BOWDENS SILVER

Part 17
Social Impact Assessment

State Significant Development No. 5765

Prepared by:

Umwelt (Australia) Pty Ltd

May 2020

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COMMONLY USED ACRONYMS AND TERMS

Aboriginal stakeholder	Stakeholder group including Registered Aboriginal Parties (RAP), Native Title and Aboriginal Land Council claimants and Aboriginal service providers and groups
ABS	Australian Bureau of Statistics
Acquisition zone	Landholdings assessed to be significantly impacted and therefore granted voluntary acquisition rights in accordance with the Voluntary Land Acquisition Management Policy
Bowdens Silver	Bowdens Silver Pty Limited
BSAL	Biophysical Strategic Agricultural Land
CCC	Community Consultative Committee
CIP	Community Investment Program
Cr	Councillor
DA	Development Application
DFID	Department for International Development
DIDO	Drive-in-drive-out
DOP	Department of Planning (now DPIE)
DPE	Department of Planning and Environment (now DPIE)
DPIE	NSW Department of Planning, Infrastructure and Environment (previously Department of Planning and Environment)
EIS	Environmental Impact Statement
EL	Exploration Licence
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	Environmental Protection Authority
FIFO	Fly-in-fly-out
GRL	Gloucester Resources Limited
IAIA	International Association for Impact Assessment
Indigenous	Aboriginal and Torres Strait Islander Australians
IPC	NSW Independent Planning Assessment Commission
km	Kilometres
LAG	Lue Action Group

LEP	Local Environmental Plan
LGA	Local Government Area
LHD	Local Health District
Lue	Semi-urban areas of Lue State Suburb containing the school and other businesses.
Lue SSC	ABS 2016 state suburb boundary (refer to Figure 6.5)
Management zone	Includes residences/landholdings predicted to be marginally/moderately or negligibly impacted as defined by the Voluntary Land Acquisition Management Policy
Mid-Western Regional LGA	Mid-Western Regional Local Government Area – used in this report to refer to the area of land
Mine Life	Approximately 16.5 years comprising the site establishment and construction stage (approximately 18 months - including 12 months of mining pre-strip) and mining / processing for approximately 15 years (to the end of concentrate production).
MP	Member of Parliament
Mt	Million tonnes
Mtpa	Million tonnes per annum
MWRC / Council	Mid-Western Regional Council – used in this report to refer to the governing body
NSW	New South Wales
NSWALC	NSW Aboriginal Land Council
OEH	Office of Environment and Heritage
Personal meetings	Face-to-face or over the phone
Project Life	Approximately 23 years comprising the site establishment and construction stage, mining and processing operations (to the end of concentrate production) and includes the period for final rehabilitation.
Proximal landholders	Landholders and residents who reside in closest proximity to the Mine Site, including those in the management zone
R.W. Corkery	R.W. Corkery & Co. Pty Limited
RAP	Registered Aboriginal Parties
Regional community	Residents from Mid-Western Regional LGA
Residents and landholders in the locality	Residents and landholders within the state suburb boundaries of Lue, Pyangle, Bara, Havilah and Monivae

RMS	Roads and Maritime Services
ROM	Run-of-Mine
Round 1 Engagement	Engagement conducted during the issues scoping phase of the SIA (April to May 2017)
Round 2 Engagement	Engagement conducted during the impact assessment phase of the SIA (May to August / November 2019)
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Areas
SIA	Social Impact Assessment
SIA Guidelines	Social Impact Assessment: NSW Guidelines for State significant mining, petroleum production and extractive industry development
SIMP	Social Impact Management Plan
Single (or Lone) Person Households	ABS category for private dwelling with only one person aged 15 years or over
SSC	State Suburb Code
SSD	State Significant Development
State	New South Wales (unless otherwise stated)
STE	ABS abbreviation, referring to the Australian Statistical Geographic Standard catchment of State and Territory
Study Communities	Key communities of interest (refer to Section 6.6.2)
TRC	Township Resource Cluster Analysis (refer to Section 5.2)
TSF	Tailings Storage Facility
Umwelt	Umwelt (Australia) Pty Limited
VLAMP	Voluntary Land Acquisition and Mitigation Policy
WRE	Waste Rock Emplacement

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EXECUTIVE SUMMARY

The Bowdens Silver Project (the Project) was acquired by Silver Mines Limited through the purchase of Kingsgate Bowdens Pty Limited from Kingsgate Consolidated Limited in mid-2016. Kingsgate Bowdens Pty Limited was subsequently renamed Bowdens Silver Pty Limited (Bowdens Silver).

Bowdens Silver proposes to construct and operate an open cut mine to recover mineralised rock (ore) containing silver and small percentages of zinc and lead to depths of at least 180 metres (m). The Mine Site is located approximately 2 to 3 kilometres (km) northeast of Lue, approximately 27 km northwest of Kandos and 26 km to the east of Mudgee in New South Wales (NSW, the State) within the Mid-Western Regional Local Government Area (LGA).

The Project would comprise open cut pits (a main open cut pit and two satellite open cut pits), a processing plant, waste rock emplacement (WRE), tailings storage facility (TSF), as well as ancillary components and associated infrastructure, including a water supply pipeline. The operation would extract and process approximately 2 million tonnes (Mt) of ore per year for approximately 15 years. The Mine Site lies within Exploration Licences (EL) 5920 and EL 6354, both of which are held by Bowdens Silver.

The Project is classified as a State Significant Development (SSD) in accordance with Paragraph 5 of Schedule 1 of State Environmental Planning Policy (State and Regional Development) 2011 (State and Regional Development SEPP) as the capital investment value of the Project is more than $30 million.

Umwelt (Australia) Pty Limited (Umwelt) was commissioned by R.W. Corkery & Co. Pty Limited (R.W. Corkery), on behalf of Bowdens Silver, to prepare a Social Impact Assessment (SIA) for the Project. This SIA has been prepared as part of the EIS for the Project in accordance with the Secretary of the former Department of Planning and Environment's Environmental Assessment Requirements (SEARs) for the Project and the SIA Guideline for State significant mining, petroleum production and extractive industry development (DPE, September 2017).

The primary social area of influence for the Bowdens Silver Project SIA has been defined as the localities and communities proximal to the Mine Site and the stakeholders that reside within these areas. The primary State suburbs of interest (or study communities) as defined by the Australian Bureau of Statistics (ABS, 2016) include Lue, Rylstone, Kandos, Gulgong and Mudgee. The localities of Bara, Havilah, Pyangle and Monivae are also considered given their close proximity to the Mine Site, with data for Ulan, Cooks Gap, Moolarben, Linburn, Stony Creek, Budgee Budgee, Cross Roads and Hayes Gap also considered due to the proposed water pipeline intersecting these localities. Data from the Mid-Western Regional LGA and the State of NSW have also been utilised for comparative purposes.

A best practice approach to SIA has been adopted for the Bowdens Silver Project that integrates international and NSW social guideline requirements and has involved the following key phases.

- Preparatory planning - utilising outputs of previous SIA and EIS processes and ongoing operational practice; and the development of a dedicated Stakeholder Engagement Strategy.
- Profiling - to define the baseline social context in which the Project is based.
- Scoping - to identify key social impacts/issues relevant to the Project.

- Assessment and prediction of impacts - according to defined social impact characteristics (extent, duration, vulnerability/sensitivity and severity) and including stakeholders' perception of social impact and risk.
- Strategy development - identifying strategies to minimise negative impacts and enhance positive impacts associated with the Project.
- Monitoring and evaluation - development of a framework outlining how social impacts should be monitored and evaluated should the Project proceed.

Engagement with the community has been a key component of the SIA program at key phases of the assessment, to afford a participatory approach to assessment, and has involved proximal landowners and local and regional stakeholders in the scoping of Project issues and identification of strategies to address potential impacts and enhance benefits.

Given the greenfield nature of the Project, extensive consultation undertaken by Bowdens Silver and SIA engagement undertaken by Umwelt was required to establish an understanding of key community issues and has involved engagement with a range of stakeholder groups including: locality residents and proximal landholders; Aboriginal stakeholders; regional community residents; community, environment and special interest groups; local businesses and suppliers; community service providers; and Bowdens Silver Project employees. This engagement has been further complemented by consultation undertaken by Bowdens Silver and R.W. Corkery, with Local and State Government agencies and other key stakeholders, as a component of Project assessment activities.

Approximately 950 stakeholders have participated in the SIA engagement program, in addition to consultation undertaken for the broader EIS process, across two rounds of engagement affording opportunity to identify perceived issues/impacts in relation to the Project, provide feedback on assessment outcomes and identify strategies for mitigation and enhancement. Engagement and communication mechanisms have included personal interviews and telephone correspondence, Project briefings, community information sessions and open days, workshops, hard copy and telephone surveys and the provision of Project information sheets at key stages of the assessment process.

From a workforce perspective, the Project is expected to directly generate employment for approximately 246 on-site workers and 74 off-site workers for the construction phase, and between 192 and 228 workers over 15 years as part of the operational workforce. This workforce influx, assessed across three workforce scenarios, is anticipated to place moderate pressure on housing and accommodation and health services. The Project would provide employment opportunities during construction and for the anticipated 15 operational years of the Project life, provide significant ongoing benefits for local and regional communities through employment, use of local services, community participation, local and regional expenditure, community investment and payment of royalties, taxes and rates. Given the current economic climate within the region, and the loss of some significant industries over the past 10 years, particularly in the Kandos/Rylstone area, the Project is perceived by many of the consulted stakeholders to provide a much needed social and economic stimulus for the region.

Perceived impacts identified by stakeholders cover a range of social impact categories, as defined in the SIA Guideline (DPE, 2017) and reflect the fears and aspirations of the stakeholders consulted. Social impacts relating to way of life (how people work, rest and play), health and wellbeing concerns around lead and contamination, community, surroundings, aesthetic value and/or social amenity, associated with noise and dust, were commonly identified as potential impacts; followed by impacts relating to personal and property rights, including access to and use of services and community culture.

The SIA has identified the most significant (moderate, high and extreme) social risks, based on stakeholder perceptions (refer to **Figure ES1**) and mitigated technical risk analysis, to be:

- Economic Impacts – largely positive impacts pertaining to local employment and the utilisation of local businesses and services, with stakeholders emphasising the importance of ensuring that the workforce be sourced from the communities surrounding the Project and the broader Mid-Western Regional LGA.
- Health and Well-Being – local community perceptions of the risk of lead impacts on health and wellbeing due to proximity to the proposed mine operations, and fears of contamination of air, soil and water systems.
- Sense of Community - including concerns about potential loss of community members and population change from an influx of employees in the locality, and the subsequent impact on community cohesion and sense of place. The experience relating to a number of mining projects in the region have further heightened these concerns e.g. Wollar.
- Impacts on social amenity – concerns relating to dust/air quality, with landholders expressing that dust would impact on their way of life in a number of ways e.g. need for additional domestic cleaning, impact of dust on water tanks and solar panels; visual impacts due to changes to the landscape and potential light spill from the operations at night; and operational noise due to mine vehicles reversing, bulldozers, loading of rock into empty trucks and blasting.

Other issues identified related to road traffic and transport (largely due to impacts on social amenity, changes to road condition and safety, and road design); the viability of access to water and use particularly during drought conditions; changes to property values and potential damage from blasting; issues relating to decision making and engagement processes; intergenerational equity and land use and management; cultural impacts; and general environmental impacts e.g. flora and fauna. **Table ES1** provides a summary of the social impacts predicted in relation to the Project.

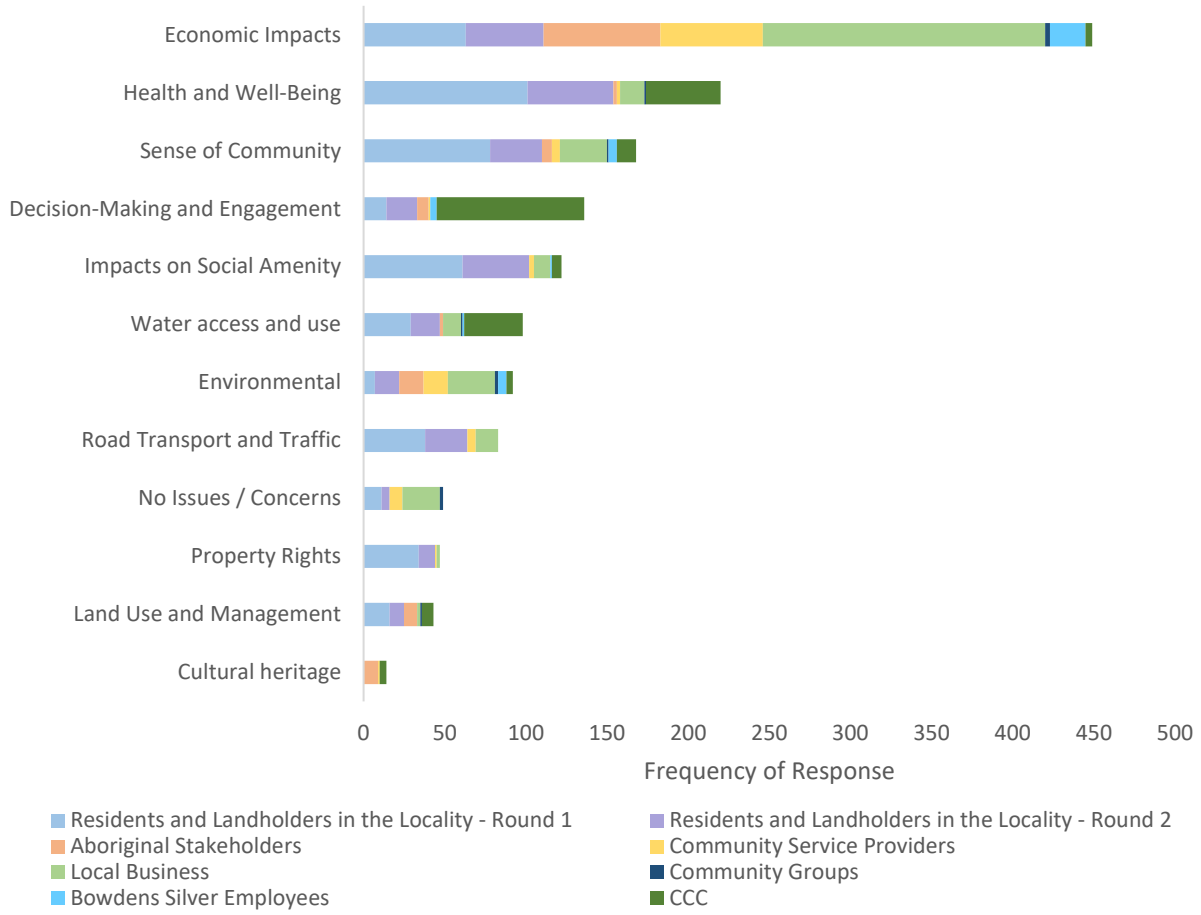


Figure ES1 Perceived Positive and negative Impacts - All Stakeholders

Residents and landholders Round 1 n=69; Residents and landholders Round 2 n=60; Aboriginal stakeholders n=8; Community service providers n=37; Local business n=87; Community groups n=4; Bowdens Silver employees n=16; CCC n=13.
Note: Multiple responses

Source: Umwelt (2020)

Table ES1
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce							
Construction	Way of Life Health and Well-being Surroundings	Social amenity - noise	Lue SSC	1 to 2 months	5 residences (marginally / moderately)	High	High
					Locality residents	High	Moderate
Construction	Way of life Surroundings Access to and use of infrastructure, services and facilities Community	Social amenity – traffic volume and disruption	Lue SSC Mid-Western Regional LGA	Construction period – 18 months	Locality residents	High	High
					LGA Road Users	High	Moderate
Construction	Way of Life Health and Well-Being Surroundings	Social amenity - noise	Lue SSC	Construction period – 18 months	Locality residents	High	Moderate
Construction Workforce (Scenario 1)[1]	Way of Life Community Culture Fears and Aspirations	Population change – influx of construction workers	Mid-Western Regional LGA	Construction period – 18 months	Locality residents	High	Low
					Regional LGA Community	High	Moderate
Construction Workforce (Scenario 1)	Access to and use of Infrastructure, Services and Facilities	Population change – impact of construction workers on housing and accommodation	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community Tourists/Visitors Housing and Accommodation Service Providers	High	Moderate
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Health Services	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community Health Service Providers	Moderate	Moderate

[1] Scenario 1 assumes that 80% of the workforce will migrate into the region (refer to Section 7.1).

Table ES1 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce (Cont'd)							
Construction Workforce (Scenario 1)	Way of Life Community Culture Fears and Aspirations	Population change – influx of construction workers	Mid-Western Regional LGA	Construction period – 18 months	Locality Residents	High	Low
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Emergency Services	Mid-Western Regional LGA	Construction period – 18 months	Emergency Service Providers and users Regional LGA Community	Low	Low
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of Construction workers on Youth and recreation Services	Mid-Western Regional LGA	Construction period – 18 months	Youth and Recreational Service Providers Regional LGA Community	Low	Low
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Public Utilities	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community	Low	Low
Operational Workforce							
Operational Workforce (Scenario 2) [2]	Way of Life Community Culture Access to and use of infrastructure, and services and facilities	Population change – influx of operations workers and their families	Mid-Western Regional LGA	Operational period – 15 years	Locality residents	High (Negative)	Low (Negative)
					Regional LGA Community	High (Positive)	Moderate (Positive)

[2] Scenario 2 assumes 40% of the workforce will migrate into the region (refer to Section 7.1).

Table ES1 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Operational Workforce (Cont'd)							
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Health Services	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community Health Service Providers	High	Moderate
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on housing and accommodation	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community Housing and Accommodation Service Providers	High	Moderate
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Childcare Services	Mid-Western Regional LGA	Operational period – 15 years	Childcare service providers Regional LGA Community	High	Low
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of operational workers and families on Emergency Services	Mid-Western Regional LGA	Operational period – 15 years	Emergency Service Providers Regional LGA Community	Low	Low
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Youth and recreation Services	Mid-Western Regional LGA	Operational period – 15 years	Youth and Recreational Service Providers Regional LGA Community	Low	Low
Operational Workforce (scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Education & Training Services	Mid-Western Regional LGA	Operational period – 15 years	Education Service Providers Regional LGA Community	Low	Low
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Public Utilities	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community	Low	Low

Table ES1 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Acquisition of Properties and Historic Purchase							
Acquisition of properties under the VLAMP and historic purchase	Way of Life Community Culture Health and Wellbeing Personal and property rights Decision making systems Fears and Aspirations	Acquisition	Lue SSC	Project life	Four properties in the acquisition zone Three properties with purchase agreements since 2016	High	High
Presence of the Operation							
Presence of the operation	Way of Life Health and Well-being Surroundings	Social amenity - noise	Lue SSC	Mine life (approx. 16.5 years)	Four properties in acquisition zone	High	Extreme
					Locality residents (10 properties in the management zone)	High	High
					Locality residents	High	High
					Regional LGA Community	Low	Low
Presence of the operation	Surroundings Way of life	Visual amenity due to: Change to landscape Light spill (at night)	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents where Project would be visible (n=6)	High	High
					Locality residents	High	Low
					Regional LGA community	Low	Low

Table ES1 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Presence of the Operation (Cont'd)							
Presence of the operation	Way of life Health and well-being Surroundings Community	Social amenity – dust	Lue SSC	Mine life (approx. 16.5 years)	Specified Locality residents	High	Moderate
					Regional LGA community	Low	Low
Presence of the operation	Way of life Surroundings Access to and use of infrastructure, services and facilities Community	Social amenity – traffic volume and disruption	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	High	Moderate
					LGA road users	High	Low
Presence of the operation	Personal and property rights Way of life Community	Economic livelihood	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	High (Positive and Negative)	High (Positive)
					Regional LGA Community	High (Positive)	High (Positive)
					Local business	High (Positive)	High (Positive)
					Service providers	High (Positive)	High (Positive)
					Aboriginal Community	High (Positive)	High (Positive)
Presence of the operation	Community Culture Way of life Surroundings	Sense of community – Cohesion, character, sense of place, rural lifestyle	Lue SSC	Project Life	Locality residents	High	High
					Regional LGA community	Moderate	Low

Table ES1 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Presence of the Operation (Cont'd)							
Presence of the operation	Surroundings Community Culture	Conflict as a result of competing land use	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	Moderate	High
					Regional LGA community	Low	Low
Presence of the operation	Health and wellbeing Surroundings Way of life	Impact on Water quality as a result of TSF failure	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	High	Moderate
Presence of the operation	Culture Community Surroundings	Aboriginal cultural heritage	Lue SSC	Mine life (approx. 16.5 years)	Aboriginal community	High	Moderate
Presence of the operation	Personal and property rights	Declining property values	Lue SSC	Mine life (approx. 16.5 years)	Locality residents	High	Moderate
					Regional LGA community	Low	Low
			Pipeline route	Permanent Change	Landholders along the pipeline	High	Moderate
Presence of the operation	Health and wellbeing Way of life	Health and wellbeing – stress and anxiety	Lue SSC	Mine life (approx. 16.5 years)	Locality residents	Moderate	Moderate
Presence of the operation	Health and wellbeing Surroundings Way of life	Exposure to lead in dust	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	High	Low
Presence of the operation	Health and wellbeing Surroundings Way of life	Exposure to lead in water	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents Water users	High	Low

Table ES1 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Presence of the Operation (Cont'd)							
Presence of the operation	Surroundings Way of life Personal and property rights	Access to and use of water	Macquarie River Catchment	Mine life (approx. 16.5 years), possibly ongoing	Locality residents Private bore owners	High	Low
					Regional LGA Community	High	Low
Presence of the operation	Surroundings	Ecological impacts – terrestrial and aquatic	Lue SSC	Mine life (approx. 16.5 years)	Locality residents Regional LGA Community	Low	Low
Presence of the operation	Surroundings Community Culture	Impact on agricultural land	Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality Residents Regional LGA Community	Low	Low
Presence of the operation	Personal and property rights	Property damage and access	Lue SSC	Mine life (approx. 16.5 years)	Locality residents – 4 properties identified as impacted	Low	Low
Project Assessment and Development Process							
Project assessment and development process	Decision making systems	Community engagement and information provision	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	Moderate	Moderate
					Regional LGA community	Low	Low

Mine planning for the Project has been iterative with consideration of key issues identified by the community across engagement rounds addressed in a number of significant Project design changes including the proposed development of a water supply pipeline from the Ulan Coal Mine and/or Moolarben Coal Mine for a make-up water supply; relocation of the processing plant further north away from Lue; no worker accommodation on site; relocation of the tailings storage facility to the west and a reduction in storage capacity; and a new road access to the west of Lue to reduce traffic impacts and transport through Lue, Rylstone, Kandos and localities to the east of the Project.

A range of strategies have also been proposed to address the potential social impacts relating to the Project. These strategies have been developed in accordance with the SIA Guideline (DPE, 2017) and through a review of strategies identified in the technical assessments for the EIS; relevant projects and studies relating to social impact management; utilisation of social team experience across other Projects; and community identified strategies collated through the SIA engagement program. Additional social criteria have also been considered in the development of relevant strategies, including an assessment of the vulnerability of stakeholders, particularly local landholders in close proximity to the Mine Site.

Mitigation and enhancement strategies proposed to address significant social impacts include:

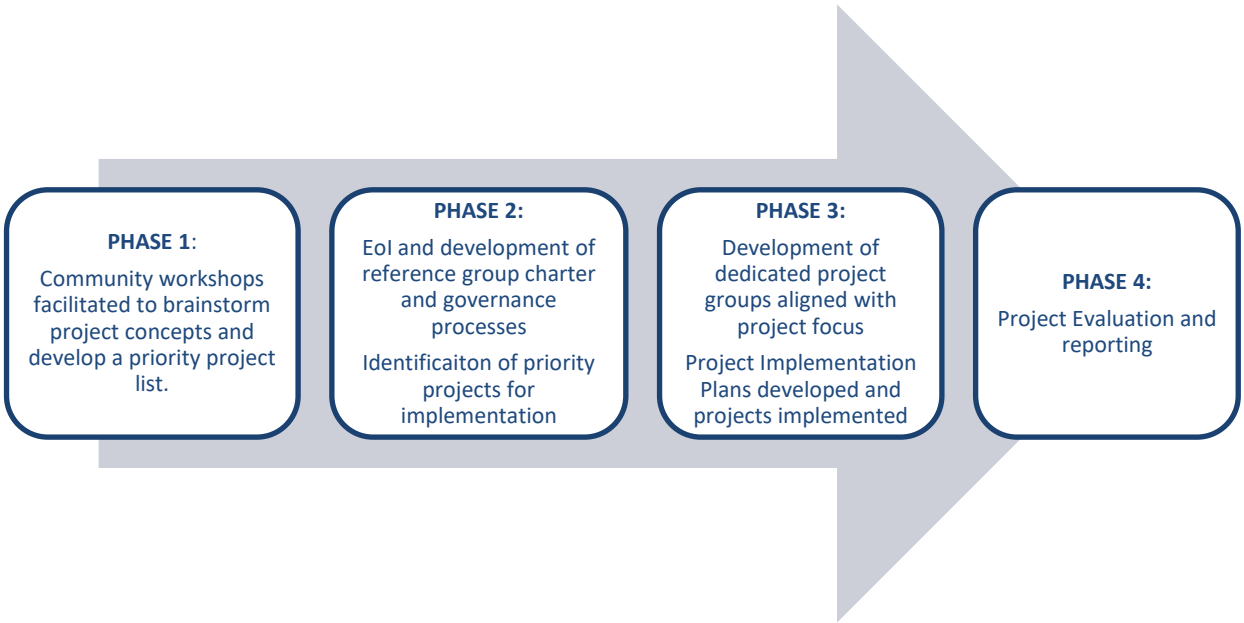
- Environmental management plans – noise, air quality, blasting, traffic and water
- A suite of landholder/property mitigation measures
- Mid-Western Regional Council Planning Agreement
- Lue and regional community investment program (CIP)
- Local employee and procurement strategy
- Good Neighbour Program
- Social impact management plan (SIMP)

At a community level, the proposed CIP has been designed to:

1. Work collaboratively with near neighbours/proximal landholders and key stakeholders to develop environmental and community benefits for the Lue, Rylstone and Kandos localities that enhance local values of the areas and address community needs;
2. Facilitate enhancement initiatives specifically for those residents living in closest proximity to the Mine Site (as defined by the Project's management zone);
3. Develop projects and programs that are consistent with community needs, values and aspirations;
4. Contribute to the local community and better target community investment spend locally.

