02 compared to NSW's rate of 5,799.0.

The elevated rates of both personal and property crime in Lithgow LGA may be affecting local residents' quality of life and could influence perceptions of safety within the community. However, reported offences may be more concentrated in the regional centre, as consultation with local area stakeholders did not identify existing levels of community safety as a concern or a risk to their quality of life.



Source: BOSCAR 2024

Figure C.10 Total offences per 100,000 population, 2018-2025

Table C.20 Offences in Lithgow LGA and NSW, 2018-2025 per 100,000 population

Offence group	April 2018 - March 2019		April 2019 - March 2020		April 2020 - March 2021		April 2021 - March 2022		April 2022 - March 2023		April 2023 - March 2024		April 2024 - March 2025	
	Lithgow	NSW	Lithgow	NSW	Lithgow	NSW	Lithgow	NSW	Lithgow	NSW	Lithgow	NSW	Lithgow	NSW
Assault	1,134.1	795.3	1,160.5	817.4	1,266.0	790.8	1,340.6	772.9	1,544.2	836.3	1,684.0	890.9	1,573.1	899.4
Homicide	0.0	1.4	0.0	1.4	0.0	1.1	0.0	0.9	0.0	0.9	0.0	1.2	0.0	1.2
Robbery	4.6	31.4	14.3	30.5	19.2	24.4	9.6	20.9	38.6	22.8	19.3	23.4	19.4	22.8
Sexual offences	259.3	175.3	323.4	180.0	350.0	195.2	394.0	191.8	361.9	217.9	270.2	226.6	482.5	240.3
Theft	2,634.0	2,659.3	3,248.1	2,663.4	2,599.0	2,010.9	2,609.2	1,962.4	3,107.4	2,106.8	3,049.6	2,225.7	2,764.9	2,117.7
Malicious damage to property	1,009.1	719.0	1,155.7	694.0	1,021.3	651.2	874.5	592.7	1,105.0	588.5	1,196.7	594.7	1,047.1	576.7
Against justice procedures	1,106.3	830.3	1,355.4	943.5	1,472.1	993.1	1,114.8	1,003.3	1,606.9	1,027.7	1,495.9	1,050.6	1,592.3	1,107.6
Disorderly conduct	398.1	243.4	337.6	250.2	364.4	222.8	355.6	209.7	550.1	226.6	366.8	232.9	400.6	234.7
Drug offences	527.6	606.1	518.3	645.7	618.7	636.7	494.7	571.5	453.8	534.3	395.7	499.3	545.4	458.0
Other offences	180.5	182.4	166.5	182.4	489.1	422.0	2,911.9	1,115.7	226.8	194.3	173.7	152.6	279.9	140.6
Total	**7,253.6**	**6,243.9**	**8,279.8**	**6,408.5**	**8,199.8**	**5,948.2**	**10,104.9**	**6,441.8**	**8,994.7**	**5,756.1**	**8,651.9**	**5,897.9**	**8,705.2**	**5,799.0**

Source: BOSCAR, 2025

C.9 Social infrastructure

Social infrastructure refers to community facilities, services, and networks that help individuals, families, groups, and communities meet their social needs, maximise their potential for development and enhance community wellbeing. Deficient social infrastructure can have adverse impacts on a town or region's ability to attract inward migration and to retain a permanent population to contribute to community development and economic growth. Due to the increased workforce that will be brought by the project it is important to determine the capacity for service provision and social infrastructure in the study area.

Table C.21 outlines the social infrastructure and community facilities available in the nearby communities as of July 2025.

As smaller urban areas, the local study areas of Rydal SAL, Bowenfels SAL, South Bowenfels SAL and Marrangaroo UCL comprise of limited social infrastructure and community facilities. This is also true for the urban local area, including Pottery Estate SAL, Sheedys Gully SAL, Littleton SAL, and South Littleton SAL. The social infrastructure and community facilities in the local areas include childcare centres, community services, fire stations, schools and medical services. On the other hand, Lithgow SA2 and SAL comprise of numerous social infrastructure and community facilities due to consisting of a population of greater than 10,000 people.

Table C.21 Social infrastructure in nearby communities (as of July 2025)

Social infrastructure and community facility	Rydal SAL	Bowenfels SAL	South Bowenfels SAL	Marrangaroo UCL	Pottery Estate SAL	Sheedys Gully SAL	Lithgow SAL	Littleton SAL	South Littleton SAL	Lithgow SA2
Childcare centre	0	1	0	0	0	0	5	1	0	7
Primary school	0	0	0	0	1	0	2	0	0	4
Secondary school	0	0	0	0	0	0	0	1	0	2
Tertiary institution	0	1	0	0	0	0	2	0	0	4
Arts and cultural community facilities	0	1	0	0	0	0	1	0	0	6
Community services[1]	0	1	0	0	1	0	7	0	0	14
Hospital	0	1	0	0	0	0	0	0	0	1
GP/medical centre	0	1	0	0	1	0	4	0	0	6
Ambulance Station	0	0	0	0	0	0	1	0	0	1
Police Station	0	0	0	0	0	0	1	0	0	1
Fire Station	1	0	0	0	1	0	0	0	0	3
Retirement village/Aged care	0	3	0	0	0	0	4	0	0	4
Centrelink office	0	0	0	0	1	0	0	0	0	1
Mental health services	0	2	0	0	0	0	3	0	0	6
Indigenous health services	0	0	0	0	0	0	0	0	0	2

Source: google.com – map search.

Notes: 1. Community services include aged care and senior services, children's services, youth services, disability and accessibility services, housing and homelessness services, women's services and family services, Aboriginal services, employment services, and domestic violence services

C.9.1 Health and emergency services

As indicated in Annexure C, there is limited availability of health services in the local area, and a vast majority are provided in Lithgow, which is home to key service providers such as:

- Lithgow Hospital
- Lithgow Community Health Centre
- Lithgow Valley Medical Practice
- NSW Ambulance – Lithgow
- Ochre Medical Centre – Lithgow and Bowenfels
- Lithgow Police Station.

C.9.2 Social services

Social infrastructure refers to community facilities, services, and networks that help individuals, families, groups and communities meet their social needs, maximise their potential for development and enhance community wellbeing. Recreation assets are addressed in more detail in Appendix E of the SIA.

Lithgow is a service hub that is home to most of the childcare centres, primary schools, secondary schools, tertiary institutions and arts and cultural community facilities in the LGA. Key social services available include:

- Centrelink
- Lithgow Library
- The University of Notre Dame Australia - Lithgow Clinical School,
- Stride NDIS Support
- Lithgow Employment Service
- OCTEC Lithgow
- Lithgow Medical Clinic
- Lithgow High School
- Lithgow Primary School
- TAFE NSW – Lithgow
- Western Sydney University, Lithgow Campus
- Lithgow Information and Neighbourhood Centre.

C.9.3 Transport and connectivity

i Road infrastructure and transport

Transport and connectivity are important elements for regional communities. Regionally significant road networks near to the project Site include the Great Western Highway and Chifley Road which connects in Lithgow. The Great Western Highway is a major thoroughfare through the Blue Mountains from Bathurst. Chifley Road connects to the town of Bell before turning into Bells Line of Road which also goes through the Blue Mountains. Major regional towns connected to Lithgow include Bathurst and Orange. Bathurst is a 49-minute drive from Lithgow and Orange is 1 hour and 39 minutes away.

The Blue Mountains Line also has stations in Lithgow and Rydal, which connect to Sydney and Bathurst. Figure 1.1 indicates key transport routes in the region.

ii Modes of travel

Modes of travel to work in the study area are summarised in Table C.22. Based on the 2021 Census, the predominate mode of travel to work in the local study area is by car, either as a driver or passenger (73.3% which is higher than the key urban area (68.5%), the regional study area (67.1%), and NSW (46.3%). There was lower prevalence of people traveling by car in the urban local area (66.2%), however this proportion remains higher when compared to the state.

Travelling by public transport in Rydal SAL, South Bowenfels SAL, and Marrangaroo UCL is non-existent and limited in Bowenfels SAL (1.7%), with NSW having a greater rate of public transport use (3.8%). With the exception of Lithgow SAL, no one in the urban local area travelled via public transport in 2021. Within the local study area, the high proportion of people travelling to work by car may indicate a lack of access to public transport as well as a proportion of the population not needing to travel far to access work.

Table C.22 Modes of travel, 2021

Area	By car (as driver, as passenger)	By public transport (train, bus, ferry, tram)
Local study area		
Rydal SAL	60.0%	0.0%
Bowenfels SAL	71.4%	1.7%
South Bowenfels SAL	75.4%	0.0%
Marrangaroo UCL	80.0%	0.0%
Total	**73.3%**	**0.9%**
Urban local area		
Pottery Estate SAL	61.1%	0.0%
Sheedys Gully SAL	61.4%	0.0%
Lithgow SAL	65.2%	0.6%
Littleton SAL	69.8%	0.0%
South Littleton SAL	75.2%	0.0%
Total	**66.2%**	**0.5%**

Area	By car (as driver, as passenger)	By public transport (train, bus, ferry, tram)
Key urban area		
Lithgow SA2	68.5%	0.7%
Regional study area		
Lithgow LGA	67.1%	0.4%
NSW		
NSW	46.3%	3.8%

Source: ABS 2021, Census of Population and Housing: General Community Profile

iii Public transport

There is a public transport network around Lithgow including a train station that connects to Sydney and Bathurst. It also has a stop for bus and coach services to Dubbo, Bathurst, and Broken Hill. Overall, there are five bus services around Lithgow, connecting Bowenfels, South Bowenfels, and Marrangaroo. There is a train station at Rydal which is part of the train route that connects Dubbo and Sydney.

iv Air

The closest airport to the study area is Bathurst Airport, a domestic airport of medium size that flies to Sydney. There is also an airport in Orange which is a key transport hub for central west NSW providing flights to Sydney, Brisbane, and Melbourne (Orange City Council, n.d.).

Annexure D

Tourism and recreation impact study

EMM
creating opportunities

Lake Lyell Pumped Hydro Energy Storage Project

Tourism and recreation study

Prepared for Lake Lyell Project Pty Ltd

November 2025

Lake Lyell Pumped Hydro Energy Storage Project

Tourism and recreation study

Lake Lyell Project Pty Ltd

E221111 SIA

November 2025

Version	Date	Prepared by	Reviewed by	Comments
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3	27 November 2025	Breannan Dent Brooke Theobald	Sam McCrea Alex Frolich	Final

Approved by

Samantha McCrea

Sam McCrea
Associate Director, Social Assessment and Performance
27 November 2025

Level 10 201 Pacific Highway
St Leonards NSW 2065
ABN: 28 141 736 558

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Executive Summary

ES1 Introduction and approach

As part of the social impact assessment (SIA), this Tourism and Recreation Impact Study (the study) seeks to identify and assess potential impacts and opportunities associated with recreation values related to the Lake Lyell Pumped Hydro Project. The study identifies existing tourism and recreational values and stakeholders, and assesses how the project may affect them. The assessment also identifies opportunities to offset impacts and/or enhance outcomes for the project and community.

This study focuses on Lake Lyell and Mount Walker, as these are key recreation assets close to the project, and thus are more likely to be impacted, or to benefit from opportunities.

There is no widely accepted methodology for undertaking a Tourism and Recreation Impact Study for major projects. As such, an approach guided by the 2025 SIA Guideline has been tailored to be contextually fit-for-purpose.

ES2 Study area

For consistency, the study area refers to the same study area as the SIA. The study area includes two local areas and a regional area. The local area consists of a rural local area made up of the suburbs of Rydal, Bowenfels, and South Bowenfels, and the locality of Marrangaroo. These suburbs are in proximity to Lake Lyell and Mount Walker and are therefore more likely to experience impacts related to tourism and recreation. The urban study area is related to a proposed alternative town accommodation camp option, and includes Lithgow, Pottery Estate, Littleton, South Littleton and Sheedys Gully. The regional study area is the Lithgow local government area (LGA).

ES3 Key stakeholders

Stakeholders for this study include key local and regional recreation stakeholders, including Lithgow City Council, NSW National Parks and Wildlife Service (NPWS), Forestry Corporation, local community members, day and short-stay visitors, and other visitors from over one-hour drive away.

ES4 Tourism and recreation baseline

The tourism and recreation baseline considers relevant planning and policy documents and existing tourism conditions. The baseline also considers recreational assets which may be impacted by the project, including accommodation providers, regional attractions, events and supporting infrastructure.

The local area hosts Lake Lyell and Mount Walker, as well as Marrangaroo National Park and Lidsdale State Forest. These are the nearest recreational assets to the project.

Lake Lyell is a popular site for recreation in the Lithgow region, with a range of water-based and land-based activities offered. Water-based activities include fishing and boating, water sports, canoeing and kayaking. Land-based recreation activities include camping, bushwalking, trail biking, and four-wheeled driving (4WD).

The Mount Walker Trig Point, and surrounding fire trails used to access it, are recreation assets for the region. The closest recreation facility to Mount Walker is the Marrangaroo National Park, including the Marrangaroo Campground, which is suitable for tents and caravans. The campground is operated by the NPWS.

ES5 Engagement

Engaging with stakeholders is necessary to understand how they might experience and perceive impacts. The engagement program for this study was undertaken alongside the project and SIA engagement. Interviews with recreation and tourism stakeholders were conducted, and a survey of users of Lake Lyell Recreation Park and Lidsdale State Forest 4WD area was completed on the Labour Day long weekend in 2024 (6 October). Broader community feedback on the project has also been incorporated in this study where appropriate.