The program would be developed across four key phases as shown in the schematic below and would involve proximal landholders and key stakeholders in the development and monitoring of program projects for implementation within the locality and broader region. It is important to note that Bowdens Silver has been conducting an extensive community sponsorship and partnership program since 2016 focussing on:

- **Community** - support to improve social facilities and areas of greater benefit for regional communities such as the development of academic skills, infrastructure enhancements and improved amenity and environment;
- **Sport** - support sporting organisation promoting teamwork, health and the wider social function to local communities;
- **Safety** - support for organisations that provide rescue and emergency services and that promote safe behaviour; and
- **Arts and culture** – support for projects in areas such as cultural heritage, ethnic and indigenous cultural initiatives and community arts programs.



The CIP fund would be developed through a monetary contribution by Bowdens Silver; and it is proposed that this contribution would be complemented by the development contribution made to MWRC under a formal Planning Agreement with the Council. Funds would be allocated to support improvement Projects of relevance, to be implemented by the Community Investment Committee and relevant community reference groups.

One of the key positive impacts identified by most stakeholders consulted as part of the SIA, related to the economic and social opportunities that the Project may provide for the broader MWR LGA. Stakeholders requested to see positive impacts enhanced through training and upskilling of the population in the region; local employment; procurement of local businesses; and increased use of local community services and facilities by the Project workforce. In this vein, the Project was perceived as a key stimulus in developing further economic and social opportunities and facilitating greater mining industry diversity at the regional level.

As a result, Bowdens Silver is committed to developing a strategy to maximise the economic impacts of the Project in the LGA. As part of the SIA, a survey of local businesses in the region has already been undertaken to identify opportunities for the procurement of local business and services. Outcomes of the survey would be complemented by a review of literature and relevant studies and guidelines relating to the development of effective social procurement initiatives and the engagement of small to medium enterprises in mining projects, to ensure alignment with Project commitments and outcomes of the recent national 'Keep it in the Regions' inquiry. Furthermore, the presence of Bowdens Silver may provide opportunity for farmers and farming families wholly dependent on agricultural income to access off-farm employment opportunities to supplement and diversify their income sources.

To ensure that predicted social impacts of the Project are monitored, and any unanticipated social impacts identified, a Social Impact Management Plan would be developed, with engagement of key stakeholders, that outlines suitable and proportionate social impact monitoring and adaptive management arrangements for the Project, as well as proposed timing and frequency of monitoring and public reporting of results.

1. INTRODUCTION

1.1 PROJECT BACKGROUND

The Bowdens Silver Project (the Project) was acquired by Silver Mines Limited through the purchase of Kingsgate Bowdens Pty Limited from Kingsgate Consolidated Limited in mid-2016. Kingsgate Bowdens Pty Limited was subsequently renamed Bowdens Silver Pty Limited (Bowdens Silver).

Bowdens Silver proposes to construct and operate an open cut mine to recover mineralised rock (ore) containing silver and small percentages of zinc and lead to depths of at least 180 metres. The Mine Site is located approximately 2km northeast of Lue in New South Wales (NSW, the State) within the Mid-Western Regional Local Government Area (LGA) (refer to **Figure 1.1**).

The Project would comprise open cut pits (a main open cut pit and two satellite open cut pits), a processing plant, waste rock emplacement (WRE), tailings storage facility (TSF), as well as ancillary components and associated infrastructure, including a water supply pipeline. The operation would extract and process approximately 2 million tonnes of ore per year over an anticipated Mine life of 16.5 years. The Mine Site lies within Exploration Licences (EL) 5920 and EL 6354, both of which are held by Bowdens Silver.

The Project is classified as a State Significant Development (SSD) in accordance with Paragraph 5 of Schedule 1 of State Environmental Planning Policy (State and Regional Development) 2011 (State and Regional Development SEPP) as the capital investment value of the Project is more than $30 million.

Umwelt (Australia) Pty Limited (Umwelt) was commissioned by R.W. Corkery & Co. Pty Limited (R.W. Corkery) on behalf of Bowdens Silver to prepare a Social Impact Assessment (SIA) for the Project. This SIA has been prepared as part of the EIS for the Project in accordance with the Secretary of the Department of Planning and Environment's Environmental Assessment Requirements (SEARs) for the Project as discussed within Section 1.

1.2 ASSESSMENT REQUIREMENTS

Following the acquisition of the Project by Bowdens Silver in 2016, the SEARs for the Project (SSD 5765) were re-issued on 15 August 2017 and were subsequently updated and reissued on 21 June 2019 to address the proposed water supply pipeline. The relevant general requirements from the SEARs and other government agency requirements, relating to the social component of the assessment, are addressed within the current SIA, and are outlined in **Table 1.1** Additionally, issues raised by residents and landholders in the locality and regional community relating to the SIA, and where these issues have been addressed within the SIA are summarised in **Table 1.2**.

Figure 1.1 Locality Plan

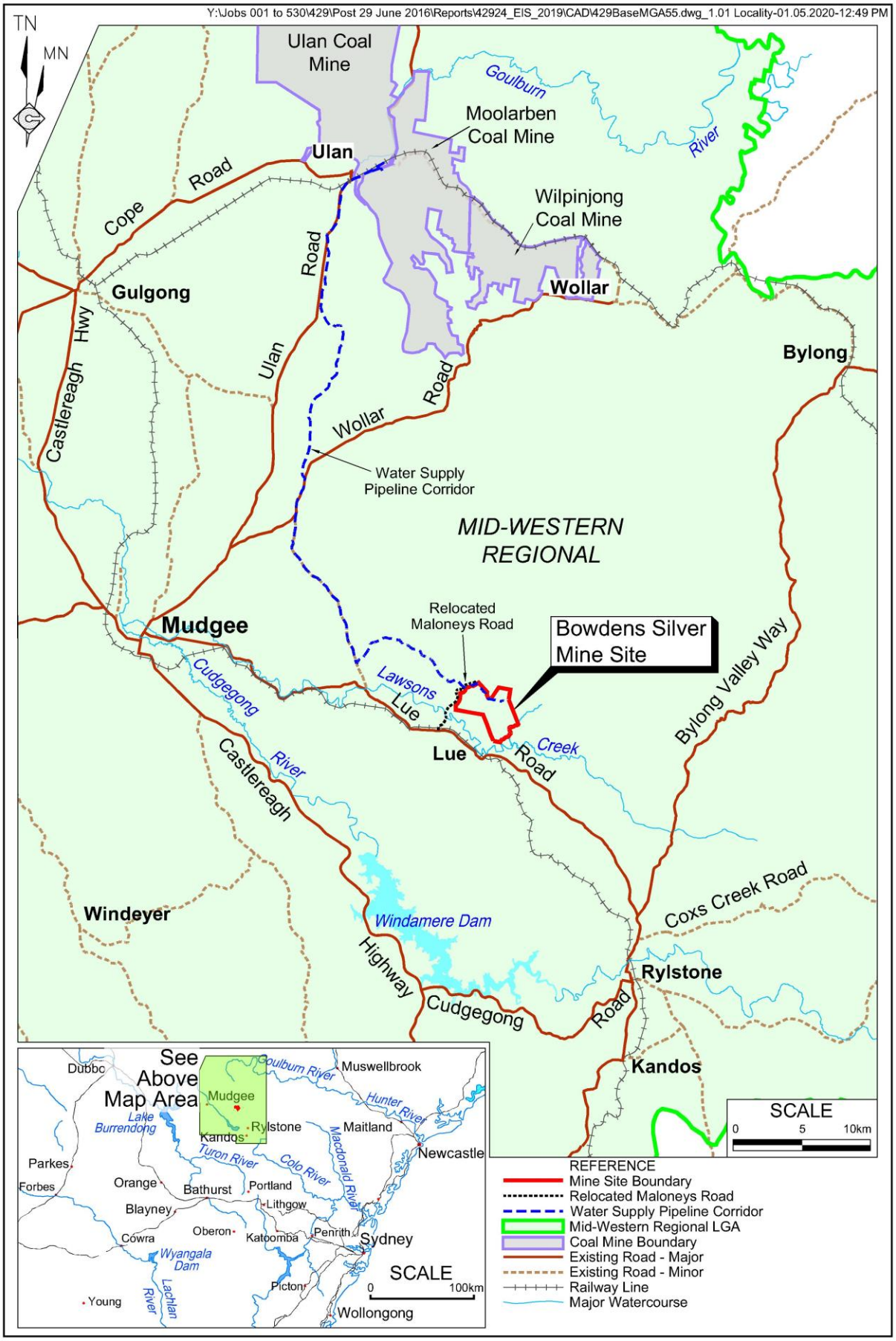


Table 1.1
SEARs and Other Government Agency Requirements Relevant to the SIA

Relevant Requirement		Addressed in Section
Secretary's Environmental Assessment Requirements		
Social – including: An assessment of the likely social impacts of the development on the local and regional community generally in accordance with the Social Impact Assessment Guidelines for State Significant Mining, Petroleum Production and Extractive Industry Development (2017), including the likely impacts of the development on the local community, cumulative impacts (considering other mining developments in the locality), and consideration of workforce accommodation.		Sections 6 and 7
Relevant Requirements Nominated by Other Government Agencies		
Mid-Western Regional Council 14/03/13	Identify the likely domicile for potential construction and operational workforce and undertake a full analysis of the impacts on housing, rental housing, infrastructure, traffic, health and other social impacts and provide realistic measures to mitigate those impacts.	Sections 7.1, 7.2 and 8
	Consider the Local Service Assessment Report undertaken by Manidis Roberts on behalf of the Department of Planning and Infrastructure (now DPIE) in 2012.	Sections 5.8, 5.9, 5.11 and 7.2
	Assess the potential impacts on student numbers and the potential threat to maintaining those numbers.	Sections 5.8.2, 5.9.4, 7.2.6 and 8.2.2

Table 1.2
Issues raised by Lue and District Community Stakeholders

Page 1 of 2

Issue(s)	Addressed in Section
The impact upon the Lue community separate from broader community impacts.	Sections 6.3, 7, 8.1, 8.3 and 8.4
Cumulative effects of growth in mining activity in the region on such issues as housing and services.	Sections 5.5.1, 5.11.1, 5.11.2, 5.11.5, 6 and 7.2
Potential impacts on stress and anxiety levels of local residents, local property values, likely change in demographics of local population of Lue, health implications, impact upon future viability of Lue Public School, etc.	Sections 5.5, 5.8.3, 5.11.3, 6, 7.1, 7.2.6 and 7.3
Falling house and land prices.	Sections 5.11.3, 6, 7.2.1 and 7.8.2
Changes to the demographics of Lue.	Sections 5.5, 6 and 7.1
Will the proximity of Lue to the mine change the quiet, 'family-oriented' nature of the area?	Sections5.5.1, 5.9.4, 5.13, 6, 7.4 and 8.2 See Specialist Consultant Studies Compendium Part 1 (Sections 6 and 7)
How will mining impact the 'sense of community'?	Sections 5.5.1, 5.9.4, 5.13, 6, 7.4 , 8.2

Table 1.2 (Cont'd)
Issues raised by Lue and District Community Stakeholders

Page 2 of 2

Issue(s)	Addressed in Section
Will Bowdens Silver look to integrate and remain involved with the local community?	Sections 4.1.1, 5.5, 6, 8.2, 8.4, 8.5 and 8.6
What are the likely impacts of mining operations on Lue?	Sections 6.3 and 7
Will Lue become a ghost town?	Sections 6.3 and 7
Will Lue experience an increase in population?	Sections 5.8.1 and 7.1
How will the development of the mine impact future generations in the area?	Sections 5.8.1, 7.1 and 7.7.3
What impacts will the mine have on Lue Public School?	Sections 5.8.2, 5.9.4, 6 and 7.2.6
Will Bowdens Silver increase student numbers at Lue Public School? What effects might this have?	Section 7.2.6
What measures will be put in place to ensure the community benefits?	Sections 4.1.1 and 8
How will the mine impact the growing reputation of the area as a food/wine destination for tourists?	Sections 5.7, 5.10.1.2, 5.11.3, 7.2.1.3 and 7.7.3
What measures will be put in place to ensure Bowdens Silver maintains its property? e.g. installation of cattle grids	Section 8
How involved will the community be in the decision-making process?	Section 7.5
Does Bowdens Silver plan to continue its involvement with local schools and community events in the future?	Sections 4.1.1 and 8
Will Bowdens Silver offer access to the mine for school excursions and educational trips in the future?	Sections 4.1.1, 7.5 and 8

1.3 REPORT STRUCTURE

Since the issue of the initial SEARs for the Project, the former Department of Planning and Environment (DPE) has released the *Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development* (September 2017) (the SIA Guideline). The SIA for the Project has therefore been prepared by Umwelt as part of the EIS, in accordance with the SIA Guideline (DPE, 2017).

To address the SIA Guideline and the associated assessment requirements, the SIA report has been structured according to the following sections.

- Executive Summary of the SIA.
- **Section 1** provides an introduction to the SIA, its objectives and the assessment requirements.
- **Section 2** provides an introduction and background to the Project and a summary of its key components.

- **Section 3** outlines the methodological approach adopted for the assessment for each of the SIA phases, including the data and information sourced to develop the social baseline profile.
- **Section 4** provides context to the Project, with regard to Bowdens Silver and its existing socio-economic connections/associations with local and regional communities.
- **Section 5** comprises a socio-economic profile and community capitals analysis of the Mid-Western Regional LGA and study communities.
- **Section 6** provides an overview of the perceived positive and negative social impacts associated with the Project, as identified through engagement activities with key stakeholders and the regional community.
- **Section 7** assesses and predicts the likely social impacts that may result due to the Project.
- **Section 8** defines strategies to manage negative impacts and enhance positive impacts.
- **Section 9** considers a framework for ongoing monitoring and evaluation of social impacts should the Project be approved and proceed.

2. PROJECT OVERVIEW

2.1 PROJECT DESCRIPTION AND KEY PROJECT COMPONENTS

Bowdens Silver proposes to develop and operate an open cut mine approximately 2km to 3km northeast of Lue to recover principally silver with small percentages of accompanying zinc and lead. The Project comprises seven principal components, namely:

- a main open cut pit and two satellite open cut pits, collectively covering approximately 52 ha
- a processing plant and related infrastructure covering approximately 22 ha
- a waste rock emplacement (WRE) covering approximately 77 ha
- a low-grade ore stockpile covering approximately 14 ha (9ha above WRE)[3]
- an oxide ore stockpile covering approximately 8 ha
- a tailings storage facility (TSF) covering approximately 117 ha
- the southern barrier to provide visual and acoustic protection to properties south of the Mine Site covering approximately 32 ha.

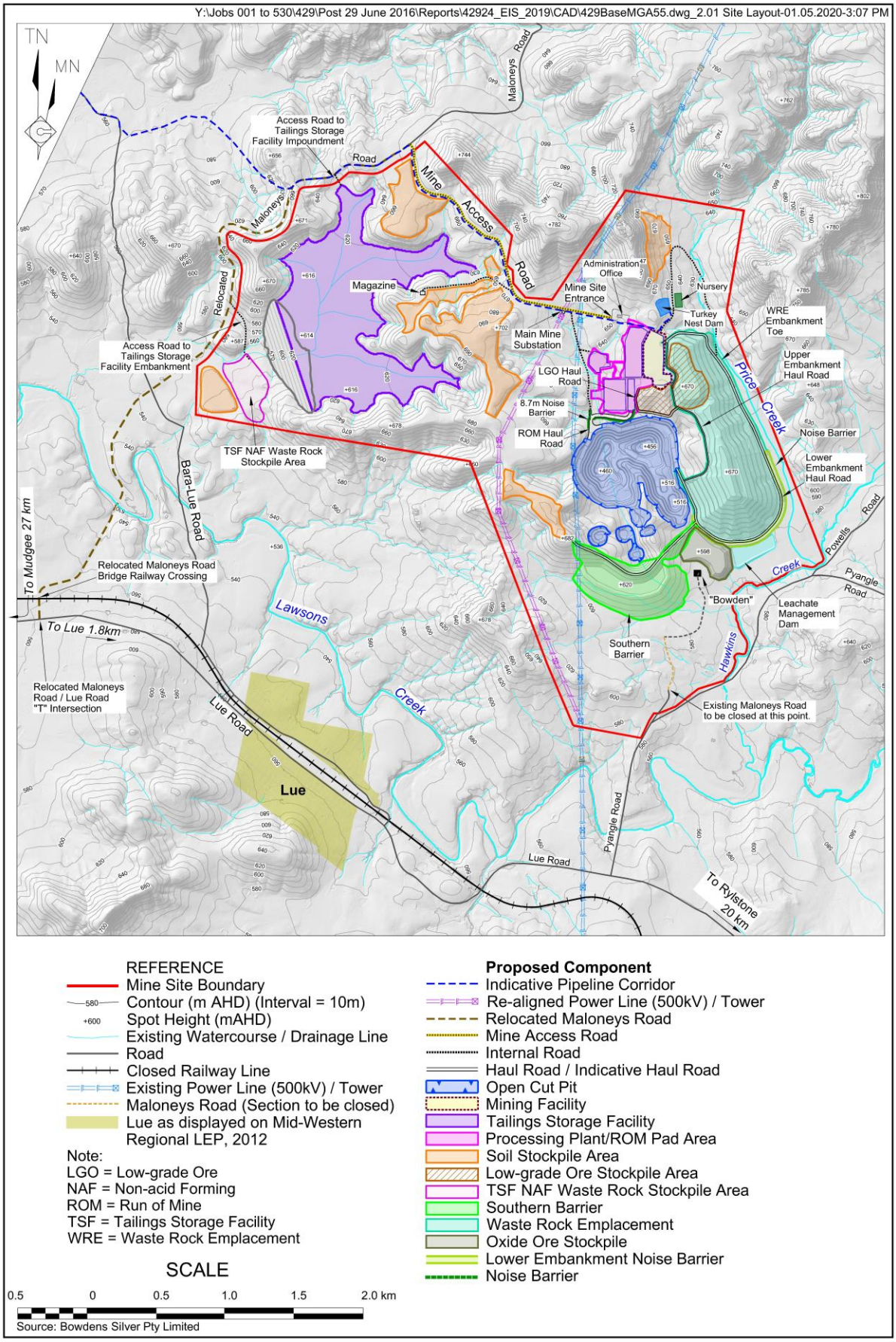
The above components would be supported by a range of on-site and off-site infrastructure. The on-site infrastructure comprises haul roads, water management structures, power/water reticulation, workshops, stores, compounds and offices/amenities. The off-site infrastructure comprises a relocated section of Maloneys Road (including a new railway bridge crossing and new crossing of Lawsons Creek), and a water supply pipeline for the delivery of water from the Ulan Coal Mine and/or Moolarben Coal Mine to the Mine Site.

Figure 2.1 displays the locations of the key Project components.

The Project would incorporate conventional open cut pits (one main and two smaller, satellite pits), from which overburden/waste rock would be removed from above and around the silver-zinc-lead ore and either used for on-site construction activities or placed in the out-of-pit WRE or the southern barrier. The mined ore would be transported by haul trucks to the on-site processing plant where it would be crushed, milled and processed to extract the silver, zinc and lead minerals. These minerals would be collected by conventional froth flotation to produce two concentrates that would be dewatered and transported off site by truck in sealed containers. The residual materials from processing (tailings) would be pumped in the form of a slurry to the TSF located to the west of the main open cut pit.

[3] The low grade ore stockpile would be constructed adjacent to but largely upon the northern sections of the WRE.

Figure 2.1 Bowdens Silver Project Mine Site Layout



The Project would require a site establishment and construction period of approximately 18 months during which the processing plant and all related infrastructure and the initial embankment of the TSF would be constructed. Once operational, Bowdens Silver anticipates the mine would produce concentrates for approximately 15 years. In total, it is proposed the mine life would be approximately 16.5 years, i.e. from the commencement of the site establishment and construction stage to the completion of concentrate production. It is envisaged rehabilitation activities would be completed over a period of approximately 7 years, i.e. from Year 16 to Year 23. The graphic below displays the duration of each of the main components throughout the mine life and Project life (**Figure 2.2**). Based on the results of Bowdens Silver exploration activities associated with the Project, there may be sufficient additional resources in proximity to the proposed site for a future expansion of the Project to be viable, subject to future technical definition and approvals.

Figure 2.2 Project Timeline

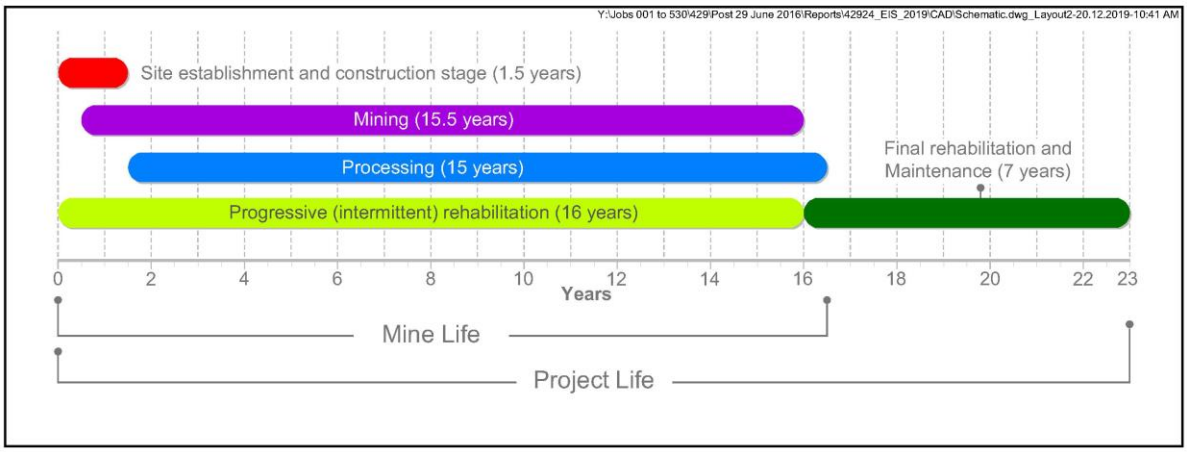


Table 2.1 presents the key Project components.

Table 2.1
Indicative Key Project Components

Page 1 of 2

Project Component	Summary of the Project
Mining Method	Open Cut mining in a main pit and two smaller satellite pits collectively covering approximately 52 ha.
Resource	Mining of mineralised rock (ore) containing silver and small percentages of zinc and lead to depths of at least 180 m.
Disturbance Area	Disturbance of approximately 495 ha.
Ore Reserves	Approximately 29.9 Mt of primary and low-grade ore.
Mining	Mining of approximately 2 Mtpa of ore and between 3 and 4.5 Mtpa of waste rock.
Mine Life	Approximately 16.5 years comprising the site establishment and construction stage (approximately 18 months - including 12 months of mining pre-strip) and mining/ processing for approximately 15 years (to the end of concentrate production).
Project Life	Approximately 23 years comprising the site establishment and construction stage, mining and processing operations (to the end of concentrate production) and includes the period for final rehabilitation.

Table 2.1 (Cont'd)
Indicative Key Project Components

Project Component	Summary of the Project
Processing	Crushing, grinding, flotation and filtration to yield two concentrates, a silver/lead concentrate and a zinc concentrate totalling between 20,000 and 30,000 tonnes of concentrates per year for sale off site. There would be no smelting operations on site.
Production	Life of Mine production of approximately 66.3 million ounces of silver, 130,000 tonnes of zinc and 95,000 tonnes of lead.
Management of Waste Rock and Process Residue	Waste rock would be used to construct the embankment of the TSF (in stages) and other site infrastructure (e.g. run-of-mine (ROM) pad). All remaining waste rock would be incorporated in either a WRE or the southern barrier, a stockpile of rock to be used to rehabilitate the TSF and WRE. All tailings would be contained in the TSF.
General Infrastructure	Site access would be provided via the relocated Maloneys Road constructed west of Lue. On-site infrastructure would include electricity supply and distribution, fuel storage, administration, workshop, stores and amenities buildings.
Product Transport	Silver/lead concentrates would be transported by road and rail in sealed containers to Port Pirie, South Australia for smelting. Zinc concentrates would be transported by road in sealed containers to the Port Botany or Port of Newcastle for export and smelting offshore. All concentrates would be transported via the relocated Maloneys Road to Lue Road (west of Lue) and would not be transported through Lue or Rylstone.
Water Management and Use	Annual average water usage would be approximately 1,857 ML for processing and dust suppression. No groundwater would be extracted via bores with water proposed to be sourced as follows. Approximately 806 ML per year rainfall and runoff and TSF return. Approximately 637 ML per year from groundwater inflows / open cut pit dewatering. In excess of 331 ML per year of surplus mine water would be sourced from the Ulan Coal Mine and/or Moolarben Coal Mine via a buried water supply pipeline. 83ML/year would also be sourced through moisture in the ore materials. The approximately 58.5km long pipeline would be constructed and commissioned during the site establishment and construction stage of the Project. The pipeline would be approximately 0.37 m in diameter and be constructed principally of a ductile iron and cement lined pipe with some sections constructed of high density polyethylene. The volume of surplus mine water required to be supplied via the pipeline in the first six months of operations is estimated to be approximately 1,000 ML. Once the return water system from the TSF is fully operational, annual quantities required would decrease.
Workforce	Construction: approximately 246 (on-site) and 74 (off-site). Operational: approximately 190 - 228
Hours of Operation	Mining initially during day-time only, increasing to evening then night-time once sufficiently deep in the open cut pit. A number of the processing steps would be undertaken 24 hrs/day, seven days a week.
Key Distances (to edge of Lue)	Closest activity (southern barrier) – 1.9 km Open Cut Pit – 2.1 km Primary Jaw Crusher – 2.9 km Grinding Mill – 3.3 km Tailings Storage Facility – 1.9 km
Initial Capital Investment	Approximately $247 million.

3. SIA METHODOLOGY

3.1 INTRODUCTION

SIA is an approach to predicting and assessing the likely consequences of a proposed action in social terms and developing options and opportunities to improve social outcomes. Best practice SIA is participatory and involves understanding impacts from the perspectives of those involved in a personal, community, social or cultural sense, to provide a complete picture of potential impacts, their context and meaning (Ross, 1992).

In developing the SIA approach that has been used to assess the potential impacts arising from the Bowdens Silver Project, Umwelt has considered both international best practice SIA principles and the NSW SIA Guideline. The following sections provide a summary of each of these principles, guidelines and ethical considerations and how they have been integrated within the current SIA process for the Bowdens Silver Project.

3.2 INTERNATIONAL SIA PRINCIPLES

The generally agreed international principles relating to SIA (Vanclay, 2003) identify social impacts as the matters affecting, directly or indirectly:

- People's **way of life**, that is: how they live, work, play and interact with one another on a day to day basis.
- The **community**, that is: its cohesion, stability, character, services and facilities.
- **Access to and use of infrastructure, services and facilities,** whether provided by local, State, or federal governments, or by for-profit or not-for-profit organisations or volunteer groups.
- Their **culture,** that is: their shared beliefs, customs, values and language or dialect.
- Their **health and wellbeing:** health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity.
- Their **surroundings**, such as: the quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources.
- Their **personal and property rights,** particularly whether people are economically affected or experience personal disadvantage which may include a violation of their civil liberties.
- Their **political and decision-making system**, such as the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place, and the resources provided for this purpose.
- Their **fears and aspirations**, that is: their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and the future of their children.

As is the case with any type of change, some individuals or groups within the community may benefit, while others may experience negative impacts. If negative impacts are predicted, it is the role of the SIA to determine how such impacts may be addressed effectively to reduce the degree of social disruption to those affected. If positive impacts are predicted, the aim of the SIA is to maximise these opportunities and identify how they might be further enhanced.

Monitoring and evaluation are also a key component of an SIA process to identify any unanticipated impacts that may arise in the future as a result of the Project.

3.3 SIA GUIDELINES – NEW SOUTH WALES

The SIA has been prepared in accordance with the SIA Guideline (DPE, 2017) by a suitably qualified and experienced lead author and social team. The lead author is Dr Sheridan Coakes, Practice Lead – Social Impact Assessment and Community Engagement at Umwelt. Dr Coakes' *Curriculum Vitae* is provided at **Annexure 1.** A signed declaration certifying that the SIA does not contain false or misleading information is provided at **Annexure 2**.

Table 3.1 outlines *Appendix D Review Requirements* from the NSW SIA guideline with references to where each requirement is addressed within the SIA.

Table 3.1
SIA Guideline Review Questions

Page 1 of 2

SIA Review Question	Response Addressed in Section
General	
Has the applicant applied the principles in Section 1.3? How?	Entire SIA
Does the lead author of the Scoping Report meet the qualification and skill requirements in Box 2?	Annexure 1
Does the lead author of the SIA component of the EIS meet the qualification and skill requirements in Box 4?	Annexure 1
Has the lead author of the SIA component of the EIS provided a signed declaration certifying that the assessment does not contain false or misleading information?	Annexure 2
Community engagement for social impact assessment (Section 2)	
Does the SIA include adequate explanations of how the engagement objectives have been applied?	Section 3
Does the SIA demonstrate that there has been a genuine attempt to identify and engage with a wide range of people, to inform them about the Project, its implications and to invite their input?	Section 3
Does the SIA demonstrate that an appropriate range of engagement techniques have been used to ensure inclusivity and to ensure the participation of vulnerable or marginalised groups? How?	Section 3
Scoping – area of social influence (Section 3.1)	
Does the Scoping Report identify and describe all the different social groups that may be affected by the Project?	Sections 3 & 4
Does the Scoping Report identify and describe all the built or natural features located on or near the Project site or in the surrounding region that have been identified as having social value or importance?	Sections 3 & 4

Table 3.1 (Cont'd)
SIA Guideline Review Questions

Page 2 of 2

SIA Review Question	Response Addressed in Section
Scoping – area of social influence (Section 3.1) (Cont'd)	
Does the Scoping Report identify and describe current and expected social trends or social change processes being experienced by communities near the Project site and within the surrounding region?	Sections 3 & 4
Does the Scoping Report impartially describe the history of the Project, and how communities near the Project site and within the surrounding region have experienced the Project to date and others like it?	Sections 3 & 4
Scoping – identifying social impacts (Section 3.2, Appendix A and Appendix B)	
Does the Scoping Report adequately describe and categorise the social impacts (negative and positive), and explain the supporting rationale, assumptions and evidence for those categories?	Section 6
How has feedback from potentially affected people and other interested parties been considered in determining those categories? Does the Scoping Report outline how they will be engaged to inform the preparation of the SIA component of the EIS?	Section 6
Does the Scoping Report identify potential cumulative social impacts?	Section 6
Social baseline study (Appendix C – Section C1)	
Does the SIA component of the EIS discuss the local and regional context in sufficient detail to demonstrate a reasonable understanding of current social trends, concerns and aspirations?	Section 5
Does the SIA component of the EIS include appropriate justification for each element in the social baseline study, and provide evidence that the elements reflect the full diversity of views and potential experiences in the affected community?	Section 5
Does the social baseline study include an appropriate mix of quantitative and qualitative analysis, and explain data gaps and limitations?	Section 5
Prediction and analysis of impacts (Appendix C – Section C2)	
Does the SIA component of the EIS include an appropriate description of the potential impacts in terms of the nature and severity of the change and the location, number, sensitivity and vulnerability of the affected stakeholders?	Section 7
Does the SIA component of the EIS identify potential impacts at all stages of the Project life cycle?	Section 7
Does the SIA component of the EIS appropriately identify and justify any assumptions that have been made in relation to its predictions?	Section 7
Does the SIA component of the EIS include appropriate sensitivity analysis and multiple scenarios to allow for uncertainty and unforeseen consequences? If relevant, does it include comparisons with studies of similar Projects elsewhere?	Section 7
Evaluation of significance (Appendix C – Section C3)	
Does the SIA component of the EIS explain how impacts were evaluated and prioritised in terms of significance?	Section 7 & 8
Does the evaluation of significance consider cumulative aspects where relevant?	Section 7 & 8
Does the evaluation of significance consider the potentially uneven experience of impacts by different people and groups, especially vulnerable groups?	Section 7 & 8
Responses and monitoring and management framework (Appendix C – Sections C4 and C5)	
Does the SIA identify appropriate measures to avoid, reduce, or otherwise mitigate any significant negative impacts of the Project, and justify these measures?	Section 8
Does the SIA explain and justify measures to secure and/or enhance positive social impacts?	Section 8
Does the SIA component of the EIS impartially assess the acceptability, likelihood and significance of residual social impacts?	Section 7 & 8
Does the SIA component of the EIS propose an effective monitoring and management framework?	Section 9

3.4 SIA PRINCIPLES AND ETHICAL CONDUCT

Ethical considerations that apply to research involving people have been taken into account, with particular focus on the Principles identified in the SIA Guidelines (refer to **Table 3.2** below)

Table 3.2
Principles Identified in the SIA Guidelines

Page 1 of 2

Principles	Description	How this SIA has considered each Principle
Action-oriented	Delivers outcomes that are practical, achievable and effective.	Key stakeholders involved in identifying impacts for consideration in the assessment process. Potential mitigation and management measures identified for significant social impacts.
Adaptive	Establishes systems to actively respond to new or different circumstances and information and support continuous improvement.	SIA methodology that is adaptive to changing circumstances. Engagement undertaken via a range of methods/mechanisms and at key phases of the assessment process to identify community perceptions of the Project and outcomes of technical studies (refer to **Table 3.4** for details). Mitigation and management measures identified to support continuous improvement.
Distributive equity	Considers how social impacts are distributed within the current generation (particularly across vulnerable and under-represented groups) and between current and future generations.	Social Baseline Profile that considers vulnerabilities and resilience of individuals and communities to respond to change. Assessment of social impacts across differing stakeholder groups. Consideration of intergenerational equity in relation to future land uses.
Impartial	Is undertaken in a fair, unbiased manner and follows relevant ethical standards.	Independent assessment that respect the confidentiality of participants and which outlines the ways in which participants can be involved in the SIA/EIS process and the Project assessment more broadly. Community perceptions of impact documented and reported.
Inclusive	Seeks to hear, understand and respect the perspectives of the full diversity of potentially affected groups of people. The assessment is also informed by respectful, meaningful and effective engagement that is tailored to suit the needs of those being engaged (for example, culturally sensitive, accessible, adaptive).	Multiple engagement mechanisms and tools used to engage key stakeholders and afford meaningful engagement in the assessment process. Stakeholder perspectives of impacts that may be experienced are fully documented in sections of the SIA report, with perceived risk noted in predicting social impacts.

Table 3.2 (Cont'd)
Principles Identified in the SIA Guidelines

Principles	Description	How this SIA has considered each Principle
Integrated	Utilises and references relevant information and analysis from other assessments. Supports effective integration of social, economic and environmental considerations in decision-making.	Full overview of SIA research methodology including summary of information/data sources that have been utilised and referenced throughout the document. Commissioning of the SIA early in the Project and regular meetings with the Project team throughout the assessment program has provided opportunities to effectively align SIA outcomes with the broader EIS process and proactively inform Project planning and mine plan design. Outcomes from environmental studies and economic assessment are considered and cross referenced as applicable within the SIA. Previous assessment reports and studies considered in the baseline study component of the SIA.
Life cycle focus	Seeks to understand potential impacts (including cumulative impacts) at all Project stages, from pre-construction to post closure.	Consideration of all social impact categories as defined in the guideline, including cumulative impacts across the Project's life cycle.
Material	Identifies which potential social impacts matter the most, and/or pose the greatest risk to those expected to be affected.	Risking and ranking of impacts from the perspectives of those potentially affected and through relevant social analyses. Prediction of social impacts across stakeholder groups.
Precautionary	If there is a threat of serious or irreversible damage to the environment, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental (including social) degradation.	Potential impacts have been assessed and ranked utilising the approach recommended in the SIA Guideline, and potential mitigation and enhancement strategies have been identified.
Proportionate	Scope and scale should correspond to the potential social impacts.	Impacts have been assessed according to impact characteristics outlined in the SIA Guideline and highlight the key social impacts associated with the proposed Project.
Rigorous	Uses appropriate, accepted social science methods and robust evidence from authoritative sources.	The social research methodology adopted for the assessment is detailed and information sources noted throughout the document. Project team comprising relevant social science expertise.
Transparent	Information, methods and assumptions are explained, process of assessment is justified and accessible; and people are able to see how their input has been considered.	Process of recording outlined to interview participants, with copies of interview transcripts provided on request. Summary of engagement findings provided (in information sheet format) to validate and ensure that issues have been appropriately identified and summarised. Voluntary participation in the assessment and engagement program, with no coercion. Outline of the Project and the SIA process, with a right to withdraw involvement at any stage of the process. Confidentiality of personal matters with engagement outcomes expressed collectively, no individual identification. Data coding and protection.

3.5 SIA PROJECT APPROACH AND METHODOLOGY

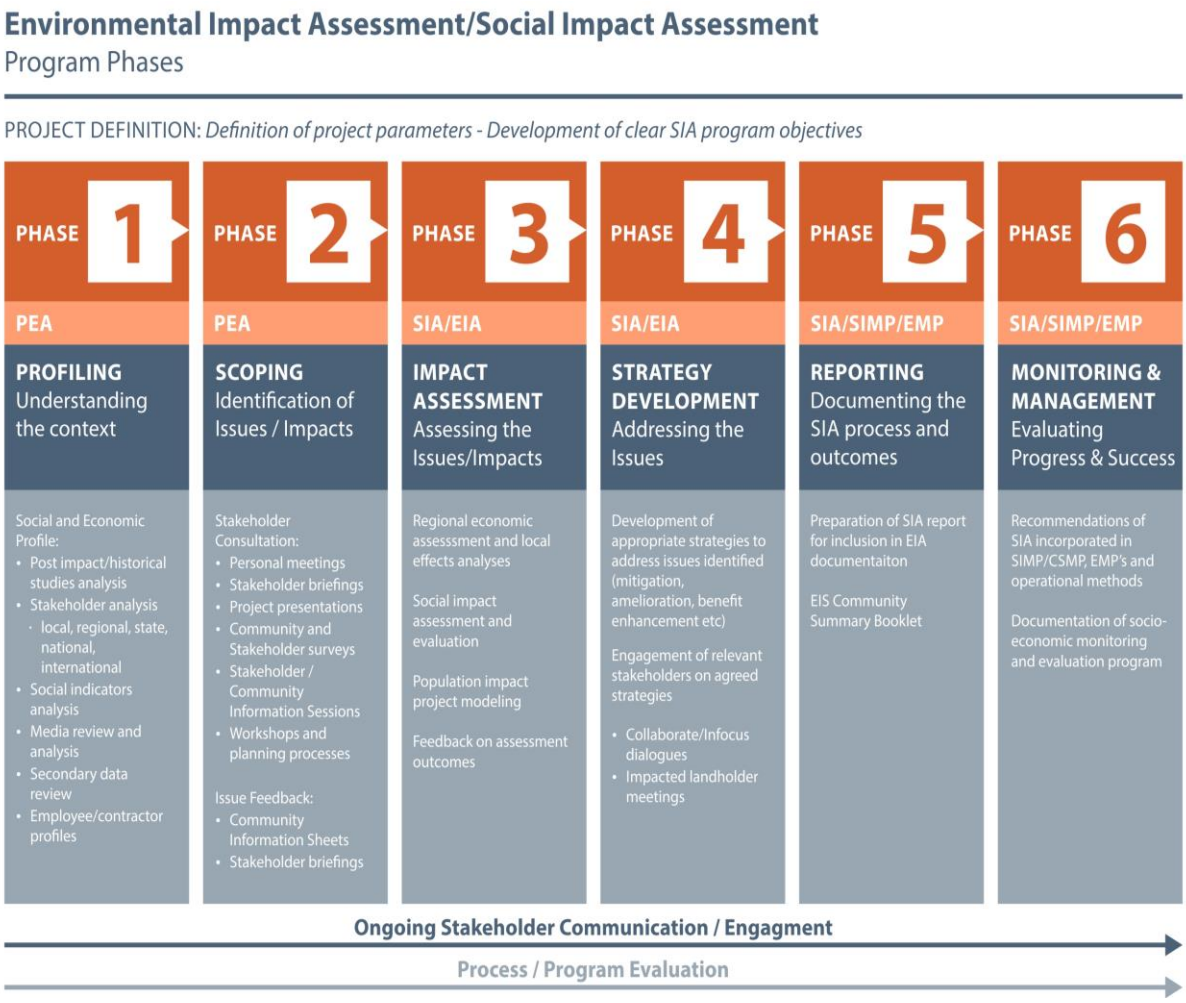
A 'best practice' approach to SIA, integrating international and NSW SIA Guideline requirements, has been adopted for the Project. In line with best practice, the SIA has involved a number of key phases of work that include:

- Preparatory Planning - undertaking appropriate planning for the Project and the development of a Stakeholder Engagement Strategy.
- Profiling - defining the baseline social context in which the Project is based.
- Scoping - identifying key social impacts/issues relevant to the Project.
- Assessment and prediction of impacts - evaluating and predicting positive and/or negative social impacts.
- Strategy Development - identifying strategies to minimise negative impacts and enhance positive impacts associated with the Project.
- Monitoring and Evaluation – development of a framework outlining how social impacts should be monitored and evaluated should the Project proceed.

Engagement with the community has been a key component of the SIA program at key phases of the assessment, to afford a participatory approach, and has involved proximal landowners and local and regional stakeholders in the scoping of Project issues and identification of strategies to address and enhance Project impacts.

Commissioning of the SIA early in the Project and conducting regular meetings with the Project team throughout the assessment program has also provided opportunities to effectively align the SIA outcomes with the broader EIS process, and to inform Project planning and Mine Site design (refer to Figure **3.1**).

Figure 3.1 Phases of the SIA Program



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3.6 PROGRAM PARTICIPANTS

Social impact assessment involves the cooperation and coordination of a number of '*social partners*' or '*stakeholders*'. As Burdge (2004) outlines, stakeholders may be affected groups or individuals that:

- Live nearby the resource/Project
- Have an interest in the proposed action or change
- Use or value a resource
- Are interested in the use of the resource
- Are forced to relocate as a result of the Project.

As part of the SIA program for the Project, a wide range of stakeholders have been identified and involved in the program (refer to **Figure 3.2**).

Figure 3.2 Identified Stakeholders

Key stakeholder group who were engaged to inform the SIA include:

- **Landholders and residents** in the locality– landholders and residents residing in localities surrounding the Mine Site in the state suburbs of Lue, Pyangle, Monivae, Havilah and Bara.
- **Proximal landholders** – landholders and residents in closest proximity to the Mine Site, including those within the management zone, i.e. those being marginally/moderately or negligibly impacted as defined by the Voluntary Land Acquisition and Mitigation Policy (VLAMP).
- **Aboriginal stakeholders -** including Registered Aboriginal Parties (RAP), Native Title and Aboriginal Land Council claimants and Aboriginal service providers and groups (note that this refers specifically to those Aboriginal stakeholders consulted as part of the SIA regarding social issues, not to those consulted as part of the Aboriginal cultural heritage assessment program regarding cultural heritage issues which is discussed in the EIS).
- **Regional community residents**–residents in the wider Mid-Western Regional LGA (outside of proximal suburbs).
- **Community, Environment and Special interest groups** – including community, environmental and heritage groups within the region.

- **Local businesses and suppliers** – including businesses operating throughout the Mid-Western Regional LGA.
- **Service providers** – service providers across the Mid-Western Regional LGA area in education, childcare, health, recreation, youth, housing and social services.
- **Bowdens Silver Employees** – members of the Bowdens Silver Project team.

Table 3.3 provides an overview of the number of stakeholders consulted to inform the SIA across each stakeholder group category. These stakeholders have directly participated in the formal engagement process to date via personal interviews, surveys (online and hardcopy), Project briefings and regional forums (this excludes Government agency consultation), community workshops, community information sessions, and Community Consultative Committee (CCC) meetings. A variety of engagement and communication mechanisms have been utilised to facilitate meaningful participation in the assessment program including community information sheets and newsletters (refer to Section 3.7).

Table 3.3
SIA Engagement Summary

Stakeholder Category	Number contacted	Direct Consultation and / or Engagement	Contact attempted but no response	Declined	Declined – No concerns with the Project
Residents and landholders in the locality					
Round 1 (2017) interviews	103 households	69* respondents	34	4	11
Round 2 (2019)	56 households	60* respondents	32		5
Regional Community					
May 2017 Open Day	1600 via mail out flyer	60 attendees			
June 2019 Open Day	1600 via mail out flyer	100 attendees			
Community Information Sessions (Mudgee and Kandos)	1700 via mail out flyer	25 attendees			
Regional community residents survey distributed at June 2019 Open Day, Community Information Sessions and through local town venues	Approximately 120 surveys distributed	59 respondents			
Random community telephone survey		410			
Key Stakeholder Groups					
Community and special interest groups (e.g. LAG, Historical groups, Landcare)	13	6	4	3	
Lue Public School Visioning Workshop		7 (1 teacher, 6 students)			
Indigenous stakeholders (RAPs and Native Title Groups)	14	8	2	4	0
Local businesses and business chamber representatives	184	87	89	8	0
Community service providers	79	37	34	1	0
Local and State Government agencies	18	18			
Bowdens Silver employees	16	16	0	0	0
Total		****962**			

* Round 1 interviews involved 69 residents and landholders in the locality; Round 2 included interviews with 60 residents and landholders in the locality. A number of these landholders and residents in the locality were also local business owners or members of the Lue Action Group and/or the CCC.

** Some stakeholders have been consulted across both engagement rounds.

3.7 SOCIAL ASSESSMENT AND ENGAGEMENT METHODS

Engagement with the community has been a key component of the SIA program for the Project. Engagement has been undertaken at key phases of the assessment, namely in the scoping of the Project issues and impacts and in the feedback of assessment studies and the development of appropriate strategies to mitigate or enhance Project impacts.

Table 3.4 provides a summary of the social assessment methods and approaches that have been adopted at each phase of the SIA. This engagement has been further complemented by engagement undertaken by Bowdens Silver and R.W. Corkery, with Local and State Government agencies and other key stakeholders, as a component of other Project assessment activities. **Table 3.5** outlines the engagement mechanisms utilised to obtain input and feedback from differing stakeholder groups.

Discussions with stakeholders have been guided using structured interview guides and surveys and have focused on a range of topics including, but not limited to, the following.

- Awareness of Bowdens Silver and the Project.
- Concerns and perceptions regarding potential impacts (both positive and/or negative impacts) associated with the Project.
- Perceived costs and benefits of mining more broadly in the region.
- Key strengths and assets within the local communities within the assessment area, including community values and needs.
- Issues relating to Service provision capacity within the region across key community sectors e.g. housing, education, health, recreation, emergency services, employment etc.
- Preferences for receipt of Project information and mechanisms for engagement.

Bowdens Silver has predominantly utilised established communication and consultation channels in engaging with the community. In addition to key engagement activities outlined in **Table 3.5**, consultation with community stakeholders has included community newsletters, personal telephone calls, personal meetings, targeted briefings, emails/letters/text messages, updates via the Bowdens Silver website, Community Consultative Committee meetings, site visits, attendance at community group meetings and events.

An analysis of the consultation events logged by Bowdens Silver between 23 August 2016 and 6 March 2019, suggests that the majority of events in the Bowden Silver consultation database (354 out of 378) related to communications with the community around property valuation and acquisition, notifications about pest management, discussions relating to gaining access to properties for exploration processes, surveys, drilling and/or sampling. Approximately 25 communication events logged also included face to face meetings, telephone calls, letters, emails and text message communications, Project enquiries and site visits with businesses, job seekers and government personnel.

Table 3.4
Summary of Social Assessment Methods by SIA Phase

Method	Description
Phase 1	**Community Profiling**
Community Capitals Analysis	Assessment and analysis of ABS Census data and other relevant social and community indicators and data sets to develop a detailed social baseline profile of the study communities. Areas of existing community resilience and vulnerability have been identified through application of a community capitals analysis.
Township Resource Cluster (TRC) Analysis [4]	Documentation of the potential social and economic linkages/associations between Bowdens Silver and communities within the LGA and across the State, through analysis of existing employee and community investment data.
Indigenous profile and issues analysis	Review of socio-economic statistics relevant to the Aboriginal population. Personal and telephone interviews with Aboriginal groups and service providers in the Mid-Western Regional LGA.
Community Visioning Assessment	Visioning workshop held with the local Lue Public School Students (1 teacher, 6 students) Interviews with key stakeholders with an interest in Lue and its surrounds n=2
Phase 2	**Scoping of Issues and Opportunities**
Key Stakeholder Issues Analysis	Survey of near neighbours/landholders residing, or who own property, in proximity to the Mine Site and key stakeholders, to identify perceived issues and opportunities relating to the Project n=69 (Round 1 interviews). Mechanisms have included personal and telephone interviews, Project briefings, community information sessions, town forums. Provision of three Project information sheets - 1) outlining the Project and the assessment process; 2) summarising the outcomes of the engagement and scoping phase of the Project; and 3) outlining the outcomes of the technical assessment studies and proposed mitigations and enhancements. Ranking of perceived issues and opportunities by relative frequency.
Consultation and Complaints data analysis	Review and analysis of Bowdens Silver engagement data including meetings, phone calls, newsletter and community complaints.

[4] Fenton, Coakes and Marshall, 2003

Table 3.4 (Cont'd)
Summary of Social Assessment Methods by SIA Phase

Method	Description
Phase 2	**Scoping of Issues and Opportunities (Cont'd)**
Service Provider Survey	Survey of service providers (N=37) across the Mid-Western Regional LGA in sectors including education, childcare, health, recreation, youth, housing, employment and social services. The purpose of this survey, was to: provide an update to the findings of the Manidis Roberts (2012) community infrastructure and services capacity assessment and assess the realisation of predictions made in the 2012 report; assess capacity to accommodate additional population change as a result of the Project, due to proposed construction and operational workforce influx; better understand key drivers in the Mid-Western Regional LGA in relation to the provision of community services and the capacity of these services to respond to change; gain a detailed understanding of the potential impacts of the proposed Bowdens Silver workforce (construction and operation) on Mudgee, Gulgong, Lue, Kandos and Rylstone; and identify strategies to minimise impacts on community services.
Local Business and Supplier Survey	In order to understand the types of services and skills available in the region, a skills and capacity audit was conducted amongst businesses throughout the Mid-Western Region. The survey was conducted between 30 May and 10 July 2019. To ensure as many local businesses as possible were included in the survey, Umwelt contacted the local business associations within the region. These included: Mudgee Chamber of Commerce Gulgong Chamber of Commerce Rylstone Kandos Business and Tourism Inc. A total of 195 businesses were contacted, via email and direct calls, to participate in the survey. Of those businesses contacted, 87 chose to participate in the survey (with one business participating anonymously), 97 did not respond; 10 declined and 1 business had ceased operations, yielding a response rate of 45%.

Table 3.4 (Cont'd)
Summary of Social Assessment Methods by SIA Phase

Method	Description
Phase 3	**Assessment and Impact Prediction**
Social Risking	Assessment of social risks/impacts associated with the Project through review of relevant social and environmental consequence and likelihood ratings and defined impact characteristics as defined in the SIA Guideline (extent, duration, sensitivity/vulnerability and severity). Prediction of social impacts associated with the Project (refer to Section 8).
Key Stakeholder issues analysis - impacts and opportunities	Engagement with residents and landholders in the locality, proximal landholders and regional community members to discuss outcomes of the social and environmental technical studies and further identify perceived issues and opportunities relating to the Project. Provision of a dedicated Project Information Sheet (No.3) summarising the key preliminary outcomes of the assessment studies and proposed mitigation measures and enhancements. In summary, mechanisms have included the following. Personal meetings and telephone interviews with proximal landholders and residents and landholders in the locality (refer to Section 6.3). Open Day (held at the Bowdens Silver Mine Site, approximately 100 people in attendance) to afford input from residents and landholders in the locality, key stakeholders and the regional community on the impacts and opportunities relating to the Project. Targeted briefings with key stakeholder groups to provide feedback on the outcomes of key assessment studies. Two Community Information Sessions to provide an overview of the Project and its assessment outcomes. Community survey to gather feedback on the Project, distributed to attendees at the Open Day (June 2019) and the Community Information Sessions (June 2019); and distributed to the regional community members at local community venues .
Phase 4	**Mitigation and Management**
Social Risk Matrix	Categorisation of impacts by social impact category and theme. Identification of perceived and technical Project risk. Prediction of significant social impacts relating to the Project based on assessment of key impact characteristics: extent, duration, severity and sensitivity.
Social Impact Management and Residual Risk Ranking	Identification and development of appropriate strategies (mitigation and enhancement) to address significant predicted impacts (moderate, high, extreme) from the Project and residual risk post strategy implementation.