ES6 Impacts and opportunities

Impacts and opportunities have been considered in Chapter 7 of this study. Impacts were assessed based on a potential worst-case scenario, and residual impact is assessed on the basis that proposed mitigation or enhancement measures are effectively implemented. Key impacts were construction disrupting local amenity, vegetation removal on Mount Walker, reduced public access to the project area and road safety. Key benefits were project construction increasing accommodation demand, and potential reuse of project infrastructure.

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1 Introduction

1.1 Background

EnergyAustralia Portfolio Holdings Pty Ltd (EnergyAustralia) in partnership with EDF power solutions Australia (EDFA), referred to as Lake Lyell Project Pty Ltd (LLP) as trustee, is developing the Lake Lyell Pumped Hydro Energy Storage (PHES) Project (the project). The project will have the capacity to store up to 3,080 megawatt hours (MWh) of energy and generate at 385 megawatts (MW) for 8 hours or generate up to around 440 MW for a shorter period. At a basic level, it will consist of upper and lower water reservoirs, a pipeline connecting them, and a hydro-electric power station connected to the national energy grid that is capable of generating or consuming electricity.

The project is located approximately 5 kilometres (km) west of Lithgow and 110 km west of the Sydney central business district. The project takes advantage of existing infrastructure (i.e. Lake Lyell) associated with Mt Piper power station which will be decommissioned in the coming decades and allows Lake Lyell to continue to serve a specific purpose in electricity generation (consistent with its existing use).

In June 2024, the Minister for Planning and Public Spaces declared the project to be critical State significant infrastructure (CSSI). Accordingly, approval for the project is required under Part 5, Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). This requires the preparation of an environmental impact statement (EIS) for the project in accordance with Secretary's environmental assessment requirements (SEARs) and the approval of the Minister. EMM Consulting Pty Limited (EMM) has been engaged by LLP to prepare the EIS.

1.2 Purpose of study

The purpose of this Tourism and Recreation Impact Study (the study) is to understand, identify, and assess the potential impacts to recreation values due to the construction and operations of the project. The objectives underpinning the study are to:

- understand and identify existing tourism, recreational values and recreational users that may be impacted by the project, with a focus on Lithgow, Lake Lyell and Mount Walker and provide some additional context associated with tourism attractions in the broader region
- assess how the project may impact existing and future tourist and recreation values at Lake Lyell, Mount Walker and surrounds, during project construction and operation
- identify opportunities to offset any identified impacts and to enhance recreation and social outcomes for the project and the community, should the project proceed.

This study addresses the relevant recreational matters of the SEARs for the project, specifically which requires:

- an assessment of the social impacts of the project in accordance with Social Impact Assessment Guideline (DPIE, 2023) and the SIA Guideline – Technical Supplement (DPIE, 2023) and consideration of construction workforce accommodation, including impacts on…
  - users of nearby National Parks and Reserves (including Marrangaroo National Park), Conservation Areas.

There is no widely accepted methodology for undertaking a Tourism and Recreation Impact Study for major projects, therefore a tailored approach has been developed that is contextually fit-for-purpose and is broadly guided by the methodology for a social impact assessment (SIA). Engaging communities and stakeholders is necessary to understand how they might experience and perceive impacts to recreation values. The community and stakeholder engagement program for the study was based on outcomes of the SIA broader engagement project, which included in-depth interviews with recreation and tourism stakeholders.

1.3 Study limitations and assumptions

The following limitations and assumptions underpin the preparation of this study:

- Primary data was collected based on community members willingness to participate and therefore may not be representative of the broader community.
- This study was prepared using data collected by the ABS on Census night in 2021, and available at the time of collection on 1 November 2024, meaning there may have been changes to baseline conditions represented in this study.
- Census data was collected during COVID restrictions in 2021, therefore some of the data around tourism and recreation may not be accurate to normal conditions in the study area.
- It is assumed that recreation and accommodation opportunities in and around Lake Lyell and Mount Walker and to a lesser extent Lithgow town centre form part of a broader context of tourism attractions and opportunities in the broader region, which are unlikely to be affected by the project.
- The focus of this assessment is impacts to stakeholders who are affected by the project as proposed, and therefore the focus is Lake Lyell, Mount Walker and the areas around the proposed accommodation camps. Tourism and recreation in the broader region is acknowledged however community engagement or media reviews for the purposes of this tourism and recreation study have not been conducted for the broader region.

2 Approach

2.1 Scoping of issues

Scoping was conducted to identify the potential recreation issues for the project and to identify the stakeholders and recreation activities and facilities likely to be affected by project construction and operation. This included consideration of impacts of similar projects elsewhere. Key tasks undertaken during scoping include:

- review of relevant local government policies and legislation to identify and summarise the potential implications of the project to recreation values
- identification of likely affected stakeholder groups to understand who may be affected, how they may be affected, and their interests, values and aspirations as it relates to recreation
- identification of impacts relating to recreation values as a result of the projects construction and operation.

2.2 Understanding existing recreation values

A description of existing recreation characteristics potentially affected is required to provide a suitable baseline from which the recreation impacts of the project may be assessed. Preparation of the baseline involved:

- review of scoping findings for relevance to the project
- assessment of data from relevant resources, including ABS and Destination NSW data.

The description of existing recreational values included consideration of both qualitative and quantitative data, including from local government planning documents and revisions made to align with outcomes of community and stakeholder engagement.

2.3 Community and stakeholder engagement

Understanding community and stakeholder perspectives and values is important due to the high environmental and recreational value surrounding Lake Lyell, Mount Walker and surrounds. Engaging stakeholders is necessary to understand how they might experience and perceive impacts to recreation values.

A community and stakeholder engagement program was designed and implemented to support the project's SIA. The objectives of the program include:

- providing stakeholders with the opportunity to define local recreation values and the characteristics of potentially affected areas
- providing the opportunity to identify and assess potential recreation impacts and applicable mitigation and management strategies
- ensuring the SIA considers the interests and perspectives of stakeholders who may be affected by the project
- providing opportunity to validate and verify secondary data.

2.4 Impact assessment

For the purposes of this study, a risk assessment approach consistent with the requirements of the NSW SIA Guideline 2025, and the broader SIA, has been applied. This includes systematic assessment of each identified social impact to predict the nature and scale of social risk associated with construction and operation of the project. The risk approach assesses the magnitude and likelihood of potential positive and negative social impacts. A detailed breakdown of the risk matrix and dimensions of magnitude is provided in Chapter 3 of the SIA.

2.5 Identifying opportunities

As part of the assessment of potential recreational impacts, opportunities to mitigate impacts or enhance recreational values of the site or surrounding area were also explored. These opportunities were identified as part of the engagement with the community and stakeholders conducted for the SIA and this study (refer to Section 2.3), and with LLP as part of the broader community benefits program being developed for the project.

3 Study area

For consistency, this assessment has referred to the same study area as the SIA, described in Table 3.1. The rural local area, urban local area, key urban area and regional area are illustrated in Figure 4.1 of the SIA.

Table 3.1 Locations within the SIA study area mapped to ABS categories

Study area	Geographic area	ABS statistical geography
Rural Local area	Rydal suburb	Rydal SAL
	Bowenfels suburb	Bowenfels SAL
	South Bowenfels suburb	South Bowenfels SAL
	Marrangaroo locality	Marrangaroo UC/L
Urban local area	Pottery Estate locality	Pottery Estate SAL
	Sheedys Gully locality	Sheedys Gully SAL
	Lithgow suburb	Lithgow SAL
	Littleton locality	Littleton SAL
	South Littleton locality	South Littleton SAL
Key urban area	Lithgow city	Lithgow SA2
Regional area	Lithgow local government area	Lithgow LGA
NSW	State of NSW	New South Wales STE

4 Key stakeholder groups

In addition to overarching interests of State government groups such as Destination NSW, key local and regional recreation stakeholders include:

- Lithgow City Council
- NSW National Parks and Wildlife Service (NPWS)
- Forestry Corporation
- local community members
- day and short-stay visitors from Sydney, the Blue Mountains, Bathurst or Orange
- visitors from outside a one-hour travel time of the site, who also constitute tourism stakeholders. These may include:
    - grey nomads
    - State, interstate and international visitors on extended trips.

The draft Seven Valleys Destination Action Plan (Lithgow City Council, 2024) identifies the following existing tourism markets:

- Gen X and Gen Y; travelling alone or as a couple
- visiting friends and relatives
- event participants (including sports)
- Baby Boomers
- nature lovers.

The Plan also states an intention to attract new markets, including:

- working from anywhere travellers
- active Gen Z and families
- secondary wellness market
- arts / heritage interests
- more active 55+.

The visitor economy also supports a variety of business interests in industries that include direct tourism and hospitality services and indirect interests. Key interest groups include:

- accommodation providers
- tour operators
- rental hire businesses

- transport service operators
- attraction operators, including built (Zig Zag Railway) and natural (Wombeyan Caves)
- local businesses, such as cafes petrol stations, grocery stores and bottle shops
- service industries including laundry and cleaning providers.

More detail on key stakeholders in the local, regional and key urban areas is provided in Sections 5 and 6 of this study.

5 Tourism and recreation baseline

The tourism and recreation baseline considers relevant planning and policy documents and existing tourism conditions. It is acknowledged that tourism and recreation within the broader region is extensive and Lake Lyell and surrounds is a contributor within this context. As such, the baseline has largely focused on recreational assets which may be impacted by the project, including accommodation providers, regional attractions, events and supporting infrastructure.

5.1 Policy and strategic planning context

Table 5.1 summarises relevant policies, plans and strategies that have been considered.

Table 5.1 Summary of policy context

Government Authority	Document	Key objectives/description/relevance to the project
Lithgow City Council	The Seven Valleys Destination Action Plan 2024-2030 (Draft) (Lithgow City Council, 2024) 	The draft Seven Valleys Destination Action Plan (2024) outlines a vision for Lithgow to expand its tourism market and as a result heighten expenditure and liveability in the region. Key objectives include: • establish a pathway to genuine sustainability at the destination and business level • enhance existing experiences and events for residents and businesses • attract investment in sustainable, nature and culture-based tourism experiences, accommodation and hospitality • attract investment for infrastructure and facilities that deliver shared benefits for residents and visitors • increase awareness and appeal of the Seven Valleys in the marketplace This plan helps to understand the importance of tourism in the region, as well as future plans of Council. This will support the tourism and recreation study by allowing insight into local values and plans.
	Lithgow Emerging Economy Project: Shaping the Future of Lithgow (Tourism) 2024 (Lithgow City Council, 2024)	The Lithgow Emerging Economy Project (LEEP) sets out plans for a successful energy transition with the goal of Lithgow becoming a "modern, diverse economy with new job opportunities". Within this, there are a range of identified economic opportunities, one of which is tourism. Tourism was identified as playing a key role in the Lithgow economy due to its contribution of accommodation, food services, art and recreation services, and retail trade. Key tourism draws for the Lithgow region were identified as the Gardens of Stone, Marrangaroo, Turon and Wollemi National parks. The LEEP tourism document outlines eco-tourism, extreme sports and regional tourism linked to Bathurst, Orange and Mudgee as a way the region can be positioned as a destination of choice. Improving regional services, namely water supply, was identified as a key area that increased tourism will be dependent on.

Government Authority	Document	Key objectives/description/relevance to the project
	Our Place Our Future, Community Strategic Plan 2040 (Lithgow City Council, 2025) 	Community consultation undertaken as part of the Councils' Community Strategic Plan (CSP) (2025) highlighted recreation opportunities as an area that residents would like to see changed. In response, the CSP sets out a 10-year goal for tourism in Lithgow focused on emphasising the regions natural amenity by focussing on eco-tourism, adventure tourism, and local experiences (2025, p. 25).
Destination NSW	Visitor Economy Strategy 2030 (Destination NSW, 2024a) 	The Visitor Economy Strategy 2030 sets targets for growth of the NSW visitor economy, recovery from COVID and increasing the state's profile in a crowded market. The ambitions of the strategy are to improve economic prosperity, build NSW's brand, build sustainable visitor destination offerings, deliver a vibrant culture through events, arts, and open hours to support globally connected business. Lithgow's local objectives are closely tied to the broader visitor economy strategy, and though Lithgow is not currently a key tourism destination for NSW, delivery of outcomes aligned with these strategies will support the growth of the region and provide economic and employment diversity. The project may contribute to the economic growth targets set by the strategy by collaborating with local tourism business to improve occupancy rates through project workforce accommodation, though detailed and ongoing engagement is required to prevent a loss of capacity for visitors to the region.

5.2 Tourism and recreation trends in the Lithgow region

5.2.1 Tourist economy and visitation

Council's CSP identified recent developments in the region which have seen Lithgow recognised as an important tourist destination (Lithgow City Council, 2025, p. 8). Leisure activities are one of the main attractions, as National parks and State forests provide opportunities for outdoor activities such as "bush walking, mountaineering, camping, orienteering, hang gliding, horse riding, off road 4WD, fishing, sailing and water skiing" (Lithgow City Council n.d., 11). This newer perception of Lithgow LGA as a leisure destination is a shift away from Lithgow LGA's previous perception as an inland mining and industrial centre (Lithgow City Council n.d.).

The CSP also identified that Lithgow is popular with Sydney residents. This is corroborated by the 2019 Lithgow LGA tourism profile by Tourism Research Australia (TRA). The report stated that Lithgow LGA received 196,000 intrastate domestic overnight visitors (Australian Trade and Investment Commission, 2019).