Table 3.5
Engagement and Communication Methods

Mechanism	Target Stakeholder Group	Description
Personal meetings	Residents and landholders in the locality/Regional community	Two dedicated rounds of personal and telephone interviews/meetings with residents and landholders in the locality and regional community to: • identify perceived social impacts relating to the Project; and • discuss outcomes of the environmental and social impact assessment studies and proposed mitigation and enhancement strategies. Round 1 (undertaken April to May 2017) involving 69 respondents Round 2 (June to November 2019) involving 60 respondents.
	Key stakeholder groups	Project briefings and meetings with a range of key stakeholder groups and organisations including: • Mudgee Historical Society • Rylstone and District Historical Society • Rotary Club of Mudgee Sunrise • Rotary Club of Mudgee • Rylstone Public School • Lue Public School • Mudgee TAFE • Kandos High School • Cudgegong Rural Fire Service • Lue/Havilah Bushfire Brigade • Bingman Landcare Group • Lue Action Group • Mudgee Chamber of Commerce • Gulgong Chamber of Commerce • Rylstone Kandos Chamber of Commerce (now Rylstone Kandos Business & Tourism Incorporated)
	Aboriginal Stakeholders	Telephone interviews with eight Aboriginal stakeholders and service providers (May – August 2019) to identify issues in relation to the Project and potential opportunities for impact management and enhancement.

Table 3.5 (Cont'd)
Engagement and Communication Methods

Mechanism	Target Stakeholder Group	Description
Open Days	Residents and landholders in the locality/ Regional community	Facilitation of three Community Open Days/Community Information Sessions: • Open Day No. 1. Held on 20 November 2016 at the Bowdens Silver site office to provide the community with an overview of new ownership and company; plans for the Project and changes from Kingsgate; EIS and approvals process; current and future activities; geology and environmental standards; community engagement; farm update and employment. Bowdens Silver employees and specialist consultants were in attendance to provide information and answer any questions (approximately 50 in attendance). • Open Day No.2 held on 7 May 2017, at the Lue Hall to present the Project, outline the assessment studies being undertaken for the Project, and document perceived community issues and opportunities (approximately 60 in attendance). • Open Day No.3 held on 15 June 2019, at the Bowdens Silver site office to present the results of environmental and social assessment studies and to provide a forum for feedback on study outcomes and proposed mitigation and enhancement strategies. Specialist consultants were in attendance to liaise with community members and answer relevant questions on their respective assessments (approximately 100 in attendance).
Community Visioning Workshop	Lue Public School	Workshop facilitated by Umwelt held at the Lue Public School on 30 August 2017. This workshop involved six students of the Lue Public School and teaching staff to obtain an understanding of student values, needs, and aspirations for Lue (refer to Section 5.9.4).
Project briefings	Regional community	Project briefing with regional community members drawn from across key community service sectors and local residents within the Mid-Western Regional LGA. • Two Community Information Sessions held on 12 and 13 June 2019 respectively in Kandos (10 community members in attendance) and Mudgee (15 community members in attendance)

Table 3.5 (Cont'd)
Engagement and Communication Methods

Mechanism	Target Stakeholder Group	Description
Project briefings (Cont'd)	Government agencies and elected representatives (Bowdens Silver and RW Corkery)	Approximately 18 briefings and personal meetings with relevant government representatives (local, State and federal) to present the Project and obtain feedback on Project aspects. Agencies and groups consulted have included the following. • Mid-Western Regional Council (MWRC, the Council). • DPE (now DPIE) • DPE – Division Resources and Geoscience (now Department of Regional NSW – Mining, Exploration and Geoscience) • Environment Protection Authority. • Natural Resources Access Regulator. • Members of Parliament and NSW National Party. • Department of Premier and Cabinet. • Independent Pricing and Regulatory Tribunal.
	Community Consultative Committee (CCC) (Bowdens Silver)	11 briefings on the Project to CCC meetings in November 2016, March, May, September and December 2017, February, April and August 2018, and February, June and October 2019. Content of meetings has included the following. • Presentations on the Bowdens Silver Project and subsequent discussion and questions. • Community open days, events and sponsorships. • Environmental aspects of the Project. • Presentations, questions and correspondence from community members and Lue Action Group. • Site tour. • Presentations and Q&A sessions with specialist consultants and EIS consultant. • Summary of exploration activities and results.

Table 3.5 (Cont'd)
Engagement and Communication Methods

Mechanism	Target Stakeholder Group	Description
Community surveys	Residents and landholders in the locality / Regional community	Community survey distributed to attendees at the Open Day (June 2019) and the two Community Information Sessions (June 2019). In addition, surveys were provided at key venues to facilitate broader community input (June – August 2019). Survey was used to gain feedback from the regional community in relation to: • Perceived social impacts of the Project • Community needs • Potential mitigation and enhancement strategies to address Project impacts. In addition, surveys distributed at the Open Day and Information Sessions asked respondents to provide feedback on the community engagement process. A total of 64 surveys were completed.
Random community survey	Residents and landholders in the locality/ Regional community	Random community survey conducted in August 2019, (n=410) to obtain the views of the broader regional community in relation to the Project. Survey questions related to: • Perceptions regarding Bowden Silver, the Project and its impacts (positive and negative) • Level of support for the Project • Awareness of Bowdens Silver presence in the area and its social investment initiatives and community contributions • Preferences for communication and engagement - preferred methods of engagement and communication and desired content. • Needs and challenges within the region. • Refer to Section 3.7.1
Bowdens Silver Employee survey	Bowdens Silver Employees	Survey of Bowdens Silver employees to understand the potential social and economic linkages/associations between Bowdens Silver and communities within the LGA. Survey was conducted in July/August 2019 (n=16)

Table 3.5 (Cont'd)
Engagement and Communication Methods

Mechanism	Target Stakeholder Group	Description
Local business and supplier audit	Local businesses and suppliers	Survey of employment service providers (n=87) across the Mid-Western Regional LGA (May-July 2019). Survey was used to identify the potential work ready populace in the region. Survey was also used to gain feedback from local businesses and suppliers on: • Perceived social impacts of the Project. • Key community needs. • Mitigation and enhancement strategies the community would like to see. • The industries of participating businesses and suppliers. Key sectors in which businesses were sampled included mining (34), retail trade (28), construction (25), agriculture (22), manufacturing (15), electricity, gas, water and waste (12), transport, postal and warehousing (11), accommodation and food service (11) etc.
Community services audit	Community service providers	Survey of service providers (n=37) across the Mid-Western Regional LGA in education, childcare, health, recreation, youth, housing and social services (May - August 2019). The purpose of this survey, was to identify existing services and assess capacity to accommodate additional population change as a result of the Project due to proposed construction and operational workforce influx Survey was also used to gain feedback from service providers on • Perceived social impacts of the Project. • Key community needs. • Mitigation and enhancement strategies the community would like to see.
Project Information Sheets	Residents and landholders in the locality/ Regional community	Development of three (3) Project information sheets: • Project information Sheet No. 1 – summary of key aspects of the Project (April 2017) • Over 100 distributed to neighbouring community residents and relevant stakeholders on Bowdens Silver's mailing list, and 1500 to residents in Kandos, Rylstone and surrounding suburbs/towns. • Project Information Sheet No. 2 – Progress/outcomes of the social assessment program and SIA community engagement (August 2017) • Over 100 distributed to neighbouring community residents and relevant stakeholders on Bowdens Silver's mailing list, and 1500 to residents in Kandos, Rylstone and surrounding suburbs/towns.

Table 3.5 (Cont'd)
Engagement and Communication Methods

Mechanism	Target Stakeholder Group	Description
Project Information Sheets (Cont'd)	Residents and landholders in the locality/ Regional community (Cont'd)	• Project Information Sheet No. 3 – Summary of preliminary findings of the environmental impact statement (June 2019). Approximately 172 distributed to neighbouring community residents and relevant stakeholders on Bowdens Silver's mailing list, and 1500 to residents in Kandos, Rylstone and surrounding suburbs/towns. In addition, five (5) community newsletters (in November 2016, February 2017, December 2017, August 2018 and January 2019) were distributed by Bowdens Silver to local residents and landholders and other interested stakeholders which provided an update on the Company and the Project. All newsletters and Information Sheets were also made available on the Company website.
Ongoing Bowdens Silver Community Engagement	Residents and landholders in the locality/ Regional community	Ongoing phone, face-to-face, written correspondence and SMS communication has occurred between Bowdens Silver and stakeholders regarding the following: • Proposed exploration activities – land access agreement negotiation, update on exploration activities, feedback on results of exploration and rehabilitation strategies. • Overall Project updates including specific information that relates to relevant properties and residences. • Follow-up on reported Koala sightings near Mine Site • Information and updates on pest control activities. Project and land access agreement discussions to facilitate environmental assessment studies. These have principally related to: – The proposed water supply pipeline; – Discussion to facilitate ecological and heritage surveys; and – Project-related environmental monitoring on surrounding properties.
	Aboriginal Stakeholders	Ongoing face-to-face, phone and written communication to facilitate Aboriginal cultural surveys of the Mine Site (March 2017) and the water supply pipeline corridor (April 2019).

Source: Compiled utilising data collected by Umwelt and provided by Bowdens Silver and R.W. Corkery.

3.7.1 Random Community Survey

A random telephone survey of residents in selected areas of the Mid-Western Regional LGA including the population centres of Mudgee, Lue, Gulgong, Kandos and Rylstone and their surrounding rural areas was undertaken by Jetty Research from 19 to 28 August 2019 to determine wider community perspectives relating to the Bowdens Silver Project. A total of 410 households participated in the survey which applied an appropriate random sampling survey technique to afford statistical generalisation to the larger population within the assessment area. Given the random nature of the sample, every member of the larger population has an equal chance of being selected.

Using the state suburb (SSC) boundaries, as defined by the ABS (2016), a selection of suburbs surrounding the key study communities of Lue, Mudgee, Kandos, Rylstone and Gulgong were collated into five 'community areas' (refer to **Figure 3.3**). It is important to note that many of the surrounding suburbs were rural areas with very small populations and by combining these suburbs into a larger area, the reliability of the data was increased. **Table 3.7** lists the state suburbs which were included in each 'community area': Lue, Mudgee, Kandos, Rylstone, and Gulgong, and the corresponding number of respondents in each.

Any reference to Lue, Mudgee, Kandos, Rylstone or Gulgong within this section refers to both the locality and their surrounds as defined in **Table 3.7** and shown in **Figure 3.3**.

In the current context, the survey method was used to:

- Identify areas of community value and needs/challenges within the region
- Assess community knowledge of Bowdens Silver as a company and the Project
- Assess the level of community support for the Project
- Identify community perceptions of impacts of the Project (both positive and negative)
- Ascertain preferences for communication and engagement - preferred methods of future contact and desired information requirements
- Assess awareness of Bowdens Silver's presence in the area and its social investment initiatives and community contributions.

3.7.1.1 Sampling Approach

The sampling process was randomised using publicly listed telephone numbers and mobile phone numbers. A total of 410 interviews were undertaken, with 1182 declined interview requests and terminations, yielding a response rate of 26% (refer to **Table 3.6**).

Figure 3.3 Wider Community Phone Survey Surrounding Suburbs & Local Government Areas

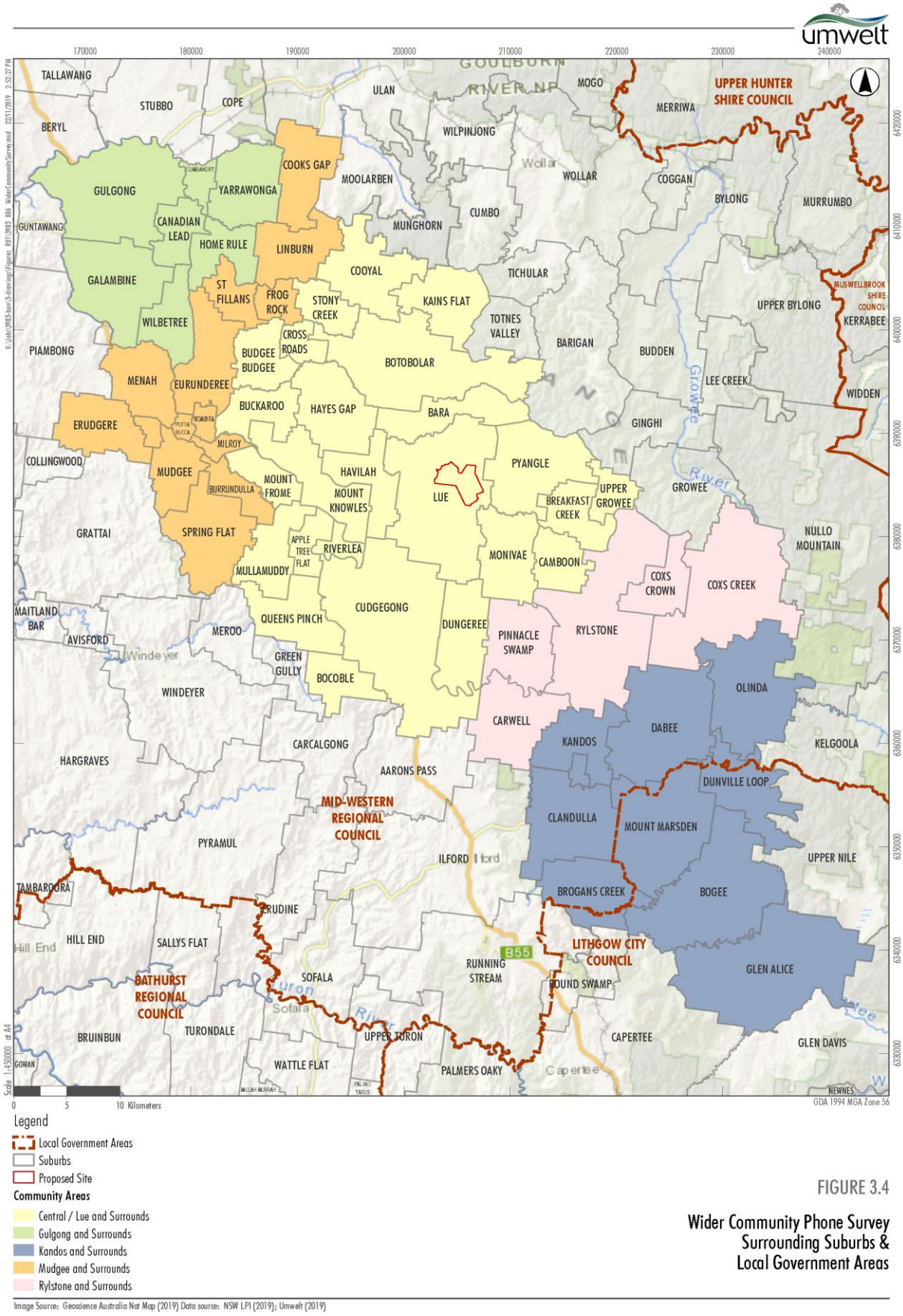


Table 3.6
Contact Attempt Details

Contact Type	Frequency	Overall Proportion (%)
Completed interviews	410	7
Request for interview declined	1 175	21
Terminated interview	7	0.1
Call back requested	337	6
Answering machine	2 734	50
No answer	564	10
Disconnected	69	1
Did not qualify	200	4
Total	**5 496**	**100**

The survey was conducted Monday to Thursday afternoons and evenings from 2:30pm – 8:00pm. Instructions were that once all numbers were called, those who did not answer, were called again to provide a second opportunity to participate. All selected phone numbers were contacted up to five times in order to obtain a telephone interview and if the time was not convenient to the respondent, appointments were made to complete the survey at another time.

Prior to conducting the survey, the minimum sample size for each community and their surrounds was calculated in order to obtain a confidence interval of +/- 9%, and to ensure the data collected was generalisable to the actual population for these community areas, and the region as a whole.

To determine how representative the sample population is of the broader region, and each community area, confidence intervals were calculated. To calculate the confidence interval, a confidence level of 95% and a conservative percentage[1] of 50% was used. Both confidence intervals and confidence levels go together hand in hand and are used to estimate data with a certain level of accuracy. These are explained below (for further detail, see Creative Research Systems, 2016).

A confidence interval (or margin of error) is a plus-or-minus figure which shows the proportional range in which it is possible to be “sure” the proportion of answers for a dichotomous question (only two possible answers, e.g. yes or no) received from the sample are shared by the broader population. Therefore, there is confidence interval of 9 and 38% of the sample choose “yes”, it is possible to be “sure” that if the entire relevant population were asked, between 29% (38-9) and 47% (38+9) of the population would also choose “yes”.

A confidence level is how “sure” it is possible to be about the confidence interval. This specified range is always expressed in a percentage, representing how often the true proportion answer would actually fall within the confidence interval. The most common being a value of 95% or 99%, depending upon the accuracy of data needed. Most researchers use the 95% confidence interval, which means that it is possible to be 95% certain that the true population proportion lies within the confidence interval (+/-9).

[1] When determining the sample size needed for a given level of accuracy the worst-case percentage is used (50%).

By putting the confidence interval and confidence level together, it is possible to say that we are 95% sure that the true percentage of the population who would choose "yes" is between 29% and 47%. The wider the accepted confidence interval, the greater degree of surety that the whole population would answer within the confidence interval range (and vice versa).

The overall sample received a confidence interval of 4.8 which indicates the data for the sample size has a low level of error and is reflective of the broader population, with a high degree of certainty. The confidence intervals for each community area are displayed in the table below (refer to **Table 3.7**).

Table 3.7
Community Areas

Community Area	State Suburbs		Sample Size (n=410)	Population Size	Confidence Interval (%)
Central / Lue and surrounds	Lue Dungeree Cudgegong Bocoble Queens Pinch Mullamuddy Apple tree Flat Riverlea Mount Frome Mount Knowles Havilah Buckaroo Hayes Gap	Budgee Budgee Cross Roads Stoney Creek Botobolar Cooyal Kains Flat Bara Pyangle Upper Growee Breakfast Creek Camboon Monivae	48	1 413	13.9
Rylstone and surrounds	Rylstone Carwell Pinnacle Swamp	Coxs Crown Coxs Creek	72	1 044	11.2
Kandos and surrounds	Kandos Charbon Clandulla Brogans Creek Mount Marsden	Bogee Glen Alice Dunville Loop Dabee Olinda	55	1 909	13.0
Mudgee and surrounds	Mudgee Spring Flat Burrundulla Milroy Bombira Putta Bucca Erudgere	Menah Eurunderee St Fillans Frog Rock Linburn Cooks Gap	155	13 155	7.8
Gulgong and surrounds	Gulgong Galambine Wilbetree Canadian Lead	Home Rule Yarrawonga Cumbandry Stubbo	80	3 800	10.8
Total Sample			**410**	**21 321**	**4.8**

Source: Umwelt, 2020; ABS 2016

While respondent sample sizes for Lue, Rylstone, and Kandos did reach the desired number, and therefore had slightly higher confidence intervals than the desired 9.0, it should be noted that these targets were aspirational and depend upon the available population numbers. Confidence intervals for the community areas were not severely impacted as a result, however, are important to note.

Survey respondents were assured that individual survey responses would remain confidential, with data aggregated to a collective level for analysis. Where quotes have been used, individual respondents have not been identified.

3.7.2 Process Evaluation

According to the SIA Guidelines (NSW Government 2017) 'respectful, inclusive and meaningful engagement with potentially affected people and other interested parties is a fundamental part of SIA.' To ensure that engagement mechanisms used in this SIA were appropriate and meaningful a number of techniques were implemented to evaluate the engagement process.

- Residents and landholders in the localities surrounding the Mine Site were initially prioritised during Round 1 engagement due to their proximity to the Project.
- A variety of mechanisms, including distribution of information sheets, personal letters, door knocking, phone calls and emails were used to ensure residents and landholders in the locality were informed of the Project and were invited to participate in engagement for the SIA.
- Project Information Sheets and Newsletters were circulated widely (to approximately 1600 households, including to households proximal to the Mine Site, and to regional community members in Kandos and Rylstone).
- Contact details of community members interested in receiving information about the Project were collected and stored in a centralised database.
- Participants were asked about their preferences for how they would like to be engaged, and this information was collected and used to inform future communications and engagement (results of this have been provided in Section 3.7.2.1.
- Participants were asked to indicate their satisfaction with the process and provide feedback on engagement activities.

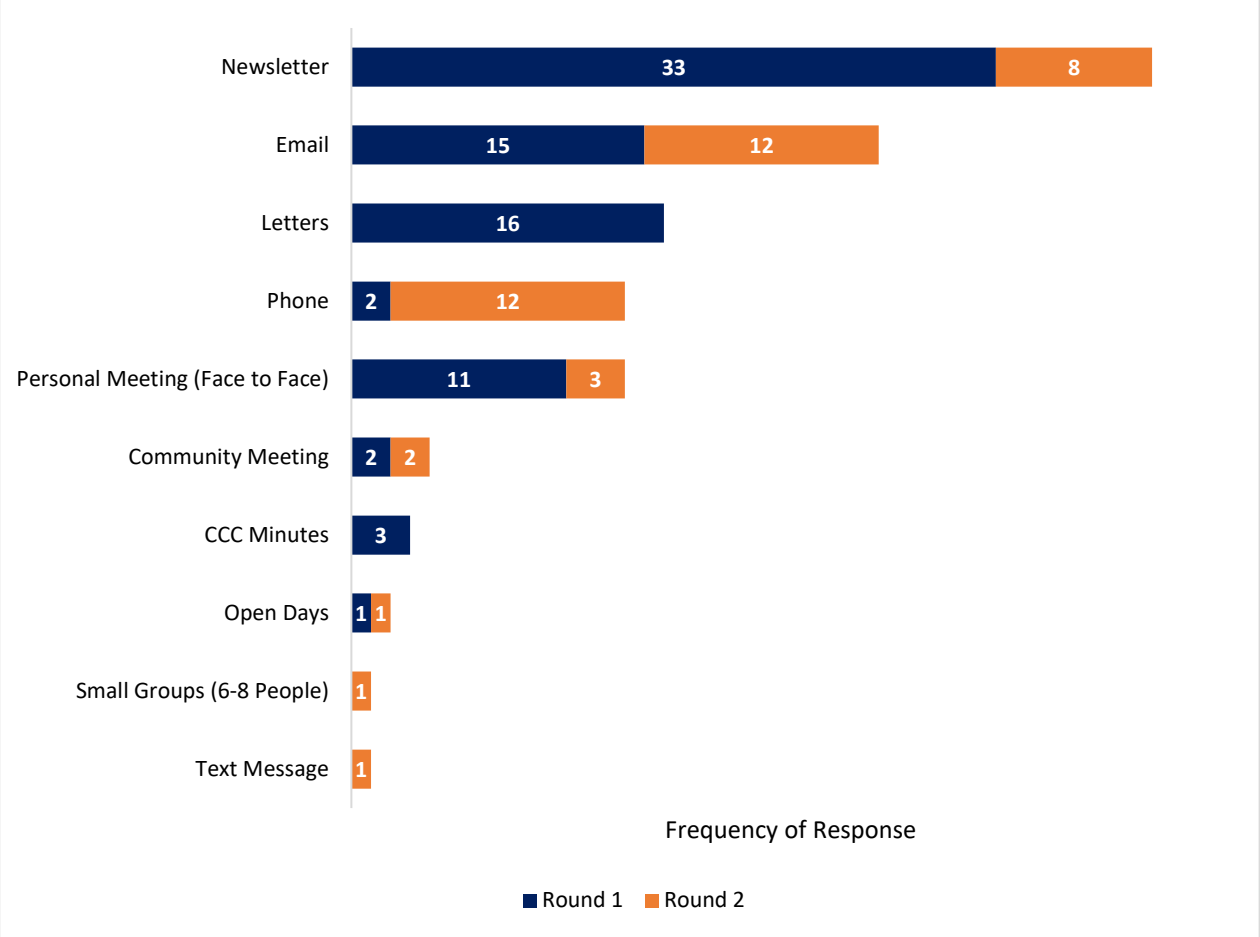
These practices have helped to guide the SIA engagement process to ensure that the mechanisms implemented, and information provided has afforded meaningful participation. In addition, the feedback from stakeholders will help ensure that the SIA is not just about predicting social impacts, but a process that contributes 'to the ongoing management of social issues throughout the whole Project development cycle, from conception to post-closure' (Vanclay, Esteves, Aucamp, & Franks, 2015, iv).

The sections below outline the results of these feedback mechanisms.

3.7.2.1 Engagement Preferences

The engagement methods outlined in Section 3.7 were developed acknowledging community preferences identified in Round 1 of engagement for the SIA (undertaken in April / May 2017). Participating stakeholders in Round 1 (including 69 residents and landholders in the locality and regional community members) were asked to indicate their preferred mechanisms for communication and engagement in relation to the Project. Responses indicated that newsletters were the preferred mechanism, followed by letters, emails and personal meetings (refer to **Figure 3.4**). Other mechanisms that were suggested included community meetings and open days/information sessions.

Figure 3.4 Preferred Information and Engagement Mediums – Rounds 1 and 2



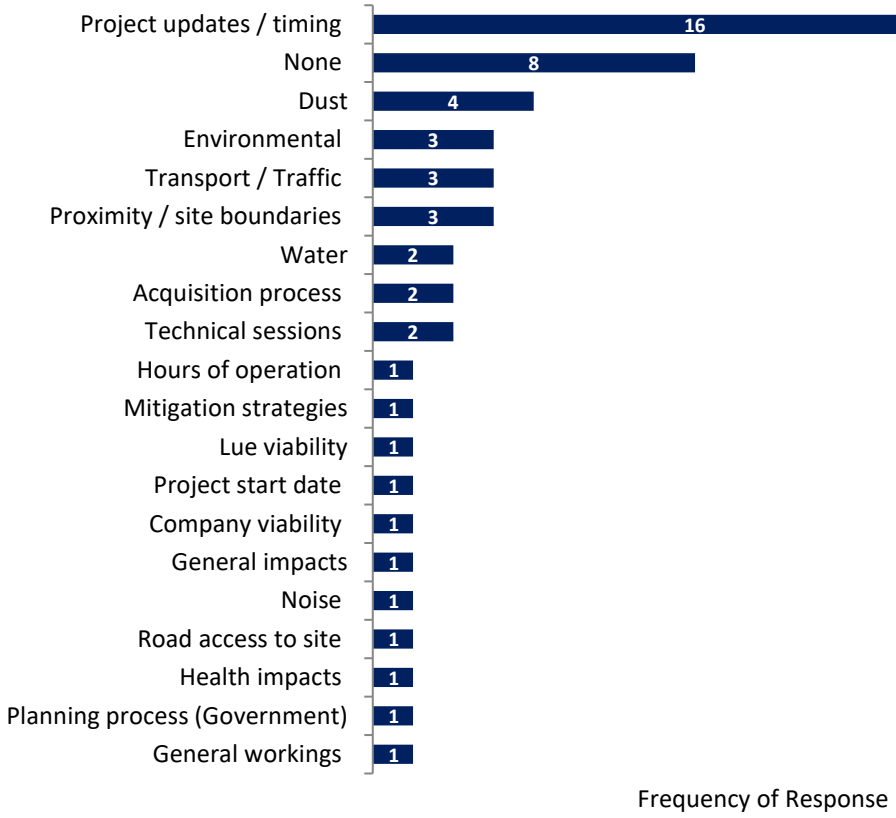
Note: Round 1 n= 69, Round 2 n=60, multiple responses allowed.

Participants in Round 2 were also asked to note their preferred methods of engagement. While the newsletter remained the most frequently raised method overall, being contacted by phone and email, were the most frequently raised preferred methods of engagement by participants in Round 2. Other additional methods identified in Round 2 included meetings of small groups (6-8 people) and text messages.

The data indicates that it is important to utilise a range of methods in engaging and communicating in relation to the Project to address stakeholder preferences for engagement.

Round 1 participants were also asked if there was any specific information they would like to receive about the Project, with the majority identifying Project updates and Project schedule/timeframes as a key area of interest. This was followed by information relating to potential dust (including dust mitigation strategies), environmental impacts, transport and traffic impacts and site boundaries/proximity of the Project to Lue (refer to **Figure 3.5**).

Figure 3.5 Information Requested by Residents and Landholders in the Locality and Regional Community Members - Round 1



Note: n= 69, multiple responses allowed.

During Round 2, residents were asked if they had received the latest Project Information Sheet – No. 3 in June 2019. Of the 54 participants surveyed, 35 (66%) indicated that they had received the correspondence, 10 (17%) said they had not received it, and the remaining 9 (17%) were unsure as to whether they had received the information sheet.

Again, landholders were asked if any specific information was required from the Company. Of those who responded, the majority were content with the information that had been provided to them to date. For those who noted a desire for further information, this included information with regards to specific Project milestones - including any changes to publicly available information, the proposed water pipeline, or any special meetings that may arise.

Other requests for information were consistent with identified landholder concerns and included proposed Project power/energy sources, the specific location of the new access road on the west of Lue and the proposed mitigation methods to ensure the TSF would not contaminate local aquifers. Suggestions were also made regarding the receipt of updates via social media channels, and visual presentation of specialist studies during open days; with the latter being available on the Project website. (refer to **Figure 3.6**).

Figure 3.6 Information Requested by Residents and Landholders in the Locality and Regional Community Members - Round 2

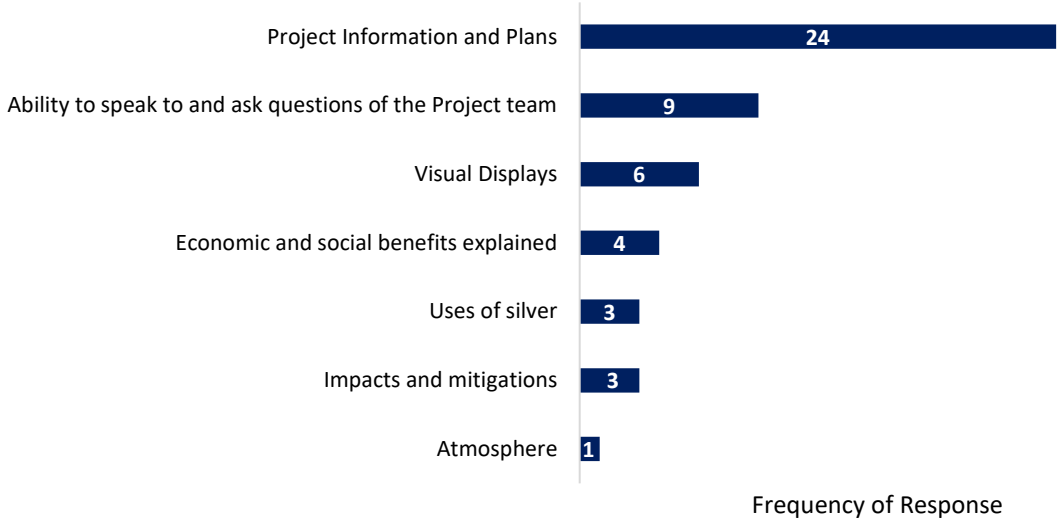
Note: n= 37, multiple responses allowed

3.7.2.2 Feedback on Community Open Day and Information Sessions

When asked to rate their overall satisfaction with the Community Open Day (June 2019) and Information Session mechanisms (June 2019), regional community residents that attended these forums recorded an average satisfaction rating of 8.96 out of 10 (with 10 being a high level of satisfaction).

The most beneficial aspects of the Information Sessions and Open Day (June 2019), as identified by attendees, included the general provision of Project information and plans (24), followed by the ability to speak with the Bowdens Silver Project team, including the Managing Director (Silver Mines Limited) Tony McClure, and have questions answered and/or concerns alleviated (9). Visual aids, including 50 information posters, maps and interactive displays were welcomed (6 respondents), likewise having potential social and economic benefits of the Project explained (4) and an understanding of the uses of silver (3), was also considered beneficial for some attendees. Suggested rehabilitation and operational impact mitigations were also considered beneficial by three respondents (refer to **Figure 3.7**).

Figure 3.7 Benefits of the Community Information Sessions and Open Day - Regional Community



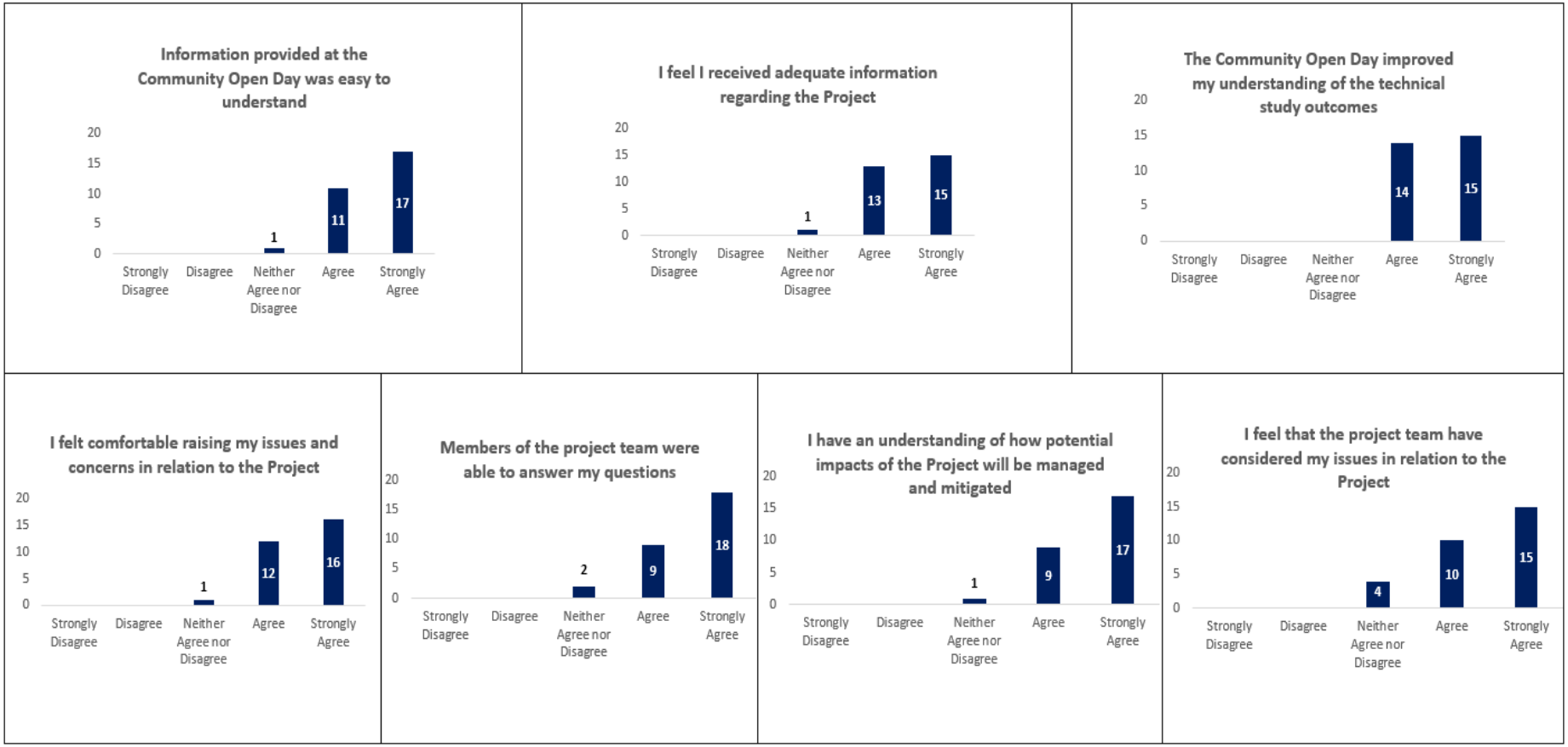
Note: n=33: regional community (n=29), 4 participants did not provide a response and residents and landholders in the locality (n=5); multiple responses allowed.

When asked to provide feedback relating to aspects of the open day that could be improved for future community engagements, 18/27 responses (67%) indicated no improvements were necessary and another 6 stakeholders were content with the information provided. Suggested improvements included:

- Advertisement of local employment opportunities (1); and
- Further information regarding how ore is processed, and the machinery required (2)

Overall, stakeholder perceptions regarding the open Day and Information Sessions were positively skewed, with the majority of participants providing attitude responses, either agreeing or strongly agreeing, with the presented statements. **Figure 3.8** provides a summary of the responses obtained.

Figure 3.8 Community Open Day and Information Sessions Evaluation - Attitude Statements



Regional community (n=29), residents and landholders in the locality (n=5); 4 participants did not respond.

4. BOWDENS SILVER MINE: COMPANY CONTEXT

4.1 BOWDENS SILVER PROJECT TEAM

As reported in Section 3.5, a survey of Bowdens Silver employees was conducted in July/August 2019 to understand the potential social and economic linkages/associations between Bowdens Silver and communities within the LGA. The following sections are drawn from the outcomes of that survey.

The Bowdens Silver Project team consists of 16 staff, 14 of which are permanent full-time, one (1) is permanent part-time and one (1) is casually employed. Of the Project team, 69% are male and 31% are female. Fourteen of the staff currently reside within the LGA in the localities of Mudgee, Rylstone, Lue and Cudgegong: five of whom relocated to the Mid-Western Region from areas such as Sydney, Newcastle, Lismore, and Jindabyne. The remaining two (2) live in Sydney and Leura.

The staff and their families that live in the LGA have been a part of the local communities for approximately 14.3 years on average. With 61% stating that they are participating and involved in sporting and recreational groups, community groups, environmental groups, and volunteering activities in the localities of Mudgee, Rylstone, Lightning Ridge and Lue.

Family Composition

The majority of the Bowdens employees reported that they were married (62.5%), with 31.1% reported having never been married and 6.3% were divorced.

The average household size was 2.5 people per household, with 33% stating they have no children, 25% have one child, 25% have two children, followed by 17% who have three children.

When asked to report their current living situation, 25% reported being in a couple household with no children, another 25% reported being in a single or lone person household, followed by 19% being a couple with children. The remaining respondents stated being a single parent, with children less than 15 years or living in a family household where children have left home.

This is comparable to the LGA as a whole, where the average household size is 2.4 (ABS 2016) and the majority of households are family households with or without children (refer to Section 5.9.2).

Education and Experience

The Bowdens Silver Project team were also asked about their highest level of school education and whether they have attained any additional qualifications. Responses from employees illustrated that

- 60% have completed year 12, 6.7% had completed year 11 and a further 33% left school after completing year 10 or below.
- 88% of respondents stated having additional qualifications, which included trade and TAFE qualifications, degree or diploma, certificate, business or management certificate.

On average the team has 9.18 years of experience working in the mining industry and 2.43 years working for Bowdens Silver.

Of the Bowdens Silver Project team's family members, the largest proportion are students (37%), followed by 32% being employed full time and 16% as casual workers. Of the 11 respondents who identified the location that their family members work, 5 (45%) worked in Mudgee, followed by 2 (18%) in Rylstone. Other localities that were reported include Parramatta, Lara and Geelong. A total of 12 (75%) family members travel to work by car. The remaining 4 (25%) use public transport such as the bus or train.

Family members attending an educational institution such as childcare, primary school, secondary school or tertiary education, were reported to be accessing these facilities in Mudgee (3), Kandos (2), Sydney (3), Leura (1), Bathurst (1) and via an online course (1).

Housing

Currently 19% of the Bowdens team own their property and another 31% own but have a mortgage. Of the remaining employees, 31% rent and the other 19% live on a family owned property, and/or are staying with family.

Proportions of Spend

As part of the employee survey, Bowdens Silver employees were asked to provide the proportion of household items they purchase, such as groceries, clothing, petrol, entertainment and other goods, by the locality in which they purchase these goods. Results showed that of the 12 people who responded to this question, on average 50% of purchases are made in Mudgee, 6 respondents averaged 45% of their purchases (predominately fuel and groceries) in Rylstone and 29% in Kandos. There was an average of 7% of purchases made in Dubbo and 25% in Sydney for three (3) respondents respectively. Two people stated making between 15-20% of their purchases online, namely clothing. Other localities that were mentioned included Newcastle, Bathurst and Gulgong, where 38%, 5% and 10% of purchases were made respectively.

Significant Purchases

When asked the question 'have you made any significant purchases since being employed at Bowdens Silver?', 63% (10) of respondents stated that they had. The sum of all purchases made was approximately $2,400,000, with the greatest proportion of purchases occurring in Mudgee, where approximately $1,578,000 has been spent on houses, renovations, cars, furniture and appliances. Other purchases were made outside the Mid-Western Regional LGA, in other LGAs such as the City of Blue Mountains ($700,000), The City of Penrith ($50,000), Northern Beaches ($47,000), Central West ($35,500) and Newcastle ($6,000).

Donations

Bowden team members also support approximately 14 different charities, donating on average $126 to each charity. Four employees also noted as providing financial support to family or friends within the Mid-Western Region.

Access to Medical Services

When employees of Bowdens were asked what medical services they access and where, of the 15 who responded there were approximately 26 different services being accessed with an average of 2.6 services being accessed per respondent. 54% of medical services being accessed were located in Mudgee, followed by 18% in Rylstone, 10% in both Kandos and Sydney, 5% in Lithgow and 3% in Dubbo.

Summary of Findings

The outcomes of the Bowdens Silver Workforce survey indicate that the current workforce associated with the proposed Project, although currently small, is highly connected to the study communities and Mid-Western Regional LGA more broadly. In general, employees have lived in the area for a significant amount of time and actively contribute to their local communities. Many employees indicated they had purchased houses or had made other significant investments within the LGA, particularly in Mudgee.

Responses from the survey also provide an indication of the current impact of the Project within the study communities and across the Mid-Western Regional LGA. Although the pre-development Project team may differ somewhat from the proposed workforce associated with later phases of the mining Project, these outcomes provide an indication of Bowdens current integration into the community, particularly in terms of residential preferences and use of local services. Predicted workforce impacts are further explored in Section 7.

4.1.1 Bowdens Community Investment

Table 4.1 provides a summary of social investments made by Bowdens Silver from 2016 to December 2019. Over this period, Bowdens Silver has contributed to a range of community organisations including community groups and organisation, sporting clubs, business chambers, local shows and events and education partnerships.

Table 4.1
Bowdens Silver Community Investment

Page 1 of 2

Investment type	Description
Major Sponsors (2016 to present)	Mudgee Wombats Rugby Union Club Mudgee District Netball Association Rylstone Kandos Show Rylstone Street Feast
Other sponsorships/ partnerships /donations	Mudgee Show Kandos Garden Fair Kandos Country Women's Association (CWA) Lue Hotel Darts Club Mudgee Endurance Riders Mudgee PCYC – Moto Workshop for Youth in Kandos Gulgong Chamber of Commerce – Gulgong Gold & Mining Festival Mudgee Reader's Festival

Table 4.1 (Cont'd)
Bowdens Silver Community Investment

Page 2 of 2

Investment type	Description
Other sponsorships/ partnerships /donations (Cont'd)	Mudgee Showgirl Rylstone-Kandos & District Volunteer Search & Rescue Organisation Rotary Club of Mudgee Sunrise – Mudgee Chamber of Commerce 'Clock Awards' Mudgee Rugby 7's competitions Waratahs vs Brumbies Rugby Match in conjunction with Council 'Pink Up Mudgee' – McGrath Foundation Gulgong RFS Junior Firefighters Rotary Mudgee Showground Carols Rylstone Bull-a-rama Kandos Rylstone Little Athletics Mudgee and Districts Toy Run Rylstone Kandos Rotary Club Rylstone and Kandos Family Fun Day (MWRC)
Education sponsorships/ partnerships	**Lue Public School** – iPads, drilling and installation of water bore and maintenance, donation for purchase of school bus, school excursion on site, volunteering for school events, gardening **Kandos Public School** – soft fall playground equipment **Kandos High School** – defibrillator, annual presentation days, site visit by senior teaching group, sponsorship for school/community bus usage **Rylstone Public School / P&C** – donation for learning and storage space Geological educational work with students from UNSW and Macquarie University
Source: Data provided by Bowdens Silver (2019)	

4.2 GENERAL PERCEPTIONS OF BOWDENS SILVER

This section provides an overview of existing community perceptions of Bowdens Silver to provide a context for the Project. Perceptions have been sourced from consultation and engagement activities with residents and landholders in the locality during Round 1 (April-May 2017) and more recently in Round 2 (May-November 2019) and from a review of Community Consultative Committee meeting minutes from meetings held between 2016 and 2019.

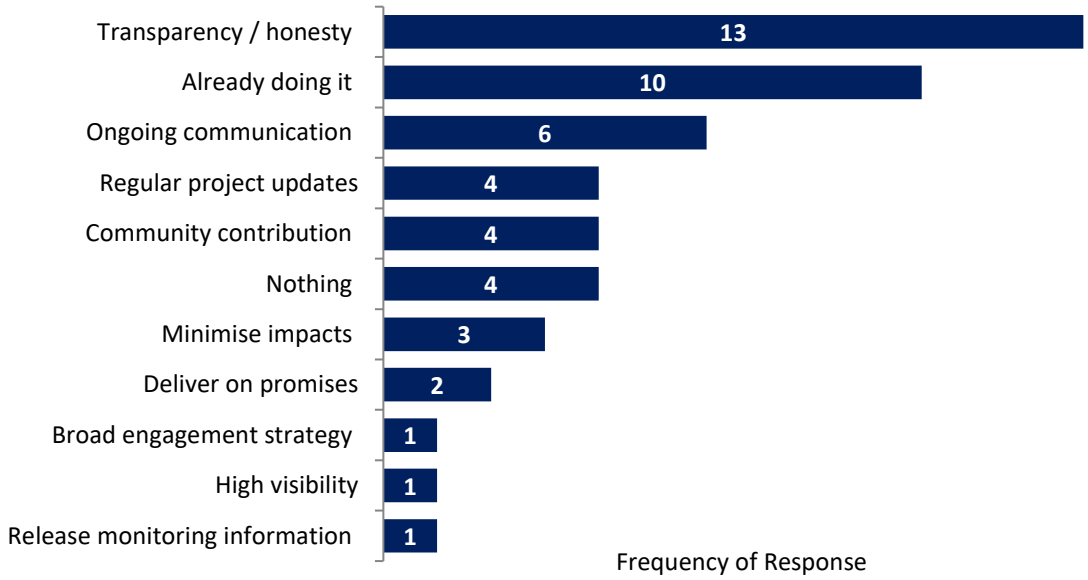
4.2.1 Residents and Landholders in the Locality and Regional Community Members

The majority (68%) of residents and landholders in the locality and regional community members consulted during SIA Round 1 (April/May 2017) had previously had some form of contact with Bowdens Silver, with many noting that they had received a newsletter(s) or other correspondence from the Company in the mail.

Awareness of the previous proponent (Kingsgate) was also high, with just over half (56%) of those consulted having had previous interactions with Kingsgate. One in five of those interviewed had not had any prior contact with either proponent.

Participants were asked how they felt Bowdens Silver could differentiate itself from the previous proponent. As illustrated in **Figure 4.1**, the most common response suggested that the Company should conduct their business in a transparent and honest manner, with ongoing communication and regular Project updates also commonly noted. A number of participants also outlined that the Company was already taking measures to positively differentiate itself from the previous proponent through open and ongoing communication. This had been facilitated by the appointment of a dedicated Community Liaison Officer, by the Company, who had been engaging with the community since the planning for the Project commenced.

Figure 4.1 How can Bowdens Silver differentiate itself from the previous proponent?



Note: n= 69, multiple responses allowed. Interviews in Round 1

Residents also noted a high regard for the face-to-face engagement methods utilised by Bowdens Silver and indicated that they considered the newsletter and information sheets as an effective means of communication.

> *Keep information flowing to stop people guessing. Lue is a good place for rumour.*
>
> *Tell people what you're going to do and when you're going to do it.*
>
> *You already are differentiating yourselves by the work you're doing behind the scenes to talk to people.*
>
> *You already have. You're at community events and you guys are out there. We get your newsletters which is more than we used to get.*
>
> *Come and have a chat.*

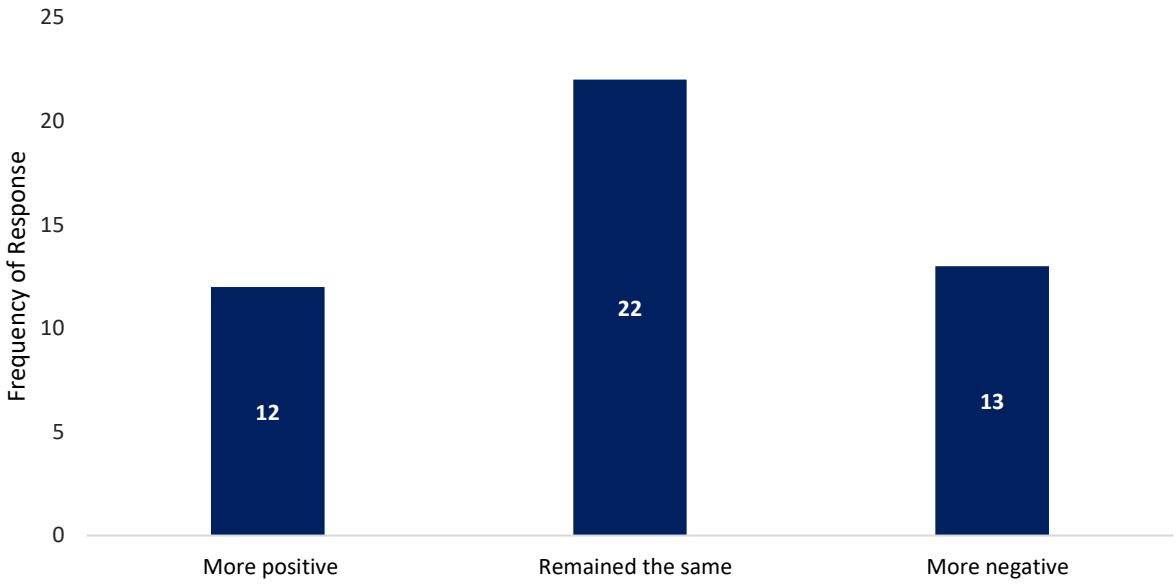
Generally, participants were happy to share their thoughts and concerns about the Project and welcomed involvement in the SIA program. However, they also expressed a lack of trust in the development assessment and approval process generally. In this regard, it was felt that in

previous Projects, community members had not had the opportunity to raise concerns or have these issues appropriately addressed. There was also a perception that given the Project has been discussed within the community for a number of years, that the Project may not actually proceed.

> *We've heard it all before.*
>
> *We want new information.*
>
> *How will they make it work when others haven't?*

To identify the extent to which sentiment towards the Company may have changed over time and to identify the effectiveness of engagement with landholders and residents in the locality and members of the regional community, more recently (April to August 2019), participants were asked to rate whether their perceptions of the Company have changed since 2017. When specifically asked to describe if their feelings towards Bowdens Silver had become more positive, remained the same or become more negative, since that time, the majority of participants felt their feelings had remained the same (22) (refer to **Figure 4.2**).

Figure 4.2 Feelings toward Bowdens Silver since 2017



Note: n=47; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1.
Source: Umwelt (2020)

Table 4.2 provides some selected examples of the reasons provided for any change in attitude or for why feelings may have the remained the same.