Overall, based on a four-year average from 2016 to 2019, Lithgow LGA received a total of 673,000 visitors which resulted in a total expenditure of $67 million for the Lithgow economy (Australian Trade and Investment Commission, 2019). The main reasons for travel were either for holiday reasons (360,000 people, 53.4%) or visiting friends and relatives (216,000 people, 32%). The remainder travelled for business or purposes (97,000 people 14.6%).

In the five years up to 2023/24, Domestic overnight visitors to Lithgow City Council were more likely to be visiting on holiday, accounting for 49.1% (531,446 people) out of a total of 1,083,198 visitors. The average stay duration was 2.3 nights. This indicates significant growth in overall visitor numbers, and the number of people visiting friends and relatives constituted 25.3% (274,154 people). This indicates that in the last five years, a smaller proportion of visitors are in the area for holiday or visiting family, this may be accounted for by a growth in business related travel to 20.1% (218,011 people) (.idcommunity, 2024).

Tourism also indirectly contributes to industries such as retail trade, accommodation and food services, and arts and recreation (Tourism Research Australia, 2023). Major tourist events in Lithgow include a variety of festivals, cultural events, and shows such as the Seven Valleys Live and Local music festival, LithGlow Festival, and Ironfest (Seven Valleys Tourism, n.d.; Destination NSW, 2024).

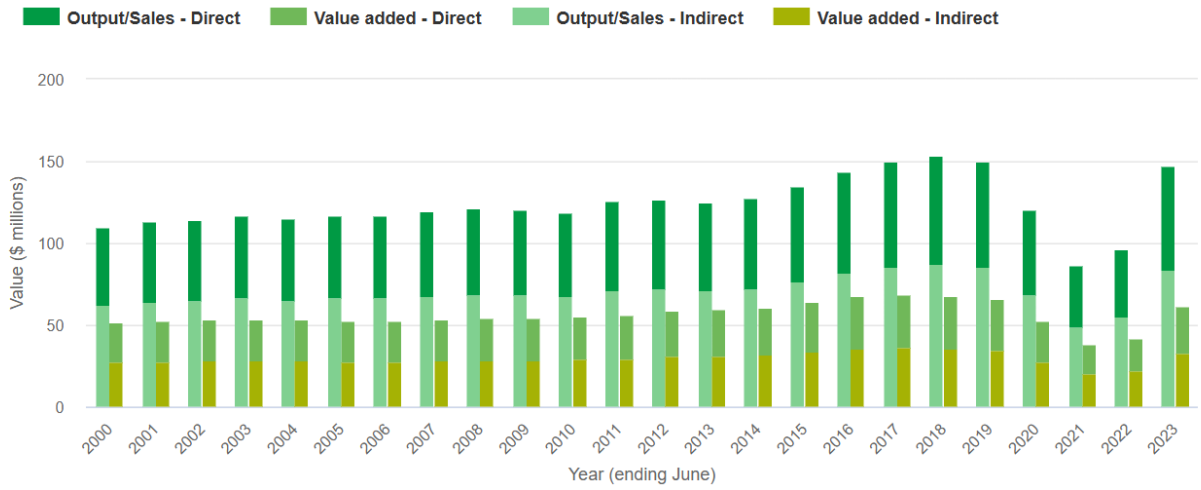
Tourism Research Australia (TRA) has defined tourism regions and provides data for LGAs and these larger tourism regions. The Lithgow LGA falls into the Blue Mountains tourism region. In the Blue Mountains tourism region, tourism contributes $287 million (7.4%) to the economy, with food services being the largest contributing sector (25.0%). Furthermore, tourism accounted for 11.3% of the Blue Mountain's workforce, with 55.0% of tourism-related businesses in the Blue Mountains region employing staff (TRA, 2021). The report found that between 2018 and 2019, the occupancy rate of the region was at 62.1%, (TRA, 2021).

In 2022/23, the total tourism sales in Lithgow City Council was $147.0m, the total value added was $62.1 million. (id.community, 2023) .

In 2020, Lithgow expereinced a decline in the direct and indirect value add of tourism in the region. This can be attributed to the broader context of COVID-19. The pandemic greatly impacted the national tourism industry, with it being among one of the most affected due to travel restrictions (DPM&C, 2024) This decline impacted the value of tourism into the following years, with the tourism industry beginning to recover in 2022. The greatest period of recovery was 2023, which saw numbers close to pre-pandemic values. Before the impacts of the pandemic, Lithgow's value in tourism had been steadily increasing since 2000.

As well as COVID-19, regional natural disasters such as drought, fires and floods impacted the tourism industry (Lithgow City Council, 2024). The draft *Seven Valleys Desintation Action Plan 2024-2030* (Lithgow City Council, 2024) outlines goals to sustainably grow the visitor economy, including attracting investment in nature and culture based tourism and investment in infrastructure which will benefit residents and businesses.

Figure 5.1 represents the changes in the value of tourism from 2000 to 2023, including direct and indirect value add and output.



Source: National Institute of Economic Industry Research 2024, compiled by Economy,id (id.community, 2023)

Figure 5.1 Value of tourism, Lithgow City Council 2000-2023

In particular, the natural environment encompassing Lithgow is important to its tourism strategy. The Destination Action Plan outlined the seven National parks, two nature reserves, the State Conservation Area and a number of State forests as well as the various lakes and rivers. The non-environmental tourism base is associated with Lithgow's rich mining and rail heritage. Nonetheless, the main attractions and supporting infrastructure for Lithgow's tourism base is centred around its natural features (Lithgow City Council 2013). Table 5.2 details the local attractions close to the project site, which are mostly natural features that have recreational value attached to them as well as some businesses whose appeal lies in their association to the natural environment.

5.2.2 Tourism and recreation assets in the Lithgow region

A description of key recreation facilities and activities which attract visitors to the regional area is provided in Table 5.2. The table includes a summary of key recreational activities undertaken at each venue.

It is unlikely that the project will have a substantial impact or value add for the tourism activities based in the broader region which are listed under "other" below, as based on engagement feedback and media reviews it is assumed that Lake Lyell and Mount Walker do not substantially contribute to throughput for these tourism attractions. There may be more impact felt by tourism providers in Lithgow town centre, as this is where many accommodation and hospitality providers are concentrated.

Table 5.2 Regional attractions overview

Opportunity or business	Stakeholder	Type and activities	Location
Lake Wallace			
Lake Wallace Camping	Lithgow City Council	Camping ground	Barton Avenue, Wallerawang NSW 2845
Lake Wallace Playground	Lithgow City Council	Play area	77 Barton Ave, Wallerawang NSW 2845
Lithgow Rowing Club	-	Sporting club	Barton Avenue, Wallerawang NSW 2845
Wallerawang Sailing Club	-	Sporting club	Wallerawang NSW 2845
Lithgow Raceway and Go-Kart Club	Combined Districts Kart Club	Sporting club	Oakley Forest Road, Marangaroo
Lake Wallace and Wallerawang Dam	Lithgow City Council	Tourist attraction: camping (RV friendly), playground, sailing, wildlife spotting (platypus), boating, canoeing, picnicking, rowing by the Lithgow Rowing Club	Wallerawang NSW 2845
Thompsons Creek Reservoir			
Thompsons Creek Reservoir and Dam	EnergyAustralia	Visitor attraction: camping, shore-based fishing. Primary use is an off-creek water storage for the Mount Piper and Wallerawang Power Stations	Wallerawang NSW 2845
Falnash	Forestry corporation	State Forest	Wallerawang NSW 2845
Slavens Cave	Lithgow City Council	Historic landmark, cave and hiking area	Falnash Forest, Wallerawang NSW 2845

Opportunity or business	Stakeholder	Type and activities	Location
Other			
Zig Zag Railway	-	Family attraction, with access to picnic areas, a souvenir store and a café. Unlikely to be directly impacted by the project, but is a significant tourism draw for the region.	840 Chifley Road, Clarence NSW 2790
Newnes State Forest	NPWS (part of the Gardens of Stone Conservation area)	Used by 4WD stakeholders as there is a popular loop which spans approximately 56 km from Clarence. Is not expected to be directly impacted by the project but is a recreational attraction within the region.	28 Numietta Street, Newnes NSW 2790
Gardens of Stone Conservation Area	NPWS	Used by 4WD stakeholders. Not expected to be directly impacted by the project but is a recreational attraction within the region.	Capertee NSW 2790
Wolgan Valley	EmiratesOne&Only	Boutique 5-star accommodation provider. Unlikely to be affected by the project, but a significant draw for high end tourism in the region – has been temporarily closed due to a landslide creating access issues since 2023.	Located between the Wollemi and Gardens of Stone National Park north of Lithgow
Capertee Valley	NPWS	Is unlikely to be directly impacted by the project, but is a significant tourist attraction as it is one of the largest canyons in the world.	Glen Davis NSW 2846
Glow worm caves	NPWS	Popular family tourism attraction located in the Wollemi National Park. Unlikely to be directly impacted by the project, but is a significant tourism draw for the region.	270 Govetts Leap Road, Blackheath NSW 2785
Hassans Walls Reserve	Lithgow City Council	Nature reserve with lookout points constituting a 780 hectare (ha) area of both Crown Land reserved for Public Recreation and Community Land located immediately south of the Lithgow CBD Lithgow City Council. The Statement of Heritage Impact (SoHI) identified that the Lithgow Valley Colliery Company (Jack 1996) established a brickworks on the proposed town camp site by 1976 (High Ground Consulting 2004) to exploit waste clay, shale and the unprofitable small coal from their nearby colliery. A pottery kiln was then installed, and pottery-making for domestic, sanitary and agricultural purposes commenced in 1878. Equipment and capacity of the site was enhanced until increasing competition resulted in closure of the domestic pipe production in 1896. However, in May 1905, the pottery was leased to Staffordshire potter Arthur Brownfield, who commenced operations under the name Australasian Brownfield's Pottery Limited and who further modernised the works and equipment (Lithgow Tourism Information 2024; High Ground Consulting 2004) until the liquidated in 1907. Lithgow Valley Colliery Company continued to fund the production of bricks and pipes until the end of the Second World War (High Ground Consulting 2004). The site was left empty for a number of decades following the closure of the works. But, in the 1970s, potters established a pottery studio in the remaining store building (High Ground Consulting 2004). The last surviving kiln, pipe-kiln no.4 (Big Ben) collapsed in 1977 (High Ground Consulting 2004).	Hassans Walls NSW 2790

5.2.3 Accommodation in the key urban area

This study has focused on accommodation available in the Lithgow Key Urban Area, as opposed to the broader LGA, as these providers are most likely to be affected by demand from the project workforce due to the proximity of Lake Lyell to Lithgow. There are approximately 319 rooms available in the Lithgow SA2.

Table 5.3 Accommodation in the key urban area

Accommodation stakeholder	Type	Location	Rooms
Key Urban Area			
Black Gold Motel	Hotel/Motel	Lithgow SA2	70
Bushman's Motor Inn Lithgow	Hotel/Motel	Lithgow SA2	36
Fernbrook Cottage	Farm stay/Homestay	Lithgow SA2	1
Lithgow Parkside Motor Inn	Hotel/Motel	Lithgow SA2	20
Wenvoe – Historic retreat	Farm stay/Homestay/Elopement/Small wedding venue	Lithgow SA2	5
The Cottage – Lithgow	Farm stay/Homestay	Lithgow SA2	3
Commercial Hotel Motel	Hotel/Motel	Lithgow SA2	29
Lithgow Workies Club Motel	Hotel/Motel/Wedding venue	Lithgow SA2	40
Zig Zag Motel Lithgow	Hotel/Motel	Lithgow SA2	50
The Courthouse Hotel	Hotel/Motel	Lithgow SA2	16
Modern home	Farm stay/Homestay	Lithgow SA2	4
52 on Mort	Farm stay/Homestay	Lithgow SA2	*
Linden Tree Manor	Bed & breakfast/Cottage/Retreat	Lithgow SA2	*
Bowen Inn Motel	Hotel/Motel	Lithgow SA2	25
Lithgow Caravan Park	Cabins/Vans	Lithgow SA2	*
Lithgow Valley Motel	Hotel/Motel	Lithgow SA2	20
		Total	**319**

Note:

1. * Indicates no data available or unable to make contact with service provider at time of study
2. Accommodation providers available on Airbnb are not included in the total figure

5.2.4 Events and festivals

Major tourist events in the region include a variety of festivals, cultural events, and shows such as the Seven Valleys Live and Local music festival, LithGlow Festival, and Ironfest (Seven Valleys Tourism n.d.; Lithgow Tourism Information 2018b). Stakeholders also identified the annual 'Daffodils at Rydal' as an event of importance, as well as public holidays which draw visitors to the region (Labour Day long weekend, ANZAC Day and Australia Day). Other events include Beatlefest, which brought a high number of visitors in 2024, and the combined districts Go Karting Championship.

Events outside the regional area which are known to increase regional accommodation demand includes the Bathurst races, which occur annually in mid-October. Mount Panorama brings a high number of tourists during motor racing events, with interactions from tourism having the potential to spread throughout Bathurst into the Lithgow region.

Details on events held in Lithgow and surrounds are shown in Table 5.4.

Table 5.4 Events held in Lithgow region and Bathurst

Event	Description	Location	Time of year	Visitors
Seven Valleys Live and Local music festival	A capacity building program funded by the Australian Government which provides development workshops and music festivals to support local musicians.	Lithgow and surrounds	Unknown	Unknown
LithGlow Festival	The LithGlow festival surrounds lighting art, dance shows and concludes with a firework show to replicate the glow of the blast furnace.	Main Street, Lithgow, and surrounding areas	May	Unknown
Ironfest	This is a large annual arts festival, which includes a Makers Expo showcasing art and handmade goods, located near heritage buildings.	Lithgow and surrounds (Portland)	April	20,000 (2019)
Daffodils at Rydal	Display of daffodils across Rydal, as well as showcases of gardens in the area. Market stalls, art exhibitions and live music are also features of the festival.	Rydal	September – over two weekends	600
Rydal Show	Agricultural stock show, arts and handicrafts, wood chopping and yard dog trials, dancers and the Lithgow City Band. Bar, lunch, morning & afternoon teas, live music and car show.	Rydal	Early February	500 to 600
ANAZC Day	Memorial.	Rydal	25 April	80
Lithgow Halloween Street Festival	Live music, street parade, market stalls, competitions and amusement rides themed around Halloween.	Main Street, Lithgow	Last week of October	10,000 (2019)
Rydal Gymkhana	Annual equestrian event held in Rydal by the Rydal Show Society Youth Council.	Rydal Showground, Market St, Rydal	October	Unknown
Australia Day Public Holiday	Stakeholders have identified that the Australia Day public holiday draws a large amount of visitors to the region.	Lithgow and surrounds	26 January (annually)	300
Seven Valleys Arts and Culture Festival	This festival is still in its planning stages but aims to become an annual event across the region to tell a new story of the region as a centre for eco-tourism and renewable energy storage.	Lithgow and surrounds	Expected to occur annually in May	-

Event	Description	Location	Time of year	Visitors
Go Karting Club Championship	The combined districts Kart Clubs hosts the NSW state championship at the Lithgow City Raceway annually.	Oakley Forest Road, Marrangaroo NSW 2790	September	200 (2023)
Beatlefest	Festival for lovers of the music of the Beatles.	Various in Lithgow	August/September	3,000 (2024)
Major events in Bathurst				
Bathurst races	Mount Panorama is host to various motor racing events throughout the year, with major events held in February (Bathurst 12 Hour) and October (Bathurst 1000).	Mountain Straight, Mount Panorama NSW 2795	February, October	195,578 (2022) 204,069 (2023) 193,000 (2024)
Bathurst races	Thoroughbred horse racing with events held monthly, with the Panorama/Bathurst Cup held in September.	55 Eleven Mile Drive, Bathurst NSW 2795	Monthly Bathurst Cup in September ANZAC Day (April)	4,000 (for major events)
Bathurst Cup	A yearly football tournament held as a preseason competition for players of various age groups from across the State.	Proctor Park, Bathurst	February	5,000

Note: visitor data sources from various websites, including official event websites and online media

Table 5.5 Key supporting infrastructure, businesses and services in the key urban area

Name	Stakeholder	Type	Location
Infrastructure			
Lithgow train station	Transport for NSW	Public transport via train linking to the Blue Mountains Train network, connecting to Sydney and Bathurst.	Main Street, Lithgow NSW 2790
Great Western Highway	Transport for NSW	One of Australia's most historic roads and a key east-west connection out of Sydney, through the Blue Mountains and Lithgow to Bathurst.	-
Lithgow Hospital	NSW Health Nepean Blue Mountains Local Health District	General public hospital in NSW with 46 inpatient beds, affiliated with the University of Notre Dame.	G42G+5W South Bowenfels, New South Wales
Notre Dame University Lithgow Campus	University of Notre Dame	The Lithgow campus offers medical services such as Lithgow Community Health Centre, Lithgow Community private, Lithgow Health Services Specialist Centre, and the University of Notre Dame Australia Lithgow Clinical School.	Col Drewe Drive, South Bowenfels NSW 2790
Services			
Lithgow Police Station	NSW Police	Lithgow emergency service provider.	244 Mort Street, Lithgow NSW 2790
Lithgow Fire Station	Fire and Rescue NSW	Lithgow emergency service provider.	58 Cook Street, Lithgow NSW 2790
Ambulance	NSW Ambulance	Lithgow emergency service provider.	21/15 Railway Parade, Lithgow NSW 2790

Name	Stakeholder	Type	Location
Businesses			
Lithgow Lure N' Tackle	-	Specialty fishing store which specialised in freshwater lures and tackle. Also stocks other recreational items such as hunting gear.	65 Lett Street, Pottery Estate NSW 2790
Woolworths Lithgow and BWS	Woolworths Group	Supermarket and alcohol store.	224 Mort Street, Lithgow NSW 2790
Petrol Stations	ENHANCE	There are various Petrol stations in Lithgow. Users include everyday drivers as well as recreational users such as boating and 4WD.	151A Mort Street, Lithgow NSW 2790
	EG Ampol		41 Lithgow Street, Lithgow NSW 2790
	7-Eleven		1131 Great Western Hwy, South Bowenfels NSW 2790
	Mid-town service station		325 Main Street, Lithgow NSW 2790
	Pearl Energy		1106 Great Western Hwy, Bowenfels NSW 2790
	Shell		Lot 1 Magpie Hollow Road, South Bowenfels NSW 2790
Lithgow Buslines	-	Bus service provider for the region and local area.	24/26 Donald Street, Lithgow NSW 2790

Other local business types of relevance include:

- commercial cleaning
- cafes (e.g. Blue Fox)
- takeaway (e.g. Fast Fox)
- local mechanics (e.g. Redding's Motor Repairs).

5.2.5 Outdoor education

Lithgow High School provides Outdoor Recreation as an elective for students in year eight and above. The curriculum is focused on developing skills in outdoor safety, promoting responsible attitudes toward the natural environment, and skills to plan for safe participation in outdoor activities (NSW Department of Education, 2024). The course includes a range of practical activities which take place in outdoor locations of the schools choosing. A local teacher interviewed for the SIA indicated that local schools have previously done field trips to Lake Lyell and the surrounding area for educational purposes.

5.2.6 Role of Lithgow town centre

Accommodation in Lithgow is made up of a range of large hotels and motels, smaller bed and breakfast options and a large number of short-term rentals available through AirBnB. Lithgow is also the location of a range of supporting infrastructure, including key roads, services and hospitality. Accommodation in Lithgow is commonly accessed by visitors for events in the surrounding region, with weddings being a large visitation draw to the area.

There are several arts and cultural spaces within the Lithgow town centre, one of which is located at the Pottery Estate on Silcock Street.

5.2.7 Tourism and recreation assets in the local area

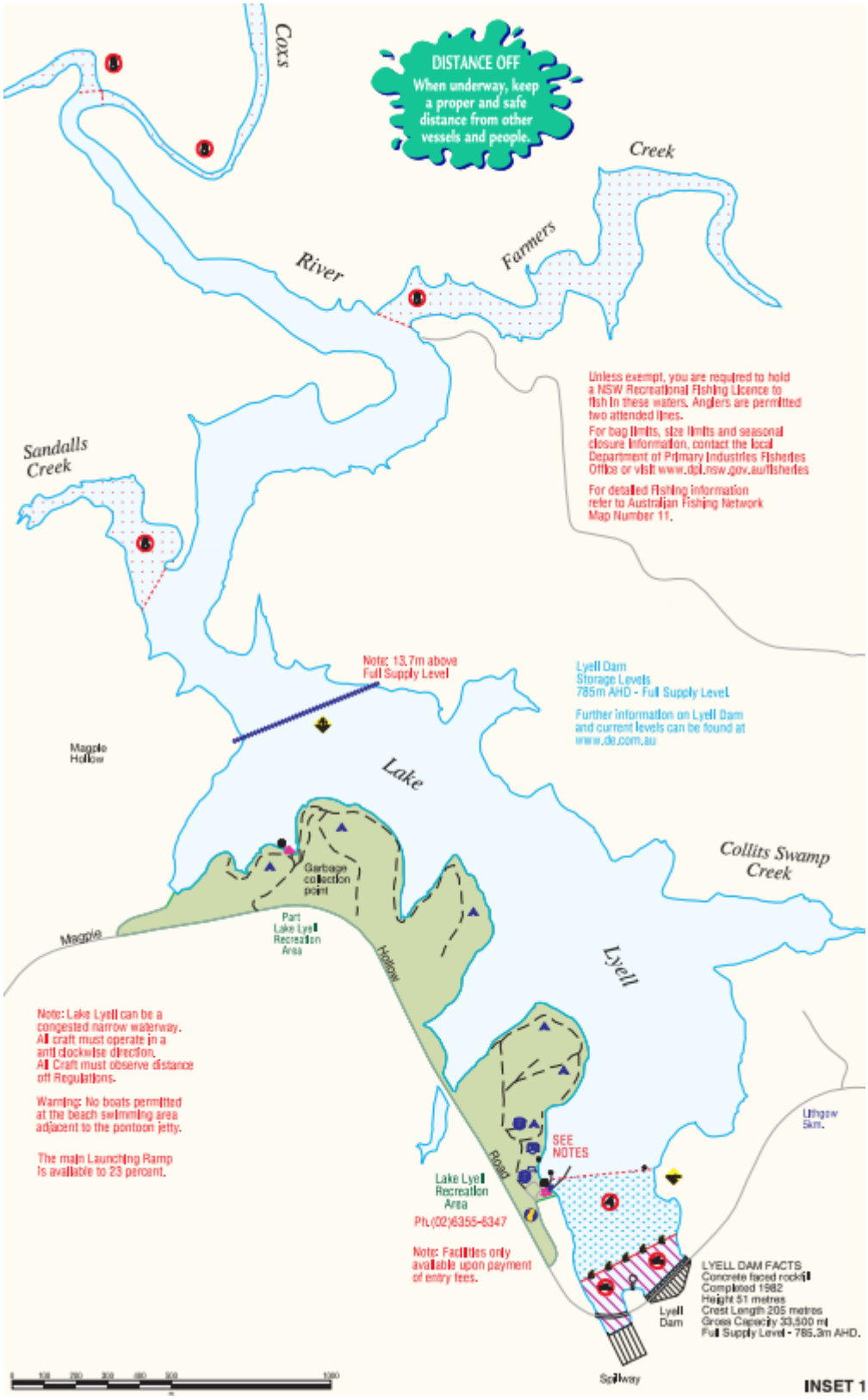
The local area hosts Lake Lyell and Mount Walker, as well as Marrangaroo National Park and Lidsdale State Forest.

Lake Lyell is a popular site for recreation in the Lithgow region. A range of activities are undertaken at Lake Lyell and within connecting waterways (the Cox's River and Farmers Creek Arms), including water-based and land-based recreation activities. Water based activities include fishing and boating, water sports, canoeing and kayaking. Land based recreation activities include camping, bushwalking, trail biking, and four-wheeled driving (4WD). The lake can be affected by closures due to low water levels and algal blooms.

Fishing is a common activity in Lake Lyell and at the banks of the Cox's River, with NSW Fisheries and local acclimatisation committee regularly releasing trout and bass in the lake. The number of fish stocked varies annually, with an average season seeing approximately 25,000 trout released into Lake Lyell (Blue Mountains Fishing, n.d.). The number of fish stocked has decreased in recent years.

Lake Lyell can be accessed by boat for a day entry fee of $7 (Lake Lyell Recreation Park, 2024). Boating is permitted through the lake, except for at prohibited areas around swimming areas and the dam wall (Lilyvale Dam). Speed restrictions apply to boats near arms of the lake, including the Farmer Creek arm, as well as a specified area before the prohibited area adjacent to the dam wall.

Figure 5.2 shows the relevant speed limits and other fishing restrictions. Images of Lake Lyell and the Dam are provided in Figure 5.3.