Table 4.2
Selected Landholder Responses

Become more positive
Receiving the information brochure was good, I think keeping people informed regarding the Project timings and operations etc is a good thing.
A lot of processes and regulations and requirements that are occurring, have occurred.
They're very open about what they're doing. We ask a question they give us an answer.
The Project has progressed.
Definitely positive, some of the BBQ days and community engagement days have been great, they are trying to do the right thing. They are often getting criticised, and it doesn't surprise me what people say, we get it all the time.
I want to see the Project go ahead.
A little bit more positive. I was neutral before but based on what they have done with the engagements and therefore the changes that have resulted.
Remained the Same (Positive/Neutral)
Nothing much has happened. We're getting our bores tested monthly to provide a baseline and they have put dust monitoring at our place already
I've always been on board.
Remained the Same (Positive/Neutral)
Nothing much has happened. We're getting our bores tested monthly to provide a baseline and they have put dust monitoring at our place already
I've always been on board.
Remained the Same (Neutral)
Just is, I will keep ignoring it until it happens.
Can't say either way really as the company has changed, so that's a bit suspicious. Why did they sell it? It was never really explained to the community.
I'm not for it and I'm not against it, so my feelings haven't changed.
We don't have much contact with people, but because it has been there for a long time there's not as much talk about it, it's sort of fading into the background.
At the beginning 9 years ago, it was quiet and there was nothing about. No one mentioned there was a silver mine there when we were buying the place, but it's been there 10 years before that, but nothing ever came of it, and they thought nothing would, but here we are.
I don't know, any dealings we've had with them have been polite and okay, but as far as the Project I don't think my feelings have changed.
I think the people that it effects will always be against the Project and others don't really care either way.
No reason. I stay out of it and take it as it comes really.
I don't have any reason to change my opinion.
I'm not for or against the mine. It's going to go ahead; it'll be a part of life.
They were engaging with me but this past 12 months I haven't had anything. I'm a little bit disappointed that they haven't made an effort to engage me. I haven't been aggressive to them…... It looks like to me that they think I'm on board, so they lose contact, but they need to keep contact.
Remained the Same (Negative)
Just still pretty crappy.
Become more negative
We've been left out of communications a bit, but that's not all on Bowdens, we may have been able to contact the new owners and be put on the mailing list. But I am not for the development that's for sure.
Not really going to affect me, but I'm being very negative about it.
As more information has become available, the negative impacts of the proposed Project have become more stark. The Project is too close to the village and will lead to its demise. The drawdown of subsurface water will have a massive effect on agricultural production.
The water concerns I have.
Minimal contact by them keeping us informed and as one of the closest residents I think that they are only liaising with us to tick their boxes

4.2.2 Aboriginal Stakeholders

Of the seven Aboriginal stakeholders consulted in Round 2 of engagement for the SIA, the majority (five) expressed that they had had minimal contact with Bowdens Silver prior to the commencement of the cultural heritage assessment. However, it was noted that they felt the current relationship was amicable and that Bowdens Silver appeared to be following correct protocols for investigation into Aboriginal artefacts and the preservation of Aboriginal culture and heritage.

One stakeholder was disappointed with the level of engagement afforded to them personally when Bowdens Silver was seeking cultural and heritage specialists, with it reported that the Company allegedly made contact and then failed to follow through with subsequent communications. However, a further stakeholder had over six years' experience with Bowdens Silver and described the relationship as favourable.

When Aboriginal stakeholders were also asked how Bowdens Silver could differentiate itself from previous proponents, the most common response was again to continue to maintain open lines of communication and transparency, with one stakeholder recommending that regular RAP meetings would assist in keeping the Indigenous community informed of Project and operational plans, and enable contribution to the design process, further enhancing the mutual respect currently demonstrated by the Company.

> *They're doing the right thing – they're doing their cultural surveys.*
>
> *Good. Terrific. We have a good relationship.*
>
> *As long as they comply with the cultural heritage assessment, we have no issues.*
>
> *X was meant to have the site inspection and he didn't call us back, so we missed out – very disappointed – haven't sent anything to us.*
>
> *They were really good and really respectful.*
>
> *We'd like to have RAP meetings regularly – monthly or bi-monthly meetings – to keep communication lines open, productive and ongoing. Being open and transparent with Aboriginal groups to make sure everyone gets the information and are able to give their input, and make sure it is respectful.*

4.2.3 Service Providers

Overall, the majority of consulted service providers were aware of Bowdens Silver (68% or 23 out of the 34 consulted service providers). However, levels of awareness were very much dependent on industry sector with:

- 67% of both childcare service (6 out of 9) and youth services (2 out of 3) unaware of the Company.
- Highest levels of awareness reported amongst those working in the health, housing, sports and recreation and transport sectors. However, for 40% of health services, 50% of employment services and 25% of housing providers, awareness was limited to Bowdens Silver being a silver mine proposed in the vicinity of Lue.

- Reported awareness levels were relatively high amongst emergency service providers with 75% (or three out of four) of consulted participants indicating an awareness.

> *It hasn't got the stigma that coal has. I imagine a lot of Lue people will be thrilled. It will provide a lot of interest for the small little village; it might bring a bit of life to Lue.*

For some service providers that noted a lack of awareness of the Company, there was an obvious desire to receive more information with three service providers requesting further details of the Project, particularly with regards to the Project approval and commencement date.

When specifically asked what they knew about the Company, two service providers (education and housing) acknowledged being a previous or current recipient of community investment from the Company.

4.2.4 Local Businesses and Suppliers

In relation to local business owners and suppliers, when asked to describe their level of knowledge of Bowdens Silver, knowledge levels were reported as being relatively low by 84 local businesses and suppliers who responded to this question, with an average score of 4.4 out of 10. Knowledge of Bowdens Silver was strongest amongst businesses working in the construction industry (6.0 out of 10); the mining industry (5.1) and manufacturing (5.0). Given a strong interest in working with Bowdens Silver, the data indicates a need amongst the business community to become more familiar with the Company (refer to Section 8.5.1).

Local businesses were also asked to rate their feelings toward Bowdens Silver, using a scale of 0 to 10, where 0 is very negative and 10 is very positive. Of the 83 businesses that answered this question, 77% stated that they had positive feelings towards the Company (i.e. provided a score of 6 or more), 49% indicated they felt very positively (i.e. provided a score of 9 or 10) and of the remaining 23%, most provided a neutral score (19%), whist 4% provided a score of 0 to 4 indicating they had negative feelings towards Bowdens Silver.

Participants were asked what kind of support they would need to help facilitate their ability to work with mining companies generally. Of the 77 participating businesses that responded to this question, almost half (48%) stated that regular meetings with mining companies about their future needs would be beneficial. A further 45% noted that receiving information from mining companies about their needs would also help, and 39% believed that having direct contacts to speak to within Bowdens Silver, regarding opportunities, would be useful**, Figure 4.3** provides a summary of the responses received.

4.3 COMMUNITY CONSULTATIVE COMMITTEE

In November 2016, Bowdens Silver voluntarily established a CCC to provide a mechanism to inform the community of the Project and its progress through the assessment phase. This committee was established prior to the issue of the SEARs as a mechanism to keep the community informed of the Project and to also seek feedback. In August 2017, a revised set of SEARs required the formation of a new CCC in conjunction with DPIE.

Figure 4.3 Local Business and Supplier Support Needs

The current CCC comprises 12 representatives including an independent chair, representatives from Bowdens Silver, local and regional community representatives and representatives from the following community groups.

- Mid-Western Regional Council
- Lue Action Group
- Rylstone Kandos Chamber of Commerce, and
- Wellington Valley Wiradjuri Aboriginal Corporation
- At the time of writing, a total of 11 CCC meetings have been held.

When asked about their awareness of the CCC, two-thirds of the 44 Round 1 participants who responded to the question (n=29) were aware of the Committee. Of the 29, 21 respondents were also aware that the CCC meets on a quarterly basis.

Residents and landholders were also asked this question as part of Round 2 of the SIA engagement. Of the 26 respondents in this Round who completed this question, 19 were aware Bowdens has a CCC and only five indicated that they were aware the CCC meets quarterly.

Participants were also asked to provide comment on the effectiveness of the CCC as a medium for information provision to the community, with the majority expressing that the CCC was not greatly effective, particularly in relation to members providing information to the broader community. The representativeness of the group was also noted as an issue (refer to **Figure 4.4**).

> *We're not hearing anything from the local CCC members.*
>
> *The CCC is too stacked in [Lue Action Group] LAG reps. They only talk to people that they know share their view.*

> *I haven't had a lot of luck with them...they select people and I'm not sure who is on it now. They didn't want to tell the community what is going on - the Action Group had a lot to do with that.*

Others suggested that they would prefer to hear from the Company directly:

> *I'd rather hear from Bowdens than from the CCC.*

The majority of consulted Aboriginal stakeholders (5) consulted were also aware that Bowdens Silver had a CCC. Of those who were aware, all considered CCCs to be effective (2) or very effective (3) mechanisms as a means of distributing information regarding current and Projects to the Aboriginal community; however it was noted that the effectiveness of the CCC meetings was once again conditional on the Aboriginal representative distributing information to the wider Aboriginal community (refer to **Figure 4.4**).

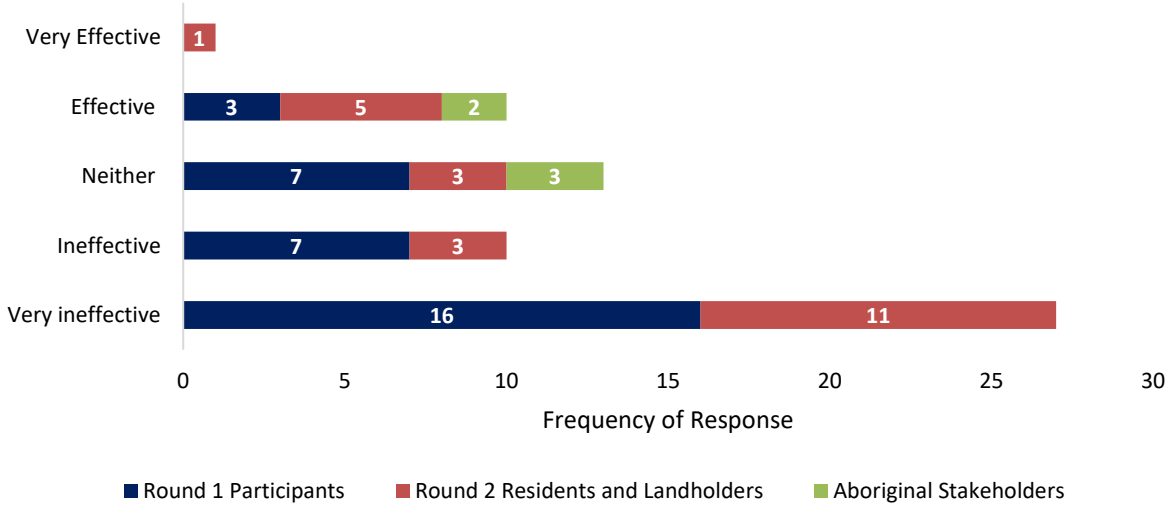


Figure 4.4 Perceived Effectiveness of the Bowdens Silver CCC – Round 1 participants, Round 2 Residents and Landholders, and Aboriginal Stakeholders

Note: Round 1 Participants n=33; Round 2 Residents and Landholders n=23; Aboriginal Stakeholders n=5; not all participants answered the question.

A number of suggestions and recommendations were also provided with respect to how Aboriginal representation and information provision may be improved including:

- Establishment of an Aboriginal stakeholder register with the Aboriginal CCC representative to send a summary of committee meetings to those specifically interested in receiving Project information.
- Email or letterbox drop to notify community members when the information has been posted on the Bowdens Silver website.
- Provision of both a male and female Aboriginal representative on the CCC to ensure cultural sensitivities are addressed.

5. SOCIAL PROFILE

5.1 OVERVIEW

A baseline social profile gathers knowledge from both primary and secondary data sources to increase understanding of the existing social environment in which a Project is proposed. According to the International Association for Impact Assessment (IAIA) *Social Impact Assessment: Guidance for assessing and managing the social impacts of Project* (2015), a baseline social profile should provide: documentation and analysis of the local historical setting; relevant data to enable the evaluation and audit of social impacts and associated management strategies; and afford a complete picture of the local cultural context; as well as a greater understanding of local values.

The SIA Guideline (DPE, 2017) outlines what a social baseline study should include, namely:

- a description of the Project's area of social influence; and
- quantitative indicators and qualitative descriptions relevant to each potential social impact, building on any relevant indicators identified during scoping, and sourced through a combination of desktop research and primary data collection (including from other specialist studies undertaken for the EIS).

The SIA guideline emphasises that the social baseline should be tailored to the specific Project context and include meaningful data to inform the SIA. The baseline should also include analysis of any relevant data trends and provide a benchmark from which potential impacts can be assessed, and any change monitored.

For the purpose of this assessment, the following components have been considered in the development of the social baseline profile for the Project.

- Geographic scope – identification of the communities of interest relevant to the current assessment (hereafter referred to as 'study communities').
- Governance – outline of relevant structures of governance at local, State and federal levels.
- Historical context – review of the history of local communities, including their culture and values.
- Development context and response to change – assessment of development issues within the study communities and the response of local landholders and community residents to this change.
- Community capitals/assets – assessment of areas of vulnerability and resilience across the study communities.
- Key community values, issues and concerns – documentation of current community issues in the Mid-Western Regional LGA, as identified in key planning documents, regional studies, previous consultation records and through local and regional media sources.

Data sources utilised in the preparation of the social profile relevant to the Project, include:

- ABS Census (ABS, 2011, 2016); Social Health Atlas (PHIDU, 2020) and other social indicator datasets;

- Local and State Government reports e.g. Mid-Western Regional Council Community Plan Towards 2030, Central West and Orana Regional Plan 2036;
- Existing EIS/SIA (relevant to the area);
- Research reports and publications;
- Review of local and regional media; and
- Consultation and engagement with key stakeholders and service providers.

The social profile is a necessary component of the SIA and provides a foundation from which social impacts associated with the Project development may be assessed and predicted.

5.2 GEOGRAPHIC CONTEXT

The proposed Bowdens Silver Mine is located in the Mid-Western Regional LGA in NSW, within the broader Central West and Orana Region. The Central West and Orana Region is a large area encompassing 18 other LGAs including Lithgow, Bathurst, Dubbo and Orange. The proposed open cut Mine Site would be located approximately 2km northeast of Lue, which is in turn a straight-line distance of approximately 27km northwest of Kandos and 26km to the east of Mudgee.

5.3 GOVERNANCE

5.3.1 Local Governance

Lue lies within the Mid-Western Regional LGA and is governed by the Mid-Western Regional Council (MWRC, the Council). The Council is composed of nine Councillors, including the Mayor and Deputy Mayor, elected proportionally as a single ward for a fixed four-year term of office. The Mayor is Des Kennedy, who was elected by the Councillors at the first meeting of the Council in 2004 (**Table 5.1**).

Table 5.1
Mid-Western Regional Council

Role	Councillors
Mayor	Des Kennedy (Independent)
Deputy Mayor	Sam Paine
Councillors	Percy Thompson Alex Karavas Paul Cavalier Peter Shelley* Esme Martens Russell Holden John O'Neill
* Mr Shelley is also employed on a part time basis with Bowdens Silver as the Community Project Coordinator.	
Source: MWRC (2019)	

The Council's 'Towards 2030 Community Plan' outlines the strategic direction for the LGA. This plan was developed in collaboration with the local community and identifies five areas of focus which are outlined in the document, including:

- Looking after our Community – activities and initiatives that produce vibrant, healthy and proud towns;
- Protecting our Natural Environment – conserving and promoting the natural beauty of the region;
- Building a Strong Local Economy – a focus on industry diversification, employment and economic growth;
- Connecting our Region – linking towns and villages and connection to the rest of NSW; and
- Good Government – ensuring Council is representative of the community and effectively meeting community needs.

Community consultation with over 2,500 residents to inform the 'Towards 2030 Community Plan' indicated that community members would like to see an upgrade of Mudgee Hospital, recreational facilities such as an indoor aquatic centre/outdoor water park or entertainment centre and return passenger trains. Further discussion of this Plan is provided in Section 5.11.

Council also released a Local Environmental Plan in 2012 that details a number of key objectives with regard to land use, including management and conservation of natural resources and heritage items of significance, securing the agricultural future of the region, and increased availability of urban and community services and infrastructure. Specifically, the plan also identifies the protection of the settings of Mudgee, Gulgong, Kandos and Rylstone through management of the urban and rural interface, limiting land use conflict and conserving key visual elements that contribute to the character of the towns.

The Council's Comprehensive Land Use Strategy (2010) provides a blueprint for the LGA to meet long term urban and rural growth needs. This plan positions Mudgee as the sub-regional service, commercial and tourism centre for the region, complemented by the smaller towns of Rylstone, Kandos and Gulgong, fourteen villages (including Lue) and other rural localities.

5.3.2 State Government

Lue SSC straddles the three State electoral districts of Bathurst, held by National Party MP Paul Toole; Dubbo, held by National Party MP Dugald Saunders; and Upper Hunter, held by National Party MP Michael Johnsen.

The key NSW State Government policy of relevance to Mid-Western Regional LGA, and the Project, is the 'Central West and Orana Regional Plan 2036' which outlines the goals and actions for the Central West and Orana Region to achieve a sustainable future. This plan applies to 19 local government areas that cover an area of 125,666 square kilometres, including the Mid-Western Regional LGA.

The vision for the Central West and Orana Region closely reflects the vision and priorities identified in the 'Towards 2030 Community Plan'. There are direct linkages between the goals and actions in both plans for the next 20 years. The four goals established by the Regional Plan include:

- A growing and diverse regional economy;
- A region with strong freight transport and utility infrastructure networks that support economic growth;
- A region that protects and enhances its productive agricultural land, natural resources and environmental assets; and
- Strong communities and liveable places that cater for the region's changing population.

This Plan is further discussed in Section 5.11.

5.3.3 Federal Government

The Mid-Western LGA is represented by National Party MP Andrew Gee who holds the federal seat of Calare. The division of Calare stretches from Mudgee, Gulgong, Dubbo and Wellington in the north-west, to Orange, Bathurst, Lithgow and Oberon in the south-east.

5.3.4 Native Title, Local Aboriginal Land Councils and Traditional Owners

In NSW, there are two key mechanisms by which Aboriginal people can have their rights in land formally recognised – Land Rights and Native Title. The two systems operate under different laws and differ in the rights they can provide.

Land rights for Aboriginal and Torres Strait Islander peoples refers to the process to gain legal and moral recognition of ownership of lands and waters they called home, prior to colonisation of Australia in 1788.

Native title rights and interests are those rights in relation to land or waters that are held by Aboriginal or Torres Strait Islander peoples under their traditional laws and customs and recognised by the common law.

The NSW Aboriginal Land Council (NSWALC) is the State's peak representative body in Aboriginal Affairs and is constituted by Part 7 of the Aboriginal Land Rights Act 1983 No 42. NSWALC is empowered to administer the Mining Royalties Account and to approve or reject the terms and conditions of agreements proposed by Local Aboriginal Land Councils to allow mining or mineral exploration on Aboriginal land.

Every four years, voting members of Local Aboriginal Land Councils vote for a Councillor (Cr) to represent their region. Currently the Chairperson of the NSWALC is Cr Anne Dennis, a Gamilaraay woman who was born on Namoi Reserve and has lived most of her life in Walgett (refer to **Table 5.2**).

Table 5.2
NSW Aboriginal Land Council

Role	Councillors
Chairperson	Anne Dennis – North West Region
Deputy Chairperson	Charles Lynch – Northern Region
Councillors	Abie Wright – Sydney/Newcastle Region Leeanne Hampton – Wiradjuri Region Grace Toomey – Central Region Danny Chapman – South Coast Region Peter Smith – Mid North Coast Region Ross Hampton – Western Region Dallas Donnelly – North Coast Region
Source NSWALC (20120)	

The Mine Site is located within the traditional homelands of the clans of the Wiradjuri nation, whose history extends from the present day back many thousands of years. The study communities for the Project intersect the modern day NSWALC boundaries of the Wiradjuri Region (Kandos and Rylstone) and Central Region (Lue, Mudgee and Gulgong).

The current Councillor of the Wiradjuri Region is Leeanne Hampton, a Wiradjuri / Ngiyampaa woman from West Wyalong who was the first female Aboriginal Deputy Mayor of the Bland Shire Council.

The Wiradjuri Region includes the following Local Aboriginal Land Councils: Albury and District, Bathurst, Condobolin, Cowra, Cummeragunja, Deniliquin, Griffith, Hay, Leeton and District, Moama, Murrin Bridge, Narrandera, Onerwal, Orange, Peak Hill, Pejar, Tumut Brungle, Wagga Wagga, Wamba Wamba, West Wyalong, and Young.

The current Councillor of the Central Regional is Grace Toomey, a Wiradjuri woman from Dubbo and is the Secretary of the Dubbo Aboriginal Community Working Party of the Three Rivers Regional Assembly..

The Central Region includes the following Local Aboriginal Land Councils: Dubbo, Gilgandra, Mudgee, Narromine, Nyngan, Trangie, Warren Macquarie, Weilwan and Wellington.

The Mine Site is also within the Mudgee Local Aboriginal Land Council (MLALC) boundary and within the boundaries of a Native Title claim submitted in 2018 by the Warrabinga-Wiradjuri. This claim is for a large area of land that covers Bathurst Regional Council, Blue Mountains City Council, Dubbo Regional Council, Hawkesbury City Council, Lithgow City Council, Mid-Western Regional Council, Muswellbrook Shire Council, Singleton Council, Upper Hunter Shire Council and the Warrumbungle Shire Council.

Two other Native title claims are pending in the surrounding area of the Mid-Western Regional LGA; however, these claims do not include the Mine Site or proposed water supply pipeline corridor.

5.4 HISTORICAL CONTEXT

The following overview is provided to give context to the SIA as it relates to Lue and surrounds. A detailed overview of both the Aboriginal cultural heritage, the historic cultural heritage setting, and values is provided as part of the Aboriginal Cultural and Historic Heritage Assessment (Landskape, 2020).

Mudgee and Lue are located within the Wiradjuri (also spelt Wirudjuri) region, which covers a large part of the Mid-Western Regional LGA. Wiradjuri means 'the people of the three rivers': The Wiradjuri clan were traditionally associated with a large area of land prior to European settlement, encompassing the Macquarie, Lachlan and Murrumbidgee Rivers, bounded by the Murray River in the South (Landskape, 2020). Material found at archaeological sites shows evidence of this occupation dating back some 18,000 years.

The Wiradjuri were hunter-fisher-gatherers, living semi-permanently and living off a variety of native food sources, including fish, animals, insects and plant foods (see Landskape, 2020). Initially peaceful early interactions between the Europeans and Wiradjuri people led to violent conflict when crop sharing was misinterpreted as theft by a settler (refer to **Annexure 3, Article 34**). Following this outbreak of violence, Aboriginal people were shot, poisoned and displaced by pastoral settlements. In turn, livestock, stockmen and shepherds were speared in retaliation (Pearson, 1984, as referenced in Landskape, 2020). Further incursion of settlements led to intense conflict, termed the Bathurst Wars (Pearson, 1984), as referenced in Landskape, 2020.

Over the years, the Wiradjuri people were increasingly displaced from their traditional lands and cultural practices. This and the introduction of European diseases caused significant reduction in the Wiradjuri population and led to many Wiradjuri settling close to pastoral homesteads and working as shepherds and labourers.

Through claims for Native Title, Indigenous communities are re-establishing their connection with these Wiradjuri places (refer to Section 5.3.4). Furthermore, in an effort to preserve the history of the Wiradjuri people, five memorials are currently being established in the Mudgee area as part of the Wiradjuri Mudgee-Dabee Stories Project. Scattered through the community, these memorials are located at sites of cultural significance to the Wiradjuri people (refer to **Annexure 3, Article 63**).

Lue itself also has a rich history. It has been suggested that the name Lue stems from the Aboriginal word 'Loowee' (meaning a chain of waterholes) (Potts, 1984). Lue is one of fourteen villages in the LGA, and is one of the largest, supporting a local hotel and a primary school.

Since European settlement, the area around Lue has a history of agricultural land uses. Before the opening of the railway line to Mudgee in 1884 (refer to **Figure 5.1**), Lue comprised a collection of large properties operating as grazing land for sheep and cattle, owned by a few families. From the early 1800s up until the opening of the railway, Lue Homestead was the largest employer of people in the area, contributing to the development of Lue and Dungeree (Potts, 1984). The railway station was originally planned to be built at Dungeree, however, due to the gradient of the line being too steep for trains to stop and start, it was instead built at Lue.

Figure 5.1 Railway Station then and now

(Potts, 1984 & Umwelt, 2017)

As more services moved to be closer to the railway and the station, people followed. At the height of its prosperity, Lue was a hard-working community comprising trucking yards, two full-time station masters and a parcels office. The community relied on the railway which linked Lue to outer localities where all goods, livestock, wool, bread and mail were transported. Two stock trains left the station per week with mostly sheep transported. The railway was also a centre point for gatherings and 'horseplay'. The younger generation would watch the mail train go through at night, their way of 'going to the pictures' (Potts 1984).

Wool from Lue was highly regarded thanks to Agricultural Engineer, Edward Bingham's development of an improved sheep washing apparatus, with his pump receiving accolades for washing wool, as noted in the following newspaper excerpt at that time:

> *This pump has answered admirably – in fact – the wool that took Mort's gold medal for the best wool washed on sheep's' back, washed by this pump (The Sydney Morning Herald, 1863).*

The school, the Anglican and Catholic churches and many businesses also made the move from Dungeree to Lue. Two of the first settlers Andrew Brown and James Walker established themselves in Lue to find good country for their stock as labour was paid for by stock (Potts, 1984). One large property used by Walker for his stock to graze, was later divided. The old homestead was called 'Monivae' and the new homestead, 'Lue', was built in 1917 from bricks produced near the woolshed and shearers' huts on the property.

Lue Public School was erected in 1913, having previously been operating since 1871 in Dungeree. The original building is still used today. The school's enrolment has fluctuated having a peak of 52 students in 1871 and a low of 11 students in 1976. There were times when the school was under threat of closure, however new families moving into the area increased enrolments making the school viable. It is said that during the time of the great depression, the teacher in charge, Taber, instigated 'Penny drives' where children who could afford to bring a penny per week would fund a basketball set, the remains of which still stand on the current tennis court.

The book, 'What Bird is That' was also purchased and borrowed overnight by the children to study birds. This book can be found in the school library today. In recent years, the school has participated in the 'Birds in our Backyard' program, with students learning about local species, habits and habitats.