Source: Boating maps for NSW waterways, Transport for NSW (2011)

Figure 5.2 Lake Lyell boating map



View across Lake Lyell toward Coxs River and Mount Walker from southern side of Lake Lyell Recreation Park



View towards Coxs River from Lake Lyell Recreation Park



View towards Dam from Lake Lyell Recreation Park



View to Lake Lyell from Sir Thomas Mitchell Drive (tourist spot)



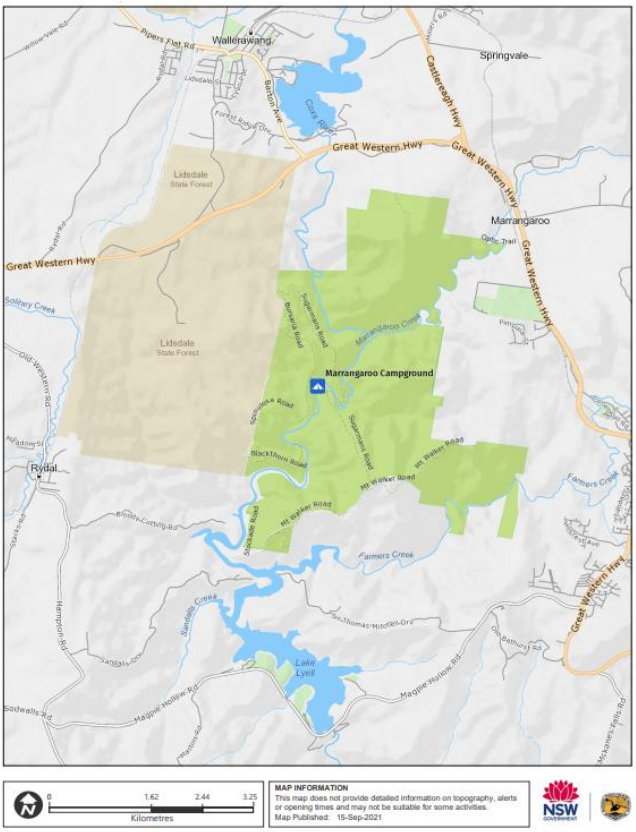
View to Lake Lyell, Recreation Park, Mount Walker and Japanese Bathhouse from Dam

Source: EMM 2022, 2024

Figure 5.3 Lake Lyell recreational context



Views of the Coxs River from the foot of Marrangaroo National Park



Marrangaroo National Park Map



Entry of Marrangaroo National Park



4WD in Marrangaroo National Park (source: TRAX 4WD Fellowship, 2023)

Sources: Google Maps (2025), TRAX 4WD Fellowship (2023), NSW National Parks and Wildlife Service (2025)

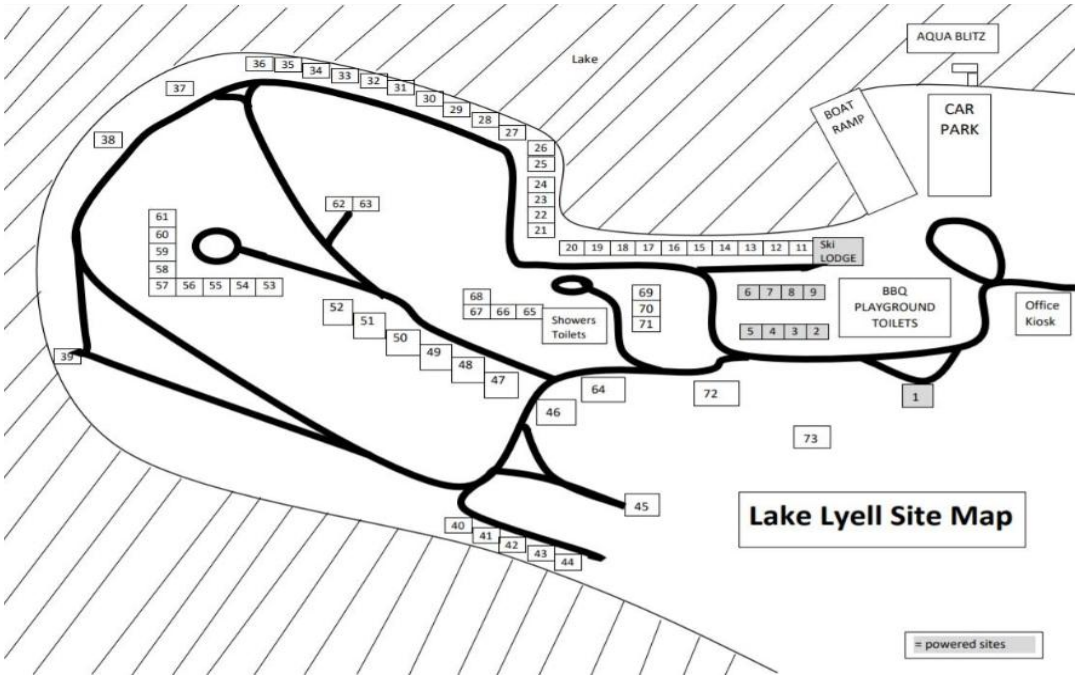
Figure 5.4 Marrangaroo National Park recreational context



Source: EMM 2024

Figure 5.5 Signage on Great Western Highway approaching Bowenfels

The main recreation facility at Lake Lyell is the Lake Lyell Recreation Park, which is accessible for day entry from 5:00 am to 8:00 pm for a fee of $7 per vehicle (inclusive of boats), or $2 for pedestrians, motorbikes and buses.



Source: lakelyellrecreationpark.com.au

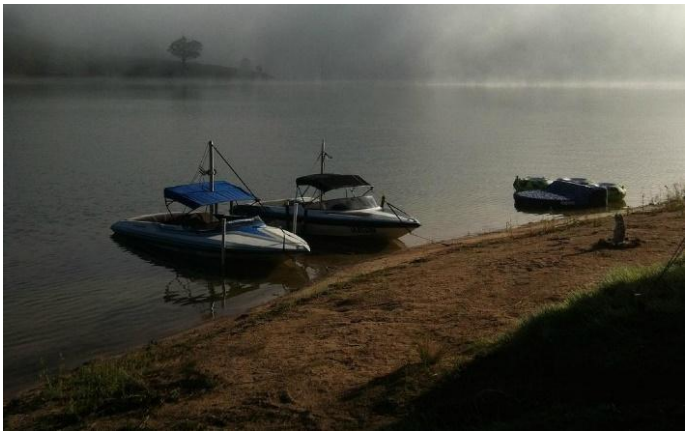
Figure 5.6 Map of Lake Lyell Recreation Park

Services and facilities include bathrooms, picnic areas and barbeques. The Lake Lyell Recreation Park is inclusive of a boat ramp, dam viewpoint, and a campground. A more detailed overview of key locations and services in the park is provided in Table 5.6.

Table 5.6 Recreation facilities at the Lake Lyell Recreation Park

Facility	Description
Offices	The Lake Lyell Recreation Park office is open between the hours of 8:00 am to 5:00 pm every day, and is located at the park boom gate and adjacent to an undercover seating area with a piano. Hot food and drinks are available during office hours.
Parking	The area offers a large volume of formal and informal parking.
Boat ramp	There is a single lane boat ramp that is generally used by people wanting to launch their vessels for boating, fishing, or other water sports. The ramp is inside the park there is nearby car parking available to accommodate motor vehicles and boat trailers.
Day use area	There are two amenity toilet blocks with accessibility access at both. Children's play equipment is available for all ages. Free undercover barbeque area is provided with seating. Swimming areas can be accessed off the beach, and there is a pontoon for boat access.
Campground	There are nine powered caravan sites and over 50 unpowered sites. There is also a ski lodge with two double beds and one set of bunk beds.
Shower facilities	Showers are available for a charge of $1 per every three minutes, with change available at the office.
Drinking water	As the recreation park runs on tank water, water at amenity buildings can only be used to fill drinking containers.



Sources: lakelyellrecreationpark.com.au, localistahub.com.au, tripadvisor.com.au

Figure 5.7 Recreation facilities at Lake Lyell Recreation Park

The campground is open all year round, with peak periods being school holidays.




Sources: lakelyellrecreationpark.com.au, localistahub.com.au

Figure 5.8 Camping facilities at Lake Lyell Recreation Park

The Mount Walker Trig point, and surrounding fire trails used to access it, are recreation assets for the region. The closest recreation facility to Mount Walker is the Marrangaroo National Park, including the Marangaroo Campground, which is suitable for tents and caravans. The campground is operated by NPWS. Mount Walker can also be accessed by boat from the aforementioned Lake Lyell Recreation Park.

The tables below provide an overview of key recreation and tourism assets in the local area, and identify supporting industries and services relevant to retention of the local visitor economy. A summary of attractions in the local area is provided in Table 5.7, and Table 5.8 provides an overview of key recreation activities that can be undertaken in this area.

Table 5.7 Attractions and key recreation stakeholders in the local area

Opportunity or business	Stakeholder	Type	Location
Lake Lyell			
Lake Lyell dam and reserve	EnergyAustralia Lithgow City Council	Visitor attraction: dam viewing platform, swimming, fishing, camping (Hampton River Road, Old Western Road, Lockyer Road), boating, canoeing, picnicking	Rydal NSW 2790
Lake Lyell Recreation Park	Operator Lithgow City Council	A popular area utilised for water sport recreation, in particular waterskiing and fishing. The Park offers powered and non-powered camp sites. There was also a seasonal inflatable water park but it has been closed since 2021.	F3GG+MP Lithgow, New South Wales
McKanes Falls Bridge	Lithgow City Council	Tourist attraction (temporarily closed)	Bindaree, 484 Mckanes Falls Road, South Bowenfels NSW 2790
Japanese Bath House	Owners and operators	Day spa and accommodation	F3QJ+QV South Bowenfels, NSW
Marrangaroo National Park and Lidsdale State Forest			
Marrangaroo National Park	NPWS	Tourist attraction: Camping, swimming, wildlife spotting (platypus), 4WD, mountain biking, canoeing, kayaking. Camp sites include: • Marangaroo Campground • Various small sites spread throughout the National Park.	G3HR+J4, Marrangaroo NSW 2790 G3JH+RP South Bowenfels, NSW
Mt Walker Trig Point	NSW DPHI Crown Lands	Crown Reserve, Tourist attraction: scenic spot. (Extreme 4WD destination).	Mt Walker, South Bowenfels NSW 2790
Firetruck Hill Track	NPWS	Off roading area.	G388+FW Rydal, NSW
Rydal 4WD Area	NPWS	Parking scenic spot for 4WD drivers.	G38G+62 South Bowenfels, NSW
Hampton River Road	NPWS	Camping ground.	G346+MR Rydal, NSW
Lidsdale State Forest			
Lidsdale State Forest	Forestry corporation	Tourist attraction: walking tracks, mountain biking, 4WD.	H344+VC Wallerawang, NSW



Source: EMM 2024

Figure 5.9 Lidsdale State Forest, signage at entry from Rydal Showground



Figure 5.10 Scenic creek crossing in Lidsdale State Forest





Source: Lithgow Mercury (Tomazin, A hundred rainbow trout released into Lake Lyell from Dutton Trout Hatchery, 2020), (Tomazin, 2021)

Figure 5.11 Stocking of Lake Lyell with rainbow trout in 2020 and tiger trout in 2021

Table 5.8 Recreation activities in the local area

Recreation activity	Description
At Lake Lyell	
Fishing and boating	• Lake Lyell can be accessed via Magpie Hollow Road. • Fishing is a common activity in the lake, with NSW Fisheries and local acclimatisation committee regularly releasing trout and bass in the lake.
Water sports	• Lake Lyell can be used for a range of water sports, including rowing, water skiing, swimming canoeing and kayaking.
Surrounding Lake Lyell	
Camping	• The Lake Lyell Recreation Park provides facilities for family-friendly camping, with facilities for caravans, campsites, car park, hot showers, picnic area, barbeques and public toilets. • On-lead dogs are allowed at the recreation park. • Camps are also located in the Marrangaroo National Park (Marangaroo Campground).
Biking	• Cycling and mountain biking occur in the areas surrounding Lake Lyell, with a cycling route that commences at Lake Lyell.
4WD	• 4WD is a popular activity across the region, with the activity taking place near Lake Lyell, where vehicles cross the Coxs River arm of the lake. There are prolific online forums and YouTube videos dedicated to 4WD use in the local area. • A number of operators offer 4WD training in the Lithgow region and surrounding areas.
Natural wildlife	• One of the key draw cards of Lake Lyell the range of wildlife in surrounding areas, with bird-watching and platypus spotting bringing visitors.
At Mount Walker	
4WD	• There is a 50 km “Mt Walker Loop” track enjoyed by the 4WD community, with the loop starting in Bowenfels, through Rydal, and crossing the Coxs River. There are prolific online forums and YouTube videos dedicated to 4WD use in the local area.
Bushwalking	• Bushwalking is available on Mt Walker, where participants can walk to the top of the mountain.
Surrounding Mount Walker	
Mountain Biking	• Mountain biking is accessible throughout the Marangaroo National Park, and Lidsdale State Forest, and is a focus for future enhancement of regional tourism offerings through the Seven Valleys Destination Action Plan.
Fishing	• Fishing is available in Lake Lyell, in Farmers Creek and at the banks of the Coxs River in the Marangaroo National Park.
Canoeing	• Both flat-water and white-water canoeing are possible in the Coxs River, however the latter is only possible after heavy rain.
Camping	• Lake Wallace is a popular caravan and camping sport, which has facilities such as barbeques and a playground.



View of Coxs River from Lidsdale 4WD tracks



Firetruck Hill



Black Diamond 4WD Club training area



4WD tracks adjacent to project area

Source: EMM 2024

Figure 5.12 4WD areas (from left) Firetruck Hill, Black Diamond 4WD Club driver training area



Source: EMM 2024

Figure 5.13 Motorbike trail entry in Lidsdale State Forest

a Local accommodation

A desktop search identified a relatively high concentration of local accommodation businesses, which hosts a variety of accommodation styles. Accommodation in the rural local area had a strong co-dependence on key service providers listed in Table 5.9. Accommodation generates business by attracting people to the area, particularly in the case of wedding venues as well as relying on other regional draw cards listed in Table 5.3 in Section 5.2.3 and local draw cards in Table 5.9.

A photo of the Hotel Alexander, which is also a social venue for locals and visitors, is provided as Figure 5.14.

Table 5.9 Accommodation in the rural local area

Accommodation stakeholder	Type	Location	Target market
Local area			
Chapel House	Bed & breakfast/Cottage/Retreat/ Wedding venue	Rydal SAL	Wedding venue, suitable for other events such as engagements and photoshoots
Wattle Views (a tiny house)	Bed & breakfast/Cottage/Retreat	Rydal SAL	Couples retreat
The Alexander Hotel (Rydal Pub)	Hotel/Motel	Rydal SAL	Hospitality and accommodation venue suitable for families

Accommodation stakeholder	Type	Location	Target market
Rose Cottage B&B	Bed & breakfast/Cottage/Retreat	Rydal SAL	Couples retreat, infants under 6 months welcome
Rydal Cottage	Bed & breakfast/Cottage/Retreat	Rydal SAL	Couples retreat
Springmead B&B	Bed & breakfast/Cottage/Retreat	Rydal SAL	Suitable for couples, solo adventurers, and business travellers
Lake Lyell Recreation Park (camping area)	Caravan Park/Camping ground	Rydal SAL	Low-cost accommodation, predominantly young families
Lakely	Bed & breakfast/Cottage/Retreat	Rydal SAL	
Eagle View Escape	Hotel/Motel	Rydal SAL	Couples retreat
Seclusions Blue Mountains	Bed & breakfast/Cottage/Retreat/ Wedding venue	Rydal SAL	Wedding venue with adults only cottages
Kookawood	Bed & breakfast/Cottage/Retreat	Rydal SAL	Adults only, sleeps up to four
Mountain Ridge Escape	Bed & breakfast/Cottage/Retreat	Rydal SAL	Suitable for families or groups
Bowen Inn Motel.	Hotel/Motel	South Bowenfels SAL	Accessible accommodation suitable for families
Japanese Bath House	Bed & breakfast/Cottage/Retreat	South Bowenfels SAL	Suitable for day trips with accommodation options. Children under 15 are not permitted.
Lithgow Valley Motel	Hotel/Motel	South Bowenfels SAL	Suitable for a wide range of visitors including families and businesses trips
Lithgow Tourist and Van Park	Caravan Park/Camping ground	South Bowenfels SAL	Affordable caravan and campsites
Lake Lyell Tiny Cabin	Bed & breakfast/Cottage/Retreat	South Bowenfels SAL	Couples retreat



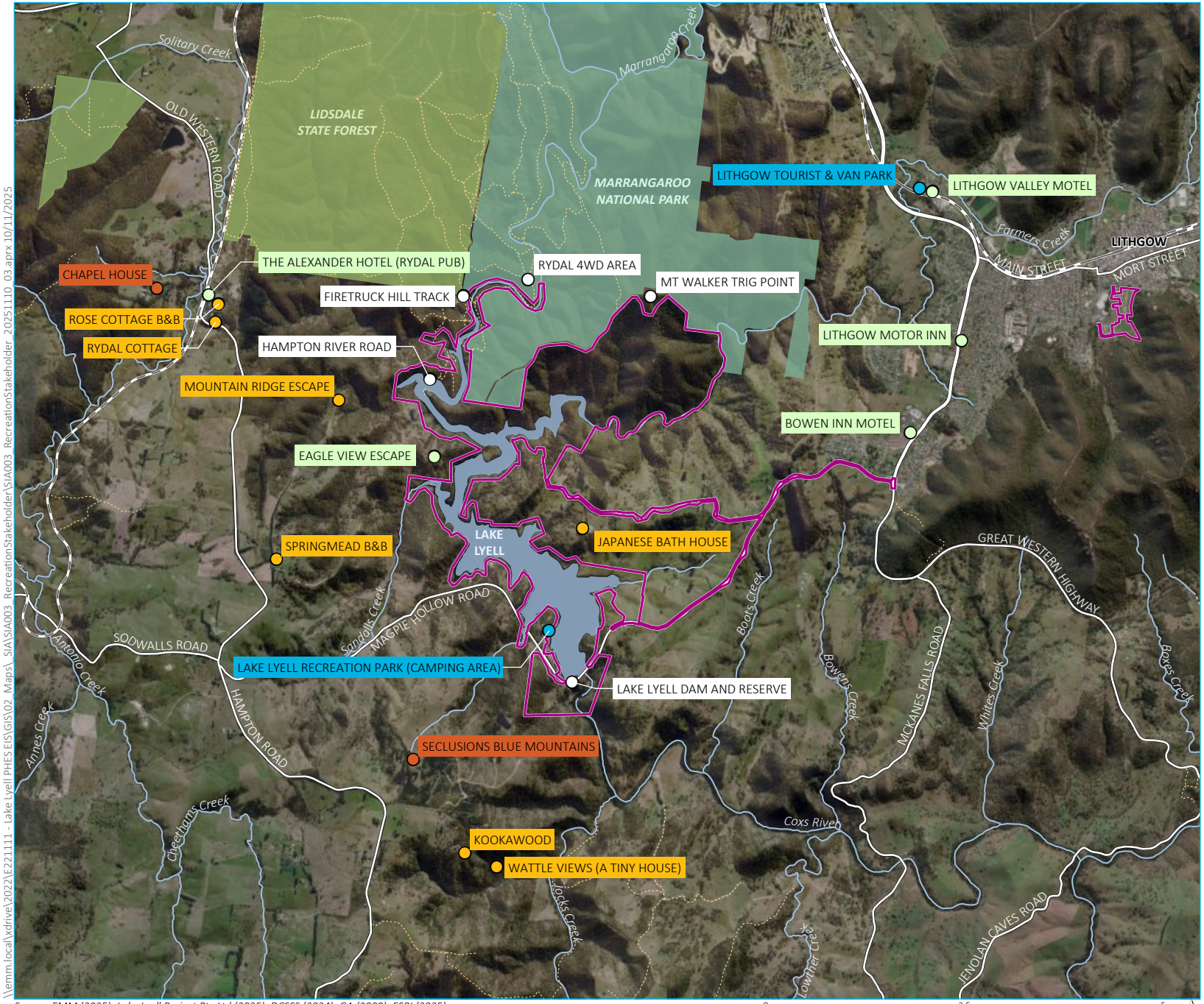
Sources: EMM 2024

Figure 5.14 Hotel Alexander (Rydal pub)

As identified in the Social Baseline of the SIA (Appendix D), a large number of businesses in the rural local area are connected to recreation at Mount Walker and Lake Lyell. Lake Lyell is a popular recreation destination, with multiple businesses supporting and relying on recreation opportunities. In context of the broader Lithgow region, Lake Lyell is a smaller contributor to tourism in comparison to other attractions in the region, however, Lake Lyell is an important asset to tourism providers in the local area. In particular, there is a relatively high concentration of accommodation businesses in the local area of Rydal, which borders Lake Lyell. This concentration is reflected in the top industries of employment. In the Rydal SAL, accommodation was the second most important industry of employment in 2021 (SIA Chapter 4). Overall, Rydal can be seen as a recreation hub in which the natural surroundings are tied into the viability of its businesses. Key businesses and infrastructure tied to the viability of tourism and recreation in the region are outlined below.

Table 5.10 Key supporting infrastructure, businesses and services in the rural local area

Name	Stakeholder	Type	Location
Infrastructure			
Rydal train station	Transport for NSW	Public transport via train linking to the Blue Mountains Train network, connecting to Sydney and Bathurst.	Bathurst Street, Rydal
Magpie Hollow Road	Local road Lithgow City Council	Local road which is used as a main access point to the site, Sir Thomas Mitchell Drive, the Lake Lyell Recreation Park and is the most direct route from Sydney to Lake Lyell and most local accommodation.	Magpie Hollow Road, South Bowenfels
Sir Thomas Mitchell Drive	Local road Lithgow City Council	Local road representative of local residences and the location where the closest public viewpoint from which the upper reservoir will be visible.	Sir Thomas Mitchell Drive, Rydal
Old Western Road	Local road Lithgow City Council	Local road which may have a viewpoint of the project infrastructure.	Old Western Road, Rydal
Hampton Road	Local road Lithgow City Council	Local road which may have a viewpoint of the project infrastructure.	Hampton Road, Rydal
Services			
Rydal RFS	NSW Rural Fire Service	Lithgow emergency service provider.	Ford Street, Rydal NSW 2790
Lithgow Hospital	NSW Health	District teaching hospital with 24-hour emergency, surgery and other services.	2 Col Drewe Drive, South Bowenfels NSW 2790
Seven Valley Tourist Information Centre	Lithgow City Council	Tourism information centre.	1137 Great Western Hwy, South Bowenfels NSW 2790
Businesses			
Redding's Motor Repairs	-	Local mechanic.	Unit 3/7 Cooerwull Road, Bowenfels NSW 2790
Bilingarra	Bilingarra Indigenous Art & Culture	Indigenous arts and culture gallery.	1006 Great Western Hwy, Bowenfels NSW 2790
The Surveyors Restaurant at the Bowen Inn Motel	Southern Cross Motel Group	Restaurant suitable for families. Open during the week from 7:00 am to 9:00 am for breakfast, and 5:00 pm to 9:00 pm for dinner.	5 Col Drewe Drive, South Bowenfels NSW 2790



KEY

- Project area
- Point of interest

Nearby accommodation*

- Bed & breakfast/cottage/retreat
- Bed & breakfast/cottage/retreat + wedding venue
- Caravan park/camping ground
- Hotel/motel

Existing environment

- Rail line
- Major road
- 4WD track
- Named watercourse
- Named waterbody
- NPWS reserve
- State forest

*locations are approximate, and based on available online data

\\emm.local\xdrive\2022\E221111 - Lake Lyell PHES EIS\GIS\02_Maps_SIA\SIA003_RecreationStakeholder\SIA003_RecreationStakeholder_20251110_03.aprx 10/11/2025

Source: EMM (2025); Lake Lyell Project Pty Ltd (2025); DCSSS (2024); GA (2009); ESRI (2025)

0 2.5 5 km

GDA2020 MGA Zone 56

N

Local tourism and recreation stakeholders

Lake Lyell PHES
Tourism and Recreation Study
Figure 5.15

EMM
creating opportunities

5.2.8 Role of the local area in Lithgow tourism

There are approximately 100 rooms in total available in the local areas of Rydal and South Bowenfels. Within the town camp local area, there were an additional 82 accommodation options. The Lake Lyell Recreation Park also offers 73 sites in the main camping area, and 42 overflow sites. This equals to approximately 300 rooms available in the local areas. In the context of the broader Lithgow region, the average was 1,668 visitors per night in the 2022/2023 period (.id Community, 2024).

Although the local area only provides a small proportion of total accommodation in the Lithgow region, Lake Lyell is a key attraction for visitors of the local area.

5.3 Pumped Hydro tourism

There are no other pumped hydro developments in the Lithgow region. It is considered the operation of the project may present opportunities for pumped hydro related tourism. Tourism is prevalent in other pumped hydro projects, with the Snowy Hydro Scheme a main example within NSW. The Snowy Hydro Scheme facilitates tourism through a Snowy Hydro Discovery Centre, which provides an immersive experience about the history of the pumped hydro construction and operation (SnowyHydro, 2025a). It also provides viewing locations near pumped hydro infrastructure (SnowyHydro, 2025b). Camping, fishing and other recreational activities also continue to co-exist with other pumped hydro operations.

The introduction of pumped hydro to the Lithgow region provides opportunities for LLP to establish facilities to support the Lake Lyell pumped hydro development as a tourist destination.

6 Engagement

6.1 EIS engagement

The planning and approvals process for the project commenced in 2021 and was first advertised to the community with a series of information sessions and meetings with Council in May 2021. Flyers were distributed across Lithgow in September 2022; the first community newsletter was published online later in December of the same year.

Between November 2022 and March 2023, a Summer Tourism survey was conducted by EnergyAustralia. The survey was focused on gathering data regarding usage of Lake Lyell, and possible tourism benefits of the project. This data has been considered within this assessment.

In August 2023, the proposed location of key infrastructure was significantly amended, in response to community feedback, to reduce visual impacts from houses and businesses in Lithgow, Bowenfels, South Bowenfels and Hillcrest Estate (EnergyAustralia, 2023). This amendment has altered the potential for visual impacts across the study area and will have an additional benefit of lower carbon emissions resulting from the project as it will allow for the upper reservoir to be built from natural rock rather than concrete. This amendment has extended the duration of project planning and the technical assessment processes.

LLP continued project engagement throughout 2024 and 2025 during preparation of the EIS, with the objective of informing and actively involving communities on the project's development and planning to improve outcomes, including seeking local insights as input to the EIS. Engagement will continue through EIS exhibition, submission and after approvals.

The project team has also shared some preliminary findings with community members through the Lithgow Region Community Consultative Committee (CCC) throughout the preparation of the EIS. While this group was initially established for Mt Piper Power Station, presentations have been provided at key stages of the project development to obtain feedback.

An overview of project engagement outcomes is provided in the EIS, and in Chapter 5 of the SIA.

6.2 SIA engagement

Community and stakeholder engagement conducted for the SIA (described in SIA Section 2.1.2ii) has informed this study. Engagement occurred between August and October 2024. A total of 36 in-depth interviews were conducted with 40 stakeholders, of which four were directly involved with recreation or tourism in the project study area. There were also seven accommodation stakeholders who took part in an in-depth interview, of which four were based in the local area, with the remaining two located in the broader Lithgow region.

Recreation stakeholders interviewed included:

- Seven Valleys Visitor Information (run by Lithgow City Council)
- Hotel Alexander (Rydal Pub) - also an accommodation provider
- 4WD Now
- Lake Lyell Recreation Centre - also an accommodation provider (campgrounds)
- Lithgow Rowing Club.

Accommodation stakeholders interviewed included:

- Springmead BnB

- Kookawood and Wattle Views
- Eagleview Escape
- Black and Gold Motel
- Wenvoe Historical Retreat
- a resident who has previously offered AirBnB accommodation.

The project also interviewed Lithgow Buslines with regards to accessibility of the region, as a primary contractor representative of bus services in the region.

An overview of stakeholder feedback received through the SIA engagement is provided in Chapter 6 of the SIA.

6.3 Tourism and Recreation Impact Study engagement

A further survey of 34 recreational users of the Lidsdale State Forest 4WD area and Lake Lyell Recreation Park was conducted on 6 October 2024 by an EMM social scientist, during the Labour Day long weekend. Of these, two stakeholders were 4WDers, 14 were day users of the play park and lake access, and 18 were campers. Interviewees were community members self-identified as willing to participate on the day.