The 1950s marked the time in Lue of an undefeated junior rugby league team. Matches were played at the Lue sportsground. During this time, a fighting exhibition at the blacksmith shop (opposite the Railway station) was held three days a week (Potts, 1984). Sports continued into the 1960s and 70s with participation in 'State Small School Sports', installation of the swimming pool, and hockey being some of the school highlights. In 1982, Lue School won the athletics and swimming carnivals which was followed by State champion students in athletics and hockey.

The introduction of motor cars, and the Second World War, led to the eventual closure of the railway, and a decline in the community. Passenger services to Lue were suspended in c1985 and freight services were suspended in 1992. In 2008, the Lue Railway Station was listed on the NSW Heritage Register as of State Significance. Its significance was attributed to it being a good representative example of a third class, standard country station building, with signal box and separate toilet blocks. It is a prominent feature that can be seen from Lue Road (Swanston Street) and remains a significant feature within the townscape (OEH, 2019).

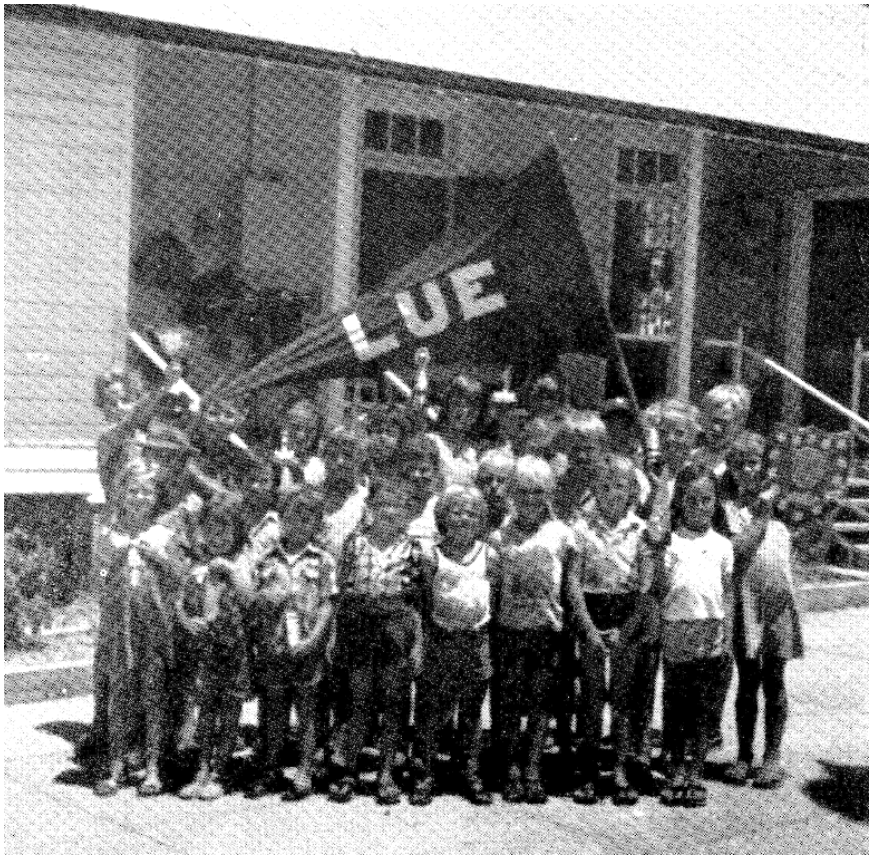


Figure 5.2 Lue School wins Athletics and Swimming Carnivals in 1982 (Potts, 1984)

In 2012, Lue Public School celebrated 100 years at its current site. Former teachers, principals and students came to celebrate and memorabilia of historic children's work, newsletters and photographs of the school, sporting highlights and student groups were displayed.

The Lue Hotel has been a central meeting location for Lue since the 1890s with locals often referring it to as the 'information centre'. Built in 1897, the hotel has had over 27 proprietors, the first (for whom the hotel was built) being William Thompson.

The Lue Rural Fire Service (RFS) was first established in 1946 and the Lue Hall was built in 1924. The hall was used for community dances in the 1940s with buses transporting residents from Kandos and Mudgee. A popular debating club met regularly in the Lue Hall. More recently, the Hall has been used by the Lue Public School for dances as well as sport and recreation activities, fundraising events, cinema nights and weddings.

The timeline outlined in **Table 5.3** highlights the development of infrastructure and establishment of structures and facilities in Lue since 1823.

Table 5.3
Timeline of Development in Lue

Date	Event	Description
1871	Lue School opened	The provisional school operated while there were enough students to warrant a teacher until it started operating permanently.
1884	Lue was moved	Lue as we know it today was created after being moved to accommodate the rail line.
1884	Lue Railway Station opened	The busy railway opened in September; people came to settle in Lue to work at the station.
1894	First Church	A derelict hotel was turned into the first church in Lue.
1897	The Lue Hotel was built	William Thompson started the Lue Hotel.
1912	The General Store was built	Jack Thompson's general store was built with an adjoining butcher shop.
1917	Lue Homestead was finished	The new homestead was built on the Lue and Monivae properties that were once one 20,000-acre property.
1919	First known race meet	The first known racecourse, the usual prize money was five pounds.
1920s	Lue Hall built	The Lue Hall was built by voluntary labour and financed by local people.
1925	New Post Office	A new building was constructed to house the Post Office to accommodate the thriving store.
1946	The Lue Bushfire Brigade formed	Previously locals mustered up manpower to help fight fires. The brigade made firefighting more efficient.
1947	The Lue Motor Garage opened	Bruce Brown opened the garage in Lue after returning home from World War II and seeing the future of motorised transport.
1958	Power to Lue	A number of services and stores received electricity.
Source: Potts, 1984.		

Similarly, residents of Lue today still very much value many of the structures and facilities that exist in Lue. During interviews for the SIA, residents were asked to identify the key strengths and assets of Lue, with the majority of respondents identifying key historical assets including the school, Lue Hotel, and Hall (refer to **Figure 5.3**). Other key community assets that were identified were the sense of community and strong community cohesion and the peacefulness and quiet nature of Lue and surrounds (refer to Sections 5.9.1 and 5.11.1).

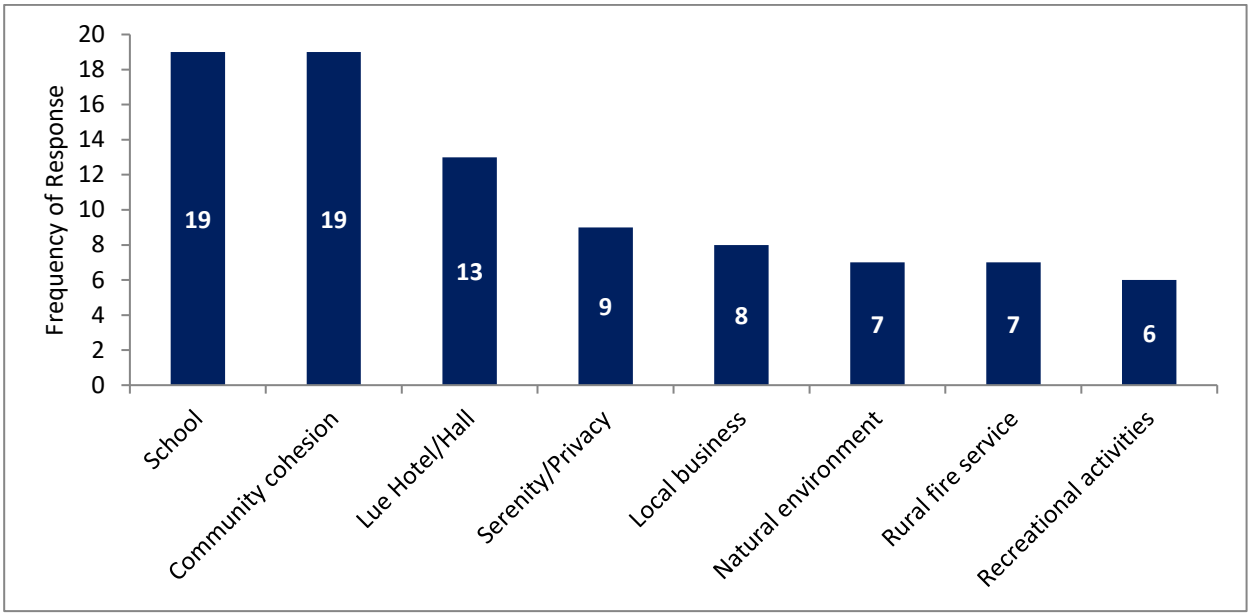


Figure 5.3 Community Assets - Lue

Note: n=69, multiple responses allowed. Interviews involved 64 residents and landholders in the locality and five regional community members

5.5 REGIONAL DEVELOPMENT CONTEXT AND COMMUNITY RESPONSE TO CHANGE

This section utilises a number of data sources to build a picture of the development context of the assessment area and develop an understanding of the process of social change and communities' response to this change. Specifically, this section considers:

- Community events and/or developments that have had a significant impact on the region including drought and infrastructure development;
- The ongoing presence and development of mining in the region; and
- Case studies on the response of communities to change.

Data utilised in this section has been sourced from:

- Local, regional and State media (refer to **Annexure 3**);
- SIAs and EIAs undertaken for surrounding Projects including Peabody Energy's Wilpinjong Coal Mine, KEPCO's Bylong Coal Project, and Gloucester Resources Limited's (GRL) Rocky Hill Coal Mine; and
- Other relevant regional studies.

5.5.1 Community Response to Change – Relevant Case Studies

There have been a number of mining Projects and modifications proposed in regional NSW of a contentious nature, which have been reviewed to identify how relevant stakeholders and communities have responded to these proposed developments. **Table 5.4** identifies three of these Projects, Peabody Energy's Wilpinjong Coal Mine in the small community of Wollar,

KEPCO's Bylong Coal Project in the Bylong Valley, on which the NSW Independent Planning Assessment Commission (IPC) has recently made a determination, and the recent Gloucester Resources Limited's (GRL) Rocky Hill Coal Mine near the Mid North Coast town of Gloucester; with strong opposition by some community groups experienced in response to these development applications.

The Wilpinjong Extension Project was approved by the NSW Planning Assessment Commission (PAC) in April 2017, resulting in a challenge by a group representing residents of Wollar in the Land and Environment Court. This challenge was not successful, with the Project approved in June 2018.

The Bylong Coal Project was referred to the PAC (now the Independent Planning Commission or IPC) by the DPE (now DPIE), after the initial application was received in July 2016 on the grounds of 'uncertainty and incomplete information about the risks and benefits of the Project' (PAC, 2017: i). Further investigations and development of a revised mine plan saw the application subsequently recommended for approval by the DPE. The IPC determined to refuse the revised proposal on 18 September 2019. Amongst a number of environmental reasons, including the cumulative impact of the Project on greenhouse gas emissions, the IPC stated the impact on the currently undisturbed landscape, citing doubt that the proponent could retain the aesthetic, heritage and natural values of the area; the unacceptable impact on the heritage significance of the Tarwyn Park Complex; and the inequity of the economic benefit predicted for the current generation when compared with the negative long-term environmental, heritage and agricultural impacts that would be borne by future generations.

The Rocky Hill Project was also highly contested by members of the Gloucester community throughout the EIS phase receiving over 2000 public objections during the Project's exhibition phase. The DPE (now DPIE) did not recommend the Project for approval, with the PAC also rejecting the Development Application (DA) in December 2017. The applicant (GRL) appealed this decision in the Land and Environment Court, with the Court also rejecting the DA on 8 February 2019, citing climate change and social impacts as key reasons for the Project not being approved.

Further analysis of the predicted impacts associated with each Project, and strategies for mitigation and enhancement proposed by Project applicants, are summarised in **Table 5.4**. This information is based on review of the relevant EIS and SIA studies undertaken for these Projects and other relevant planning documents e.g. response to submissions etc. Where possible, social impacts have been categorised according to the social impact factors outlined in the DPIE (2017) SIA guideline.

In addition to the Projects outlined above, the closure of several resource extraction Projects in surrounding communities has also created key changes in the study communities. Specifically, the closure of the Cement Australia Kandos plant in 2011, the Charbon Coal mine in 2015, and the Sibelco Tallawang magnetite mine in 2016 have all led to a reduction in the availability of mining jobs in the Mid-Western Regional LGA, particularly for the communities of Kandos and Rylstone. These closures may have potentially led to increased unemployment and/or migration of skilled workers out of the region.

Table 5.4
Mining Projects and Modifications relevant to the Bowdens Silver Project

Description	Identified Impacts	SIA Category	Community Identified Impacts[5]	SIA Identified Impacts	SIA Proposed Mitigation Strategies	Community Consultation/ Submissions	Outcome/ Consequence
Peabody Energy's Wilpinjong Coal Mine Project - Wollar, NSW							
Existing Open cut mine Thermal coal 505 employees in 2018 Project related to the 7th expansion of the mine in 2017 Wollar residents argued that the DPE didn't take greenhouse gas emissions into consideration and stressed the social impacts of the Project. Mine life until 2033	Population	Way of life Community Personal and property rights	Peabody has reportedly offered acquisitions to remaining residents although noise modelling did not suggest the properties would be impacted. This was seen as a possible cause for further decreases in local population.	Population decline (locally and regionally). Depressed property market due to mining in region and lack of habitable properties Inability to attract new population to the area.		In preparation of the SIA: 11 current landholders, 4 former landholders 51 online community surveys 325 surveys from WCM employees 7 key stakeholders - service providers/ businesses, Mid-Western Regional Council 756 submissions received (716 general public and 40 organisations/groups) Approximately 14% of submissions were in support of the Project, all others were not supportive of the Project.	Wilpinjong Extension Project approved in June 2018.
	Housing	Personal and property rights Surroundings Way of life Community	All but 4 homes in Wollar owned by Peabody – population decline from 175 private dwellings in 2011 to 25 in 2015 Derelict houses Residents describe the acquisition process as 'destabilising' and 'divisive'. Concern for state of mine-owned houses in the village, and housing stress caused by inability to rent, re-mortgage etc as a result of proximity to the mine.	Construction phase: up to 50 beds may be needed to accommodate workers Operational phase: 10 – 18 dwellings needed to house 'new local' employees in Mudgee or Gulgong (not Wollar).	Stakeholder engagement to communicate any expected changes		
	Employment	Way of life Personal and property rights		Project predicted to create 73 jobs between 2018 and 2024 and sustain employment until 2033.	Advertisement of jobs and supplier/ contractor opportunities to facilitate local opportunities To maintain good relationships with employees, operate induction programs, implement WHS procedures, implement a self-reporting program to identify and manage incidents of workforce behaviour and encourage employees to contribute to the community.		
	Wollar Area Businesses	Access to and use of infrastructure Way of life Surroundings		Further population decline seen to negatively impact local businesses and supporting services in Wollar. Wollar General Store likely to close.	Community investment for services		
	Social Infrastructure	Access to and use of infrastructure Surroundings Community	Residents of Wollar have experienced a reduction in village amenity and social infrastructure.	Construction phase: potential demand for health care Operational phase: potential small increased demand for child-care, hospital services, education, training and emergency services	Communication with emergency services and other service providers to ensure adequate resourcing and continuation of services		
	Social sustainability	Access to and use of infrastructure Surroundings Way of life Community	Loss of services Strain on community to keep the village going	Community decline due to further property purchases in Wollar relating to the Project General store and school already operating below viable thresholds, further reduce ability to sustain local services	Social/Community investment program Community investment and encouragement of Project workforce participation in local activities and events		

[5] Refer to Annexure 3 –Media Review Articles 8, 29, 35, 40, 46, 55 for further information on community identified issues

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Table 5.4 (Cont'd)
Mining Projects and Modifications relevant to the Bowdens Silver Project

Description	Identified Impacts	SIA Category	Community Identified Impacts[6]	SIA Identified Impacts	SIA Proposed Mitigation Strategies	Community Consultation/ Submissions	Outcome/ Consequence
Peabody Energy's Wilpinjong Coal Mine Project - Wollar, NSW (Cont'd)							
	Amenity	Community Surroundings Access to and use of infrastructure Way of life	Residents suggest population loss as the biggest cause of change in the village in the past 10 years impacting service use, community cohesion, sense of place and residential amenity. Noise and dust as a result of increased rail movements Residents of Wollar have experienced a reduction in village amenity and social infrastructure.	Residential amenity impacts due to increased traffic, operational noise, blasting and closer proximity to dust sources Property acquisitions resulting in decreased activity in Wollar and loss of services	Property valuations to consider lifestyle values and afford a second landholder valuation		
	Quality of life and wellbeing	Health and wellbeing Way of life Surroundings	Strain on community to keep village due to population decline and loss of services Residents describe the acquisition process as 'destabilising' and 'divisive'.	Stress and anxiety from the Project Sleep disturbance Community isolation Noise and dust impacts on social amenity	To counteract stress from acquisition process – property valuations compared with similar properties and second registered valuer chosen by property owner Stakeholder engagement to keep community up to date with decisions		
	Sense of place	Community Way of life Surroundings	Strains on relationships between those for and against the mine.	Loss of sense of place due to Project related changes to landscape (demolition of unsafe vacant houses & proximity of mine) and population change	Stakeholder engagement relating to which houses to be demolished Encouragement of Project workforce to participate in local activities and events		
KEPCO's Bylong Coal Project - Bylong, NSW							
Open cut & underground mine Mine life of 25 years First applied in 2014, many changes made to the application triggered by the community and protests to the application sees the Department of Planning (now DPIE) recommending the Project be approved.	Population Change	Way of life Community Access to and use of infrastructure and services Fears and aspirations	The community is worried about the cumulative impact of property acquisitions in the Bylong Valley	Increase in non-resident population in site establishment and construction stage causes pressure on accommodation services Population increases throughout operational phase Temporary reduction in resident population due to Project related property acquisitions Reduction in resident population due to mine closure	KEPCO to provide Council with an annual workforce report that details the current and anticipated workforce numbers to allow them to proactively plan for anticipated population changes KEPCO to assess suitable Project-owned houses for habitation by Project employees KEPCO to consider developing and implementing an Employee Incentive Scheme detailing a range of incentives to encourage relocation to the Bylong Valley KEPCO to undertake a closure-related SIA for the mine five years prior to envisaged closure date	In preparation of the SIA: 29 landholders, property managers and farmhands 18 service providers Local government State government Reportedly 336 out of 364 residents against the mine, from the response to submissions received from the EIS exhibition	Recommendation made to IPC then IPC recommended further consultation be undertaken regarding the Project's impact on Tarywn Park due to GML Heritage's conclusion that Tarwyn Park was eligible for listing on the State Heritage Register. The DPE then advised KEPCO that revisions to the mine plan would be required to minimise potential impacts on Tarywn Park. DPE recommended the revised mine plan for approval by the IPC. The IPC determined to refuse the Project in September 2019 with intergenerational equity, impacts on the historic Tarywn Park and the cumulative impact on GHG amongst the cited reasons.

[6] Refer to Annexure3 – Media Review Articles 8, 29, 35, 40, 46, 55 for further information on community identified issues

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Table 5.4 (Cont'd)
Mining Projects and Modifications relevant to the Bowdens Silver Project

Description	Identified Impacts	SIA Category	Community Identified Impacts[7]	SIA Identified Impacts	SIA Proposed Mitigation Strategies	Community Consultation/ Submissions	Outcome/ Consequence
KEPCO's Bylong Coal Project - Bylong, NSW (Cont'd)							
	Economic	Personal and property rights Way of life Fears and aspirations	Margaret Hart of the Rylstone Pub encourages the reported population increase that will double the town's population as it will support local businesses.	Economic benefits to the LGA during Project construction and operation Increased revenue for LGA due to growth in population and household numbers during operational phase A potential 36% increase in number of people employed in coal mining in the LGA Potential impacts to non-mining sectors of the economy during peak operational phase Potential impacts to agricultural sector as a result of land use changes within the Project Disturbance Boundary Potential visual impact of the Project on the 'tourist experience' Reduction in economic activity as a result of mine closure	Local Content Plan to encourage participation of local and under-represented groups in the Project's workforce and supply chain Projects that support the economic diversity of the LGA may be suitable for funding from the Community Investment Fund KEPCO would return appropriate areas within the Project Disturbance Boundary to agricultural land use practices as soon as possible after achieving rehabilitation goals KEPCO would retain the services of a professional Farm Manager to oversee use and management of KEPCO owned land KEPCO would contribute to the beautification of the location through the Community Investment Fund KEPCO to undertake a closure-related SIA for the mine five years prior to envisaged closure date		
	Labour Market	Way of life Personal and property rights Fears and aspirations		Creation of direct and indirect employment opportunities during the construction and operation phases of the Project The Project would directly increase the labour force of the LGA by 2.1% Potential for labour draw from the non-mining sector in Mid-western Regional LGA with resulting impacts to local service provision. Potential increase in demand for labour with certificate level qualifications in the LGA Creation of employment opportunities for young people in the LGA	Local Content Plan and Indigenous Participation Plan to encourage participation of local and under-represented groups in the Project's workforce and supply chain KEPCO to encourage all non-local hires and their families to locate permanently to the LGA. Labour force would benefit from an addition of a sizeable population between 15 and 65 years KEPCO to encourage provision of education and training opportunities in the non-mining sector should this be identified as a community need KEPCO to liaise with local schools and education providers to identify opportunities for supporting the delivery of training programs in mining and other skillsets in demand in the LGA KEPCO would seek to provide part-time and/or flexible employment opportunities to encourage a higher rate of labour force participation, particularly among disadvantaged groups KEPCO would encourage the Council to establish an annual scholarship program offering financial support to local students seeking to study a university degree in a primary industry related course KEPCO would investigate opportunities for mentoring and career development services to secondary schools in the LGA		

[7] Refer to Annexure 3 – Media Review Articles 8, 29, 35, 40, 46, 55 for further information on community identified issues

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Table 5.4 (Cont'd)
Mining Projects and Modifications relevant to the Bowdens Silver Project

Description	Identified Impacts	SIA Category	Community Identified Impacts[8]	SIA Identified Impacts	SIA Proposed Mitigation Strategies	Community Consultation/ Submissions	Outcome/ Consequence
KEPCO's Bylong Coal Project - Bylong, NSW (Cont'd)							
	Housing/ Accommodation	Way of life Community Access to and use of infrastructure, services and facilities Culture Surroundings Fears and aspirations Decision making	The PAC criticised the Department of Planning (DOP) (now DPIE) for not considering the social impact the expansion would have on the town of Bylong, saying that 'the Department of Planning appear to "accept a degree of inevitability," when it comes to the loss of community around Hunter Valley mining Projects.' The DOP (now DPIE) was also rebuked for taking the view that mine acquisitions occurred under "open market conditions". Reflecting the perception of "forced acceptance of offers on property. 'The mining company has spent more than $700 million developing the Project, which includes buying up many historic homes and farms in the Bylong Valley area, as well as thoroughbred studs and even the local school.' Stress and family tension felt as a precursor to the acquisition process	Potential increase in demand for short-term accommodation during site establishment and construction stage and decommissioning Increased housing demands in Mudgee during the operational phase (up to 186 additional dwellings) Project induced housing demand during the Operations Phase would impact on residential land supply in Mudgee. Potential adverse changes in housing and rental costs in Mudgee due to a fluctuating demand for housing by the Project workforce. Potential increase in the demand for social housing due to the displacement of lower socio-economic groups out of the public housing market in Mudgee during peak operations.	KEPCO to encourage workers in the operational phase to use the Worker Accommodation Facility while they transition to permanent housing if local short-term accommodation is in high demand KEPCO to communicate with the Council regarding the Project schedule and any anticipated recruitment periods or changes in the size of the workforce KEPCO would monitor housing affordability and availability in the LGA and report in the Annual Review Actions to address the crisis housing deficit in the LGA would be discussed with Council Engagement with key stakeholders such as Housing Plus, Barnados and Council on the provision of crisis housing		
	Community Liveability	Community Way of life Culture Surroundings Fears and aspirations	The Bylong Valley is a 'fractured community' due to population decline over the past 10 years and impacts of the Project. Local resident Graham Tanner says 'In my opinion, there's not enough water here for farming and mining. I've told them that it's either one or the other.'	Potential adverse changes to the character and amenity (including visual amenity) of Bylong Valley and Bylong Potential change in the identity of the Bylong Valley as a result of Project induced changes in character and amenity. Potential loss of connection to rural industry as a result of changing landscape character. Increase in the pool of available volunteers in the Bylong Valley and broader LGA. Potential changes in property accessibility and accessibility to Bylong Enhanced social capital in the Bylong Valley through the introduction of new residents to the Bylong Valley. Potential for reduced road safety due to Project related changes Potential changes in employee and family health and wellbeing due to Project employment conditions i.e. shift arrangements Potential adverse changes in residential amenity.	KEPCO to contribute to a Community Investment Fund KEPCO to encourage employees to remove their high-visibility mining work wear when visiting public places and towns / villages before and after work KEPCO to contribute to the beautification and enhancement works in the Bylong Valley KEPCO would retain the services of a professional Farm Manager to oversee the use and management of all Proponent owned land in the Bylong Valley KEPCO is committed to supporting the participation of the Operations Phase workforce in volunteer roles across the LGA. KEPCO would keep landholders in the Bylong Valley informed of decisions in relation to the timing of the closure of Upper Bylong Road and the proposed alternative access route. KEPCO would assist new residents and families to integrate into their host community through a number of methods		

[8] Refer to Annexure 3 – Media Review Articles 8, 29, 35, 40, 46, 55 for further information on community identified issues

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Table 5.4 (Cont'd)
Mining Projects and Modifications relevant to the Bowdens Silver Project