Table 6.1 SIA field study participation - recreational user survey

Method	Event	Time frame	Administered	Invited	Interviews conducted	Individuals interviewed
Recreational user survey	4WDers in Lidsdale State Forest	6 October 2024	In person verbal survey	N/A	2	2
	Recreation Park – day users in playground				4	14
	Recreation Park – campers				4	18
Total					**10**	**34**

A summary of the values, strengths and vulnerabilities and key impacts and benefits identified through the recreation survey is detailed in Table 6.2.

Table 6.2 SIA recreation user survey outcomes

Key theme	Matter raised
Recreational value	• Intergenerational appeal, family and pet friendly spaces *"Freedom for the kids"* *"Able to have the dog"* *Kids making memories – we were all bought up here* • Tourism value *"Best spot in Lithgow"* "[Lake Lyell is the] *Biggest draw card to the area"* *"*[the Recreation Park and Lake Lyell] *Boosts local small businesses, coffee, food suppliers"* • Social connection *"We all gather here – hang out with people you wouldn't see* *"Spend weekends here as a family"* • Recurring and regular visitation *"Camp here 3 times a year"* *"Come at Christmas, long weekends, every second chance we can – bring the kids down here "* *"Everyone travels to come here – not a spot empty until the end of summer"*
Activities undertaken	Stakeholder supported that they used the lake and recreational area for: • Boating, including waterskiing, kayaking • bike riding • basketball • fishing (including trout fishing) • swimming • paddleboarding • bushwalking • 4WD (both day visitors stopping at the Recreation Park for lunch and access to picnic facilities, and 4WDers on trails through Lidsdale and Marrangaroo • waterfront camping • kite flying • soccer • BBQ • playground • picnics.
Access	• *Access to water for ski boat* • *Skiing on Coxs River, main arm, a bit into Farmers Creek, but not much.* • *Access to Lidsdale State Forest and Marangaroo National Park to Mount Walker* • *Want to visit Mt Walker*
Water levels	• *"seen how quickly it can drop"* • *Boats are anchored* • *Water is lowish – not overflowing – not sure what will change*
Alternative recreation sites	• *Nepean river – there isn't enough room [for waterskiing]*
Popularity	• *Saturday morning 15-20 cars visit for the day* • *Lots of people here, even on a not hot, windy day*

Key theme	Matter raised
Amenity	Stakeholders expressed they value the natural beauty of the area: • *Pretty part of the world* • *Nice that it's untouched* • *Clean for a state forest [Lidsdale State Forest]* • *Beautiful – water, camping next to lake* • *Hidden gem – definitely coming back if it's not affected* • *Rolling hills and lake* • *Beautiful spot* • *Water quality – swimmable* Stakeholders expressed they value the proximity of this space as an opportunity for a break from the city, noting they appreciate: • *Water, fresh air* • *Quiet* • *Out of the city – peace and quiet – no noise from cars and sirens.*
Previous vulnerabilities	• Drought in 2007-08 it was closed
Wildlife	• Animals, platypus, bird life – "*how is that affected?*" • Fish, turtles, lizards • Aquatic life- fish
Repeat visitors	• Have been visiting since the 80s/90s • Have been coming for 10 to 15 years • Come once or twice a year – travel an hour from home
4WD activities	• *Road splits Rydal + Wallerawang, we have been camping between these two at the border of the State Forest and National Park* • *Fire truck hill* • *Mt Walker track – loop through fire truck hill, Coxs River to Mt Walker*

Key theme	Matter raised
Project impacts	Effect on water-based activities*:* • *Skiing – won't be able to ski as far because of the diversion* • *Safety* – [the project will] *change where the roads are* • *Changing tides – paddleboarding* • *Fluctuating water – we might go somewhere else* • Multiple stakeholders identified concerns around the potential for mud flats in Lake Lyell associated with water level changes, and wanted to know how much of the lake shore would be exposed when water levels were low, noting the risk of "*Muddy spots "* • Stakeholders expressed concern around the effects of water movement on their ability to moor and access water-skiing boats, noting water level changes might leave boats stranded or inaccessible "[The project] *Will make it* [the lake] *tidal "* Accommodation camp: • *What will be done after -city on the other side* Rehabilitation: • *Work to build – what after?* Access: • *If the project goes ahead will access* [to Marrangaroo, Lidsdale and the Trig point] *still be open? – a lot of National Parks are being shut down* • [concerned about] *Water quality after the project* • *"as long as the camp is still here* [they will keep coming]." • *Shame if they stop people from using it* • *Will it* [Lake Lyell] *be closed?* • Concern the project might impact access to Mt Walker and 4WD tracks, worried they might be *"closing it down*" Visual impacts: • *Eyesore – major thing* • *What will the project's effects on the environment be?* • *When we get here dam is an eyesore – would be worse* Aboriginal cultural heritage Effects to marine life
Renewable energy alternatives	• Supportive of nuclear – "*cleanest energy we have"* • *"Nuclear a better alternative"*

6.4 Visitor profile

An understanding of the Lake Lyell visitor profile has been developed based on the results of the recreation survey. The visitor profile is based on a point in time, being 6 October 2024. Key characteristics of the visitor profile to Lake Lyell include:

- of 34 recreational users interviewed during the ten surveys undertaken:
  - ten were visiting from Western Sydney
  - seven visitors were residents of the Lithgow LGA, not including six children
  - two visitors were from the Central Coast
  - 15 visitors did not provide a response as to where they live

- in terms of the frequency of visitation:
    - six participants identified that they visit Lake Lyell annually
    - a further ten participants identified that they visit Lake Lyell multiple times a year
    - it was nine participants first time visiting Lake Lyell
    - nine visitors did not provide a response
- of the ten surveys conducted, four groups were using the playground in the Lake Lyell Recreation Park
- the majority of groups surveyed were young families, with one group of local families at the recreation park indicating they were visiting with six children
- in total, 26 of the 34 people interviewed identified that they were there with their children
- 11 people interviewed in the recreation park were day visitors, 16 were camping, and the remainder did not provide a response.

7 Impacts on tourism and recreation values

This section identifies and assesses the impacts on tourism and recreation, both positive and negative, that may arise from the construction and operation of the project. As detailed in Section 5.1, the NSW SIA Guideline's (DPHI, 2025) significance approach is used for impact assessment. Following impact evaluation, management measures are outlined to both enhance project benefits as well as mitigate negative impacts of the project. Table 7.1 presents the impact assessment for the construction and operation phases of the project.

Table 7.1 Tourism and recreation impact assessment

Potential impact	Description	Tourism or recreation stakeholders affected	Geographic extent of social change	Impact significance	Mitigated or Enhanced significance	Management measure
Construction						
Construction and occupation of the lakeside accommodation camp and related infrastructure will be disruptive for recreational users and businesses on the Lake	Negative effect: Construction and occupation of the lakeside accommodation camp and ancillary infrastructure, including the potential movement of workers across Lake Lyell, will result in disturbances, including visual, noise, vibration and dust, which may negatively affect perceptions of serenity and connection to the environment prized by visitors. This may in turn affect accommodation providers close to the camp including the Lake Lyell Recreation Area, Seclusions Blue Mountains and Eagle View Escape, travellers on Magpie Hollow Road and water-based activities on Lake Lyell (as identified by the visual impact assessment (VIA)). It is expected that this impact will be proportional to accommodation providers near Lake Lyell and is unlikely to impact providers in the broader Lithgow region.	• Tourism and accommodation providers • Visitors driving along Magpie Hollow Road and utilising the recreation park for day use or overnight camping	• Local area	• Medium	• Low	• Implementation of mitigation measures to manage the visual, dust and noise from other technical studies, including the VIA. • Implementation of mitigation measures recommended in related impacts identified in the SIA.

Potential impact	Description	Tourism or recreation stakeholders affected	Geographic extent of social change	Impact significance	Mitigated or Enhanced significance	Management measure
Increased demand for short-term accommodation while camp is constructed, and during peak workforce demand	Negative effect: The project workforce may compete for limited short term accommodation, potentially reducing its availability for other users. The project will require a peak total of 600 workers, 80% of which (480 workers) are likely to be from the non-local area rather than daily commuting and will require accommodation. Stakeholders identified that a large amount of existing short-term accommodation capacity within motels in the regional area, particularly the Black and Gold Motel, is taken up by existing project and mine workforces, particularly during shutdown periods for mines. Accommodation providers in the local area identified their existing target markets principally include tourists and short-stay visitors to the area from Sydney. Social baseline analysis of key accommodation providers indicated availability of approximately 438 rooms for use by the project, indicating potential capacity to accommodate the project workforce.	• Visitors • Lithgow Local Council • Local and regional accommodation providers and related stakeholders (e.g. laundry services, suppliers) • Event organisers (e.g. Rydal Show Society)	• Local area/s • Key urban area	• Medium	• Low	• Implementation of mitigation measures recommended in related impacts identified in the SIA. • Identified existing and future markets for the regional area are outlined in Section 5 of the SIA. To prevent impacts on these markets the project should, where possible, avoid accommodating the project workforce away from the accommodation camp during peak periods including holidays (for people visiting friends and family) and weekends (peak periods for regional events and overnight trips). This measure is factored into the Workforce Accommodation Strategy recommendations.
	Positive effect: Construction will generate up to 5 years of additional demand for accommodation in the region, with a peak demand for up to 394 rooms. This demand contributes to overall availability of business opportunities in the regional area.	• Local and regional accommodation providers and related stakeholders (e.g. Rydal Pub)	• Local area/s • Key urban area	• Low	• Medium	

Potential impact	Description	Tourism or recreation stakeholders affected	Geographic extent of social change	Impact significance	Mitigated or Enhanced significance	Management measure
Perceived risk of temporary loss of access to overflow camping areas for the Lake Lyell Recreation Park	Negative effect: Local stakeholders have provided anecdotal data that the area proposed to be occupied by the accommodation camp is used to support peak campsite demand at the Lake Lyell Recreation Park, and provides a high level of visual amenity for campers. They stated that the loss of access to this area may reduce the number of campers able to be accommodated by the recreation park, and this would represent a loss of income, and potentially workers, for the park. Review of lease arrangements and historic aerials of the area (Lotsearch Pty Ltd, 2025) revealed the lakeside accommodation camp is unlikely to affect the overflow camp sites, but will share the access road between Magpie Hollow Road and the overflow camping area.	• Lake Lyell Recreation Park • Visiting campers	• Local area/s	• Low	• Low	• Implementation of mitigation measures recommended in related impacts identified in the SIA. • Early and ongoing engagement with stakeholder to identify current land uses, access and lease arrangements. • Schedule improvements to shared access to be undertaken outside of the summer school holiday period.
Increase in road usage and changes to traffic conditions and road safety affecting visitor numbers	Negative effect: Increasing traffic volumes including numbers of heavy vehicles related to construction, and roadworks to enhance road conditions, may negatively affect visitors' perception of the region. This may occur due to the potential for perceived safety risks for visitors and recreation users, which may affect user safety and travel times, and subsequently deter people from visiting Lake Lyell and surrounds. This may also increase the response times for emergency services accessing areas where people recreate as well as local road degradation and safety levels.	• Visitors and accessing Lake Lyell or accommodation via Magpie Hollow Road • Accommodation providers	• Local area • Haulage route	• Medium	• Low	• Implementation of mitigation measures from other technical studies, including the TIA. • Implementation of mitigation measures recommended in related impacts identified in the SIA. In particular, SMS notification of roadworks to accommodation providers. • Early and ongoing engagement with stakeholders. • Collaborate to develop Safety Management Plans.

Potential impact	Description	Tourism or recreation stakeholders affected	Geographic extent of social change	Impact significance	Mitigated or Enhanced significance	Management measure
Construction works would temporarily change amenity values due to noise, lighting, dust and vibration	Negative effect: Construction works, particularly those related to the upper reservoir, will result in changes to amenity due to noise, lighting, dust and vibration. Changes to amenity have the potential to negatively affect people's enjoyment of the natural surrounding environment and the recreation activity they are participating in. This has the potential to temporarily deter people from visiting the area.	• Visitors to Lake Lyell and surrounds, Marrangaroo National Park and Lidsdale State Forest • Local accommodation providers • Ancillary businesses (e.g. petrol stations) and community groups (e.g. 4WD groups)	• Local area • Regional area	• High	• Medium	• Implementation of mitigation measures from other technical studies, including the VIA. • Implementation of mitigation measures recommended in related impacts identified in the SIA. • Early and ongoing engagement with stakeholders to identify appropriate management measures.
Construction works at the upper reservoir require removal of vegetation and aesthetic alteration of the local landscape	Negative effect: Construction and establishment of the upper reservoir would require removal of vegetation and construction of the new reservoir and ancillary structures, which will subsequently alter the visual landscape. This has the potential to reduce the environmental value of the area, which is important to visitors. This is also detrimental to local accommodation providers reliant on views over Lake Lyell and Mount Walker, such as Seclusions, Eagle View Escape, and various small businesses such as Springmead B&B and Kookawood.	• Visitors to Lake Lyell and surrounds, Marrangaroo National Park and Lidsdale State Forest • Local accommodation providers • Ancillary businesses (e.g. petrol stations, supermarket, bottle shops) and community groups (e.g. 4WD groups)	• Local area	• High	• Medium	• Implementation of mitigation measures from other technical studies, including the VIA. • Implementation of mitigation measures recommended in related impacts identified in the SIA. In particular, SMS notification of roadworks to accommodation providers.

Potential impact	Description	Tourism or recreation stakeholders affected	Geographic extent of social change	Impact significance	Mitigated or Enhanced significance	Management measure
Biodiversity impacts may result in change to local environment values which attract visitors to the area	Negative effect: Changes to terrestrial and aquatic ecology can affect environmental values which attract some visitors to the region, including those visiting for the purpose of passively enjoying the local environment, as well as from actively enjoying the environment through activities such as bushwalking and camping, such as in Marrangaroo National Park. This applies to current and future visitors, as the Seven Valleys plan (Lithgow City Council, 2024) includes developing new, or enhancing existing Aboriginal cultural experiences, which have a strong relationship with local flora and fauna.	• Traditional Owners and Aboriginal communities • Local government • Visitors • Local Accommodation providers • Ancillary businesses (Tour operators)	• Local area	• Medium	• Low	• Implementation of mitigation measures from other technical studies, including the biodiversity development assessment report (BDAR), Aboriginal cultural heritage assessment (ACHA) and AE reports. • Implementation of mitigation measures recommended in related impacts identified in the SIA.
Potential for impacts associated with recreational fishing	Negative effect: Impacts to quality of fishing experience through loss of access or sedimentation affecting fish habitat and numbers in the Coxs River and Farmers Creek arms of Lake Lyell will have an effect on regular fishers (up to seven times a week) who visit from places like Katoomba and Sydney. Fishing has mental health benefits and offers a healthy outdoor activity for people with a disability, families and young people in the region, as well as individuals. Key species include brown trout and Bass, which are slow growing, susceptible to water quality changes and are stocked in the dam.	• Regular and casual fishers from both within and outside the region • Central acclimatisation society • Accommodation providers, such as the Lyell Recreation Park • Ancillary businesses (e.g. Lithgow Lure N' Tackle)	• Regional area	• Medium	• Low	• Implementation of mitigation measures from other technical studies, including the AE reports such as fish stocking. • Implementation of mitigation measures recommended in related impacts identified in the SIA. • Consider, where boat jetties are to be provided, leaving the jetties in place for reuse and designing them in a way that they will be suitable for people with different access needs to fish from.

Potential impact	Description	Tourism or recreation stakeholders affected	Geographic extent of social change	Impact significance	Mitigated or Enhanced significance	Management measure
Reduced access to Lake Lyell, Farmers Creek and Mt Walker during construction	Negative effect: The project will restrict access to Farmers Creek for construction of permanent and temporary infrastructure, (e.g. diversion, substations, intake, bridge and jetties). Construction will also secure existing restrictions on access to EnergyAustralia property on Mount Walker and in Farmers Creek, and will increase watercraft movements across Lake Lyell, potentially affecting movement of recreational boats. In particular, for water-skiers relying on clear, safe access. Restrictions to or loss of public access to waterways during construction will deter visitors to the area and affect participation in recreation activities, with indirect effects on health and wellbeing. This will affect local businesses, including retail and accommodation. Many visitors travel through Lithgow to access Lake Lyell and may frequent local businesses who rely on passing trade.	• Local recreational users • Visitors, including water-skiers, walkers and fishers. • Local businesses	• Local area/s • Key urban area	• High	• Medium	• Implementation of mitigation measures recommended in related impacts identified in the SIA. • Affix signage at Project area to notify visitors of changes. • Early and ongoing engagement with local stakeholders and businesses.
Potential for the town camp to impact tourism and recreation in Lithgow	Negative effect: During engagement run by Council, the community expressed significant connection to the Hassans Walls Reserve for active and passive recreation, and it is also identified as a tourist attraction to the region for the views that lookouts provide. The project is unlikely to affect active recreation, and views from Hassans Walls will not be affected by the project or town camp. The sites attraction for recreation and tourism is therefore unlikely to be affected by the project. With this said, 4 Silcock Street at the Pottery Estate is home to an artist collective, who meet and hold events in the space regularly. Traffic and construction amenity changes, including impacts to aesthetic and heritage values on the site, as well as town camp operational activities, may be disruptive for events held in these spaces.	• Visitors to Lithgow • Recreational users of the Pottery Estate	• Regional area	• Low	• Low	• Engagement with Pottery Estate stakeholders to understand the interrelationships between how 4 Silcock Street is used, and how the project may affect these uses.

Potential impact	Description	Tourism or recreation stakeholders affected	Geographic extent of social change	Impact significance	Mitigated or Enhanced significance	Management measure
Operation						
Loss of recreational value due to water quality and level fluctuations during and after construction	Negative effect: Users of Lake Lyell raised concerns that water quality and operational water level fluctuations could affect appeal for recreational users, through either the water's appearance, or changes in water level affecting accessibility of the lake for recreation and potentially also health, should algal blooms occur. However, the Surface Water Assessment (SWA) found that the operation of the PHES is likely to improve water quality and reduce risk of algal blooms relative to existing conditions through introducing mixing and circulation. The reduction of algae levels within Lake Lyell will have a beneficial outcome for human health.	• Local and regional communities • Recreational users	• Local area/s • Key urban area • Regional area	• Medum	• Low	• Management measures outlined in the project description, including enhancement of the lakeshore in recreational use areas to reduce the potential for turbidity and increase appeal for recreational users. • Ensure findings of the SWA have been properly disclosed to stakeholders. • Investigate installation of a floating pontoon in the lake for easier boat mooring.
Rehabilitation and re-use of project infrastructure	Positive effect: There is an opportunity for the project to align rehabilitation strategies with community objectives, enhancing local environmental and recreational spaces through re-use of infrastructure, and through collaborative design with key stakeholders.	• Landholder and surrounding neighbours • Traditional Owners and Aboriginal communities • Local government	• Local area/s • Key urban area	• Low	• Medium	• Collaborative design with key stakeholders is key to enhancing these deliverables.
Access restrictions for recreational users during operation to the diverted area of Lake Lyell near Farmers Creek and EnergyAustralia property on Mount Walker	Negative effect: Once operational, the diverted area of Lake Lyell near Farmers Creek and EnergyAustralia property on Mt Walker will prevent access for recreational use due to the operational and safety requirements of the PHES. While some people currently access EnergyAustralia property on Mt Walker and in Farmers Creek, this access is deemed as trespassing as it is not open to recreation use, except for lots leased to Lithgow City Council, and a couple of lots interspersed though the Farmers Creek arm of the lake under public ownership. Given however that this may represent a change in access and use for some people, loss of access is still deemed to be a negative effect of the project.	• Visitors to Lake Lyell • Lithgow City Council	• Local area/s	• Medium	• Medium	• Implementation of mitigation measures recommended in related impacts identified in the SIA. • Affix signage at Project area to notify visitors of changes. • Early and ongoing engagement with local stakeholders.

Potential impact	Description	Tourism or recreation stakeholders affected	Geographic extent of social change	Impact significance	Mitigated or Enhanced significance	Management measure
The project would improve the local road network	Positive effect: Once operational, the project would improve access to Lake Lyell and surrounds through upgrades to Magpie Hollow Road.	• Visitors to Lake Lyell • Lithgow City Council	• Local area/s	• Low	• Low	• Implementation of mitigation measures recommended in related impacts identified in the SIA.
The Pumped Hydro will create new tourism opportunities	Positive effect: Once the project is operational, it may offer a new tourist draw for the Lithgow region. Tourists may be attracted to the site as an accessible opportunity to see how PHES systems operate. Similar tourism infrastructure is provided for the larger scale Snowy Hydro project discovery centre in Cooma and displays in Khancoban and Talbingo (Snowy Hydro, 2025).	• Visitors to Lake Lyell • Lithgow City Council	• Regional area	• Low	• Low	• This opportunity may be enhanced through provision of viewing areas, PHES education infrastructure, safe public parking and signage. Social benefits of education opportunities can also be enhanced through enabling school visits.

8 Opportunities to enhance recreation values

The project has the potential to generate additional opportunities to enhance recreation values for stakeholders and the communities. These additional opportunities can add further value above and beyond the project.

Table 8.1 provides an overview of additional opportunities the project could contribute towards to enhance the recreational values at Lake Lyell.

Table 8.1 Opportunities to enhance recreation values

Opportunity	Description	Partners
Floating pontoon in lake	Floating pontoon in lake: inclusion of a floating pontoon in the lake to enable easier retrieval of vessels and safe access for boating passengers where water levels change. A pontoon would also help keep the shore space open.	Lithgow City Council Lake Lyell Recreation Park
Enhanced lakeside area at Lake Lyell Recreation Park	Enhance the swimming beach and lakeside area for passive recreation, which may also contribute to improving the safety and appeal for families, day visitors and other water-based recreation users. This may also include new amenities, BBQ facilities, picnic areas, jetty improvements and enhancements to the kids play area.	Lithgow City Council Lake Lyell Recreation Park
More mountain biking, walking and hiking trails	More mountain biking, walking and hiking trails would provide additional recreation opportunities around Lake Lyell.	Lithgow City Council Lake Lyell Recreation Park Landholders around the lakeshore State forests NPWS
Re-purposing of worker accommodation facilities	Based on stakeholder engagement to affirm community needs, identify co-design opportunities for adaptive re-use of workforce accommodation facilities either at the site or relocation to other sites. This may include: • an information centre and outdoor education space presenting information from the project EIS, and catering to interests in water quality, local geology, aboriginal cultural heritage and ecology • a community hall and events space • picnic areas.	Tour operators First Nations stakeholders Lithgow City Council Local community
Retention of jetties	In addition to supporting boat access with boat ramps, as proposed in the project description, enhance access to the lake by retaining and co-designing jetties for universal access to support recreational uses such as fishing.	Lithgow City Council Local community
Pumped Hydro viewing locations	Based on review of infrastructure projects such as the Sydney Harbour Bridge and the Snowy Hydro, the project may enhance tourism benefits by offering viewing locations, and expo centre and additional signage. While this project is of a different scale to the abovementioned sites, it is accessible from existing tourism attractions in the region, and supports local education opportunities as well as a regional tourism attraction. Further non-infrastructure related enhancements could include offering educational tours and improved access to the lake from these sites.	Lithgow City Council Local community Local schools
Pumped Hydro expo centre		
Educational signage		
Safe visitor parking	Community feedback suggests that existing lake viewing and access points can be unsafe to park, and/or require payment. Provision of additional safe and free parking would be beneficial for tourists, and may be paired with education and viewing locations.	Lithgow City Council Local community

Acronyms and terminology

Acronym	Meaning
ABS	Australian Bureau of Statistics
ACHA	Aboriginal Cultural Heritage Assessment
AHRC	Australian Human Rights Commission
BESS	Battery energy storage system
BDAR	Biodiversity Development Assessment Report
BOCSAR	Bureau of Crime Statistics and Research
BRA	Bushfire Risk Assessment
CSSI	Critical state significant infrastructure
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPHI	Department of Planning, Housing and Infrastructure
ECVT	emergency, cable, and ventilation tunnel
EIS	Environmental Impact Statement
EMM	EMM Consulting Pty Ltd
EnergyAustralia	EnergyAustralia NSW Pty Ltd
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
FSL	Full Supply Level
Ha	Hectare
HV switchyard	High voltage switchyard
IAIA	International Association for Impact Assessment
IEO	Index of Education and Occupation
IER	Index of Economic Resources
IFC	International Finance Corporation
IRSAD	Index of Relative Socio-Economic Advantage and Disadvantage
IRSD	Index of Relative Socio-Economic Disadvantage
km	Kilometre
kV	Kilovolt
LALC	Local Aboriginal Land Council
LGA	Local Government Area
LRA	Land and Rehabilitation Assessment
LU	Land use
LVIA	Landscape and Visual Impact Assessment

Acronym	Meaning
MAT	main access tunnel
MW	megawatt
MWac	Mega-watt, alternating current
NSW	New South Wales
NVIA	Noise and Vibration Impact Assessment
PHES	Pumped Hydro Energy Storage
PHN	Primary Health Network
RAP	Registered Aboriginal Party
SAL	Suburbs and Localities
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Areas
SES	State Emergency Service
SIA	Social impact assessment
SIA Guideline 2025	Social Impact Assessment Guideline for State Significant Projects
SIA Technical Supplement 2025	Technical Supplement: Social Impact Assessment Guideline for State significant Projects
SSC	state suburb classification
SSD	State significant development
SSI	State significant infrastructure
SUA	Significant Urban Area
The project	The Lake Lyell Pumped Hydro Energy Storage Project
TIA	Traffic Impact Assessment

Australia

SYDNEY
Level 10 201 Pacific Highway
St Leonards NSW 2065
T 02 9493 9500

NEWCASTLE
Level 3 175 Scott Street
Newcastle NSW 2300
T 02 4907 4800

BRISBANE
Level 1 87 Wickham Terrace
Spring Hill QLD 4000
T 07 3648 1200

CANBERRA
Suite 2.04 Level 2
15 London Circuit
Canberra City ACT 2601

ADELAIDE
Level 4 74 Pirie Street
Adelaide SA 5000
T 08 8232 2253

MELBOURNE
Suite 9.01 Level 9
454 Collins Street
Melbourne VIC 3000
T 03 9993 1900

PERTH
Suite 3.03
111 St Georges Terrace
Perth WA 6000
T 08 6430 4800

Canada

TORONTO
2345 Yonge Street Suite 300
Toronto ON M4P 2E5
T 647 467 1605

VANCOUVER
2015 Main Street
Vancouver BC V5T 3C2
T 604 999 8297

CALGARY
700 2nd Street SW Floor 19
Calgary AB T2P 2W2



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