Description	Identified Impacts	SIA Category	Community Identified Impacts[9]	SIA Identified Impacts	SIA Proposed Mitigation Strategies	Community Consultation/ Submissions	Outcome/ Consequence
KEPCO's Bylong Coal Project - Bylong, NSW (Cont'd)							
					KEPCO would develop and implement a Project Fatigue Management Policy Logistics scheduling would ensure vehicle movements are undertaken to be outside school drop off and pick up periods A construction Traffic Management Plan would be prepared detailing traffic management A comprehensive stakeholder engagement plan would be prepared and implemented for the site establishment and construction and operation stages of the Project. A voluntary acquisition policy would be established At-site mitigation to be offered to those outside of the acquisition zone		
GRL's Rocky Hill Coal Mine near Gloucester[10]							
Proposed open cut coal mine producing 21 million tonnes of coal over 21 years (including ten month mine construction and three-year closure). Near Gloucester NSW.	Sense of place	Way of life Surroundings Community Culture Fears and aspirations	EIS lacked consultation with Aboriginal and Indigenous stakeholders Indigenous stakeholders have raised connection to place and ancestral heritage as issues, entire Project area was not surveyed for sites of Aboriginal heritage	Loss of identity due to proximity of mine to town Concern about Gloucester turning into a mining town from rural town	Maintain diversity of local economy Contribute to community development and events Address visual impacts in mine design Support a HR rostering policy that encourages local worker contribution to local community	In preparation for the SIA: 493 responses to community survey Key stakeholder interviews with a number of service providers	DPE recommended PAC to refuse in October 2017 based on, amongst other reasons, the proximity to the township of Gloucester. The PAC refused the application on 14 December 2017. GRL appealed the PAC's decision and the Project went to the Land and Environment Court and was dismissed by Preston CJ on 8 February 2019.
	Health	Health and wellbeing Access to infrastructure, services and facilities Way of life Fears and aspirations	There has been a great deal of stress surrounding property acquisitions, resulting in the isolation of some residents. History of mental health issues surrounding the Duralie and Stratford coal mines	Air quality Health impacts on workers Mental health impacts relating to stress caused by changes to people's environment Concern about property values and loss of rural amenity Cumulative stress impacts due to other proposals in community	Monitor air quality Develop strong relationship with local health service and provide funding for health equipment Promote healthy lifestyle programs Build relationships with near neighbours and address measurable impacts from operations Open and clear communications with the local community through a CCC and an office/ shopfront in the Gloucester CBD		

[9] Refer to Annexure 3 – Media Review Articles 8, 29, 35, 40, 46, 55 for further information on community identified issues
[10] Note: Community identified issues combined with issues identified in the Land and Environment Court ruling on Rocky Hill Coal Mine

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Table 5.4 (Cont'd)
Mining Projects and Modifications relevant to the Bowdens Silver Project

Description	Identified Impacts	SIA Category	Community Identified Impacts[11]	SIA Identified Impacts	SIA Proposed Mitigation Strategies	Community Consultation/ Submissions	Outcome/ Consequence
GRL's Rocky Hill Coal Mine near Gloucester (Cont'd)							
	Social Cohesion/ social equity	Way of life Community Culture Personal and property rights Fears and aspirations	The Project has already caused social division in the town due to the conflicting stance on the support of the Project. GRL have purchased several rural and residential properties that have decreased neighbours investment in the properties and changed the social fabric of the community. Dr Lawerance, called by the Minister, noted that the likelihood of drive in drive out workers is high and that this would displace vulnerable groups as they seek temporary accommodation, increase prices of tourism accommodation and see anti-social behaviour and gender-related impacts on the town.	Division in community over support or opposition to the mine Social inequity related to high wages paid to mine workers in a low-income community Potential failure to build community between miners and other sectors	Continue Stakeholder Engagement and provide clear communications to the community through local media Develop a strong CCC with defined reporting responsibilities to the community. Develop a 'Project Shopfront'/ office as a central point for easy community access to information and input. Administrators of the Trust (Community Grants Program) to spread the benefits of the mine across the community in a manner determined by the community Encourage mine worker involvement in community organisations through community friendly HR policies.		
	Housing	Access to infrastructure, services and facilities Way of life Personal and property rights Decision making systems Fears and aspirations		Upward pressure on property prices and rentals causing impacts on low income earners. Saleability impacts for houses in Estates bordering the Mine Site.	Recommend to the Administrators of the Trust that Projects addressing local housing stress be a key priority area for Community Grants funding. Initiate the development of a housing register for rentals and promote alternative leasing schemes. Monitor sales impacts on near neighbours		
	Social infrastructure	Access to infrastructure, services and facilities Way of life Health and wellbeing Surroundings Fears and aspirations	Lack of mental health facilities in the town to deal with the immense stress residents feel Noise and road impacts surrounding the Project, specifically on the Bucketts Way, the access road to the town that is notorious for road accidents	Population increase impacts places in childcare, schools and health facilities– demand increased; may add to viability in some instances and may require expansion of services in others	Encourage Administrators of the Trust to be responsive to identified community need and call for community Projects that contribute to local social infrastructure for funding through the Community Grants Program (CGP); Target 50-75% of employees and families living within Shire or nearby localities		
	Emergency services	Health and wellbeing Access to infrastructure, services and facilities Fears and aspirations		Ambulance service already stretched in terms of capacity.	Requires review with relevant government agency(ies).		
	Employment	Personal and property rights Way of life Fears and aspirations	Social researchers called by the Minister and Gloucester Groundswell concurred that the positive benefit of employment was unlikely to be realised due to automation of the mining industry Local tourism businesses would be negatively impacted	Benefit to employment both in the mine and through the local, regional, State and national economy via multipliers. Mining already attracts workers from existing jobs in lower paid industries and this is likely to continue. Employment would attract new families to the town and enhance local diversity and deliver strong economic benefits	Communicate with local businesses through the Chamber of Commerce and monitor local employment migration. Target 50-75% of employees and families living within the Shire or nearby localities. Investigate provision of relocation incentives. Run joint recruitment drives with other organisations such as NSW Health. Plan joint training strategies with suppliers		

[11] Refer to Annexure 3 – Media Review Articles 8, 29, 35, 40, 46, 55 for further information on community identified issues

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Table 5.4 (Cont'd)
Mining Projects and Modifications relevant to the Bowdens Silver Project

Description	Identified Impacts	SIA Category	Community Identified Impacts[12]	SIA Identified Impacts	SIA Proposed Mitigation Strategies	Community Consultation/ Submissions	Outcome/ Consequence
GRL's Rocky Hill Coal Mine near Gloucester (Cont'd)							
	Education and training	Access to infrastructure, services and facilities Way of life Personal and property rights Fears and aspirations		Positive benefits in increasing local skills, offering traineeships and scholarships and in attracting vocational training providers to the area.	Honour existing commitments to scholarships and traineeships. Work with local organisations such as The Neighbourhood Group to target vocation and pre-employment training for vulnerable groups. Recommend to the Administrators of the Trust that training be a key priority area for the CGP Training/Upskilling on site.		
	Contribution to local economy	Personal and property rights Way of life Community Fears and aspirations		Positive benefits to the local economy through direct inputs, flow-ons and multipliers. Perceived competition with Agribusiness and tourism; but this is not borne out in comparisons with other regions. Worker competition for tourism beds if housing capacity not adequately addressed	Contribute to local organisations by involvement in organisations like the Chamber of Commerce and their events and programs. Use local suppliers as far as possible. Trust Administrators to prioritise social infrastructure, training and housing Projects for funding through the CGP Investigate a 'local voucher' reward system for employees. Monitor housing vacancy rates		
	Loss of agricultural land	Surroundings Way of life Fears and aspirations		Progressive loss of land for cattle production and other agribusiness.	Provide support to farmers to increase production to offset stock losses (e.g. as achieved with the purchase and extension of the Speldon Partnership's dairy); Enhance capacity of the residual undisturbed land to help offset stock losses.		
	Government revenue	Access to infrastructure, services and facilities Fears and aspirations		Strong positive benefit. May be more stress on Council funded services	Document and inform community on government revenues including taxes and rates. Council may have to adjust rates to accommodate increased pressures on local roads and waste services but taking into account upgrades undertaken by GRL		
	Cumulative impacts	Access to infrastructure, services and facilities Way of life Surroundings Personal and property rights Fears and aspirations		Potential population growth related extension of Stratford Coal Mine Pressure on housing and social infrastructure and contribution to the local economy and attraction of new services. Character and amenity, environmental impacts and mental health impacts	Support innovative housing strategies and initiate register of accommodation. Support Administrators of the Trust in prioritising community infrastructure need through CGP Investigate the establishment of a 'Chamber of Mines' for single point of contact and for streamlining key information for communities. Consider joint monitoring and reporting of air and water quality and health indicators. Consider Annual joint meeting of CCCs.		

Source: Compiled utilising data collected by Umwelt from the following sources; Wilpinjong Extension Project – Social Impact Assessment (Elliott Whiteing, 2015); Bylong Coal Project – Social Impact Assessment (Hansen Bailey, 2015); Statement of reasons for decision - Bylong Coal Project (Independent Planning Commission, 2019); Amended Rocky Hill Coal Project – Social Impact Assessment (Key Insights Pty Ltd,2016); Rocky Hill Coal Project Case Law (Gloucester Resources Limited v Minister for Planning, 2019)

[12] Refer to Annexure 3 – Media Review Articles 8, 29, 35, 40, 46, 55 for further information on community identified issues

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The Cement Australia plant, which was the original reason for the establishment of Kandos as a town in 1913, was a large employer in the relatively low population area surrounding the two communities (see Mining Link, 2019). The closure of the plant saw 98 local jobs become redundant, with approximately one third offered roles by Cement Australia in other states. At the time, the company identified a skills shortage as one of the key reasons for the closure, along with inefficient technology, rising costs and a rising Australian dollar (**Annexure 3, Article 85**).

The Charbon Coal Mine was operated by Centennial Coal and closed in 2015 after over 90 years of mining, due to exhausted coal reserves. Following the planned closure of the mine, the majority of the employed positions at the Mine Site were able to be transferred to the nearby Airly mine approximately 13km to the South in the Lithgow LGA (see Centennial Coal, 2019). The Mine is currently undergoing rehabilitation works, with work expected to be finished in 2022. Local contractors have been utilised during the rehabilitation phase, and ongoing monitoring work would need to be undertaken through to 2025 (see Centennial Coal, 2017).

Finally, the Sibelco Mining operation in Tallawang, nearby to the Township of Gulgong, was closed in 2016, following a high-level company review that found the Project was no longer commercially viable (**Annexure 3, Article 62**). No information is available to indicate how job losses were managed. However, one source indicates that prior to closure, all employees working at the Project were based in Mudgee (MiningLink, 2019b).

5.5.2 Lessons Learned for the Bowdens Silver Project

The process and outcomes from the above projects provide key insights for the Bowdens Silver Project. High levels of community opposition and involvement in these projects indicates that communities and landholders proximal to projects are increasingly aware of the planning process; and where they have concerns, have a strong desire to be involved in the assessment process. This is particularly true for stakeholders living in close proximity to a project, who can often feel that they do not have an adequate voice. Overall, these outcomes reinforce the need to engage early with stakeholders and maintain regular contact throughout the assessment to ensure that the community is fully informed of the project and can participate meaningfully in the identification of project impacts and proposed strategies.

The review of recent development projects in the locality, namely the Wilpinjong Extension and Bylong Valley projects also suggest that issues relating to property acquisition and sense of community have been key issues of concern for local community members. These issues coupled with those associated with intergenerational equity and conflicting land use are likely to also be issues of importance in relation to the current Project, given it is a greenfield project set within a traditionally agricultural locality.

It is also evident, however, that the region has experienced closure of a number of key industries over the past 10 years, namely the Cement Australia works in 2011, the Charbon Coal Mine in 2015 and the Sibelco Tallawang Magnetite mine in 2016; resulting in increased unemployment and migration of workers out of the region. While coal mining still remains a major industry within the region, opportunities exist for the current Project to further add economic and social stimulus to the region.

5.6 COMMUNITY CAPITALS

The study has utilised the sustainable livelihoods capitals approach (DFID, 1999) to provide a comprehensive understanding of the relevant communities proximal to the Mine Site and to evaluate their resilience and sensitivity to change[13.]

Preparation of the study has involved collection, collation and analysis of secondary data, with relevant primary data, collected through personal stakeholder interviews, used to supplement secondary data, where relevant.

5.6.1 Sustainable Livelihoods Approach

The Department for International Development (DFID) approach draws on broad categories of community capitals as a fundamental basis for identifying and further enhancing community capacity and resilience. According to DFID, a 'livelihood' includes the capabilities, assets (including both material and social resources) and activities required for people to meet their basic needs and support their well-being (DFID, 1999).

A livelihood is considered sustainable '…when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base' (DFID, 1999: 1).

This study has involved profiling communities according to five 'community capitals' or 'capital assets': natural, human, social, economic and physical capital, and has involved the selection and collation of indicators for each capital area.

Natural capital is defined as the stock of natural resources e.g. minerals, oil and gas, agricultural lands, oceans, forests etc. that provide natural beauty, generate sustainable economic and commercial activities and which provide ecosystem services[14].

Human capital refers to the health and welfare of human beings, their knowledge and skills, as well as their overall capacities to contribute to ongoing community sustainability. A community that is heavily dependent on an industry, but which exhibits low levels of human capital, is likely to face greater challenges in embracing socioeconomic change as a result of disruption.

Social capital relates to how individuals, groups, organisations and institutions within a community interact and cooperate; is a multifaceted concept that can broadly be defined as the dynamics and strength of relationships and/or interactions within a given community, including the degree of social cohesion and interconnectedness between community members.

Economic capital is defined as the extent of financial or economic resources within a town or community, including access to credit. For instance, a town lacking in economic capital, but predominantly reliant on a specific industry sector such as mining or agriculture, is likely to be more vulnerable to change and consequently more likely to experience greater difficulties in adapting to change given this dependence, particularly once an industry declines or as a result of industry closure.

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[13] Coakes, S., & Sadler, A., 2011. Utilising a sustainable livelihoods approach to inform social impact assessment practice. In Vanclay: New Directions in Social Impact Assessment. Edward Elgar Publishing, Cheltenham, pp. 3–20.
[14] Defined as "the direct and indirect contributions of ecosystems to human well-being (TEEB D0). They support directly or indirectly our survival and quality of life." (BISE, 2010)

Physical capital is broadly defined as a town or community's built infrastructure and services, including hospitals and schools as well as social services e.g. health care, aged care, child care. For example, a remote community that lacks access to basic facilities and social services may lack the capacity to enhance its local human skills base and is likely to be more disadvantaged in capitalising on opportunities for further industry development and economic capital growth.

Elements of each capital area are further outlined in **Figure 5.4**.

Figure 5.4 Capital Framework

Source: Adapted from Coakes and Sadler (2011)

For the purpose of this study an assessment of community resilience or adaptive capacity has been undertaken, based on review and analysis of relevant indicators and other secondary and primary data sources.

5.6.2 Data Collection and Analysis

A key component in the development of the social baseline profile for the assessment of the Project has been the collation and interpretation/analysis of demographic data.

Analyses undertaken relate to:

- **Indicator identification and selection** to afford appropriate assessment of social impacts relating to the Project;
- **Comparative analysis** across the communities identified as being relevant to the Project. Data at the Mid-Western LGA and NSW level has also been utilised for comparative purposes; and

- **Longitudinal/Time-series analysis** of data (where possible[15]) to illustrate change over time.

Socio-economic characteristics of the relevant communities are largely based on State Suburb and LGA levels of analysis and informed by data available from the latest 2016 Census and other data sources as relevant.

The study communities for the purposes of this study, as outlined in **Figure 5.5** include:

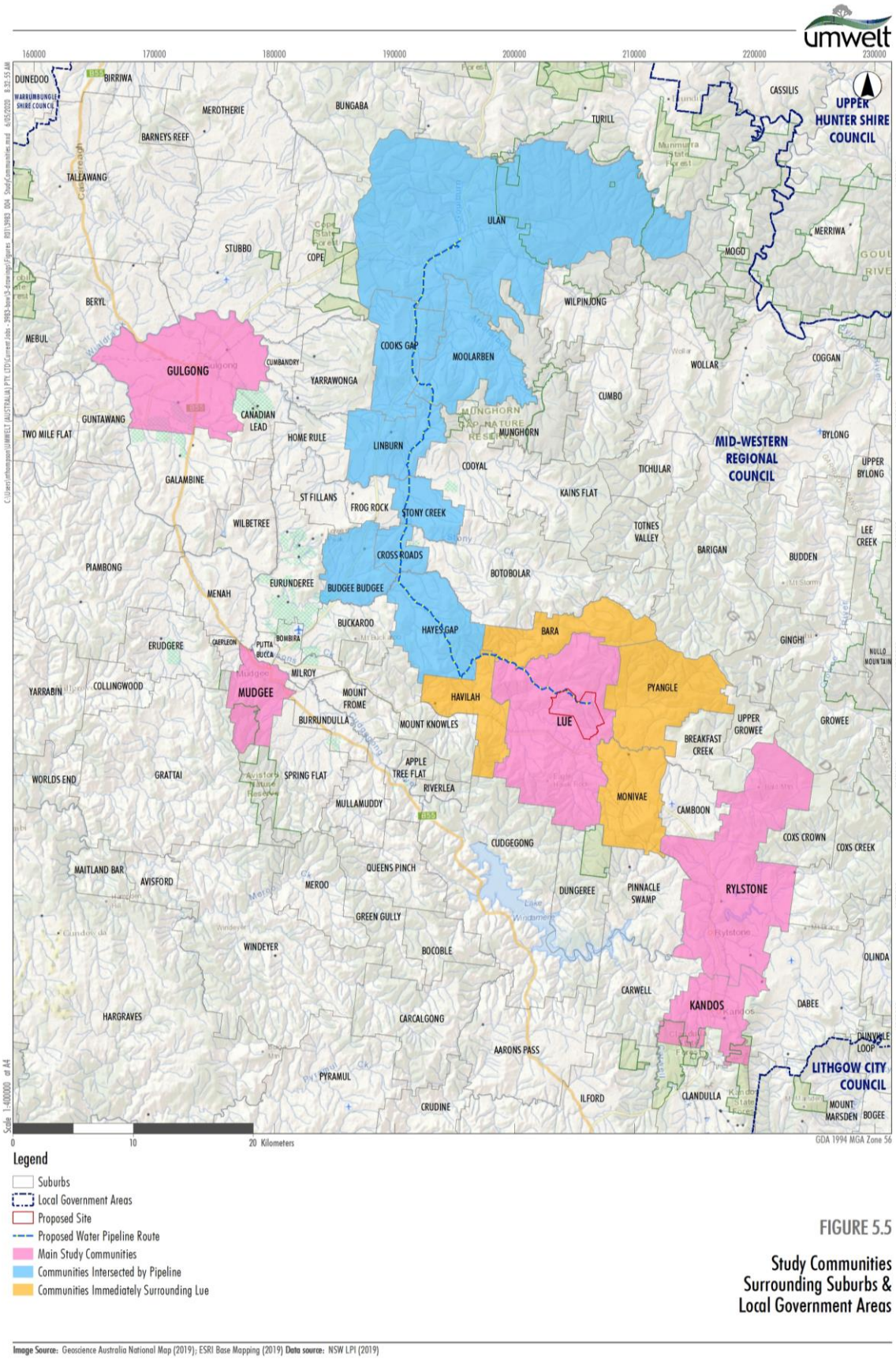
- State Suburbs (SSCs) of:
  - Lue
  - Rylstone
  - Kandos
  - Gulgong
  - Mudgee

These five suburbs are referred to as the 'study communities' throughout Section 5. It should be noted that there are also a number of small state suburbs surrounding the Lue State Suburb, as well as a number of smaller communities that are intersected by the proposed water supply pipeline that are also considered relevant to the Project. However, due to low populations within some of these communities, the majority of data captured in the ABS census and other sources is withheld or randomly adjusted in order to safeguard residents' anonymity. As a result of the confidentiality process known as perturbation, the ABS suggest that any cell with less than 20 counts should not be considered a reliable indicator (see ABS, 2017). The additional communities within this category include those:

- Intersected by the proposed pipeline, the State Suburbs of:
  - Ulan
  - Cooks Gap
  - Moolarben
  - Linburn
  - Stony Creek
  - Budgee Budgee
  - Cross Roads
  - Hayes Gap
- Immediately surrounding the Lue SSC, the State Suburbs of:
  - Bara
  - Havilah
  - Pyangle
  - Monivae

[15] Changes in SSC boundaries from 2006, to 2016 Censuses have made some comparisons not possible,

Figure 5.5 Study Locations



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It should be noted that the communities of Havilah and Bara are also intersected by the Pipeline.

The additional communities outlined above are referred to wherever data is available but have not been discussed in detail, as the data is unlikely to represent the true population demographics due to random adjustments made by the ABS. The exception to this is Cooks Gap and Budgee Budgee. Proportions relating to Cooks Gap are considered to be reasonably accurate given a population of 533 persons, and while Budgee Budgee is marginal at 196, this is equivalent to the Lue SSC and is considered to be generally indicative of actual proportions in the population. It is assumed that social and economic indicators within the remaining communities would not differ dramatically from those within the study communities shown in **Figure 5.5**.

Furthermore, it should be noted that due to significant changes to the boundaries of these communities over time, no comparisons have been made between population characteristics of these communities in the 2016 ABS census and across earlier Census periods (e.g. 2006, 2011). Data sources utilised in the capital's analysis are outlined in **Table 5.5** below.

Table 5.5
Data Sources

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Source	Content
Australian Bureau of Statistics (ABS)	2016 General Community, Time Series and Indigenous Profile data for: • State Suburbs (SSCs) of: – Lue – Rylstone – Kandos – Gulgong – Mudgee • Mid-Western Regional Local Government Area (LGA) • State of New South Wales (STE*) 2016 General Community Profile data (where available) for: • State Suburbs (SSCs) of: – Ulan – Cooks Gap – Moolarben – Linburn – Stony Creek – Budgee Budgee – Cross Roads – Hayes Gap – Bara – Havilah – Pyangle – Monivae 2016 Socioeconomic Indices for Areas (SEIFA) for socioeconomic disadvantage, education and occupation, and access to economic resources.

Table 5.5 (Cont'd)
Data Sources

Page 2 of 2

Source	Content
The Public Health Information Development Unit (PHIDU), Torrens University Australia	2020 and 2019 releases of public health data through the Social Health Atlas (New South Wales) and Aboriginal and Torres Strait Islander Social Health Atlas. Data within the Social Health Atlas is collated from a range of sources http://phidu.torrens.edu.au/social-health-atlases
NSW Government Department of Planning and Environment (DPE)	2016 release of population Projections by NSW State and Local Government Area Population and Household Projections – based on data sourced from the 2016 Census https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-Projections
* Note: STE is an ABS abbreviation, referring to the Australian Statistical Geographic Standard catchment of State and Territory	

Indicators have been identified according to each capital area and data collated for analysis at the levels noted above. **Table 5.6** presents the indicators that have been utilised and their respective source.

Table 5.6
Examples of Indicators Collated and Reported in Profile by Capital

Page 1 of 4

Indicator	Data Source
Human Capital	
Population, Age and Gender	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Indigenous population	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Proportion of persons born overseas	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Learning or earning	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
Highest level of school attained	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Non-school qualifications	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Persons living with a profound or severe disability	PHIDU, 2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Population Projections	https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-Projections
Educational facilities – enrolments, attendance, FTE staff, number of students	ACARA, 2019. My School: Find a school. Retrieved from https://www.myschool.edu.au/
People aged 18 years and over with one of four risk factors (rate per 100)	PHIDU, 2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Children developmentally vulnerable in one or more domains (2015)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020

Table 5.6 (Cont'd)
Examples of Indicators Collated and Reported in Profile by Capital

Indicator	Data Source
Human Capital (Cont'd)	
Barrier to Accessing Health Care (ASR per 100)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
People aged 18 years and over with one of four risk factors (ASR per 100)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Smoking during pregnancy (%)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Risky alcohol consumption (ASR per 100)	PHIDU, 2017/2018. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Obesity (ASR per 100)	PHIDU, 2017/2018. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Rates of respiratory disease - (ASR per 100)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2019
Asthma (ASR per 100)	PHIDU, 2017/2018. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Admissions to all hospitals - respiratory system disease (ASR per 100,000)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Admissions to all hospitals - cancer (ASR per 100,000)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Fair or poor self-assessed health (ASR per 100)	PHIDU, 2017/2018. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Psychological Stress (ASR per 100)	PHIDU,2017/2018. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Children developmentally vulnerable in one or more domains (%)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Proportion of the population over 65 years receiving a pension (%)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Poor proficiency in English (%)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Persons with a profound or severe disability and living in the community, all ages (%)	PHIDU, 2014/2015. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
SEIFA education occupation	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS.Stat beta
Social Capital	
Married	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Family composition	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Population mobility	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Household composition	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles

Table 5.6 (Cont'd)
Examples of Indicators Collated and Reported in Profile by Capital

Indicator	Data Source
Social Capital (Cont'd)	
Proportion who volunteer for an organisation or group	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Aged pensioners	PHIDU, 2018. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
Poor proficiency in English	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
NSW Crime Ranking	NSW Bureau of Crime Statistics and Research. 2019. Accessed using Crime Mapping Tool
SEIFA Relative Socio-economic Disadvantage	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS.Stat beta
Economic Capital	
Personal and household income	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Household expenditure	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Median mortgage and rent	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Financial stress from mortgage or rent	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2018
% employment in mining	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Unemployment	ABS, 2006, 2011, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles ABS, 2016. QuickStats
Labour force participation	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Unemployment rate	Small Area Labour Markets, Department of Jobs and Small Business, Australian Government, 2018. Accessed from
Primary occupations	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Industries of employment	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Herfindahl Index of Industrial Diversity	Calculated based on ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS TableBuilder Pro
Business entries and exits	ABS, 2018. Counts of Australian Businesses, including Entries and Exits, Catalogue 8165.0. Accessed from www.abs.gov.au
SEIFA economic resources	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using ABS.Stat beta
Physical Capital	
Dwelling structure/type	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Home ownership	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles

Table 5.6 (Cont'd)
Examples of Indicators Collated and Reported in Profile by Capital

Indicator	Data Source
Physical Capital (Cont'd)	
Rent assistance from the government	PHIDU, 2017. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
Residential Aged Care places	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2019
Household size	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Overcrowding (no. of people per bedroom)	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using TableBuilder Pro
Access to internet	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Travel to work	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Access to transport/average number of cars	ABS, 2016. Community Profile, Catalogue 2001.0. Accessed using TableBuilder Pro
Households receiving rent assistance from the Australian Government	ABS, 2016. General Community Profile, Catalogue 2001.0. Accessed using ABS Community Profiles
Primary Health and Medical Facilities	MyHospitals 2019. Retrieved from https://www.myhospitals.gov.au/
Aged care places	PHIDU, 2016. Social Health Atlas of Australia: New South Wales Local Government Areas, 2020
GPs Per 100,000 Population	ABS, 2016. Extended Community Profile, Catalogue 2001.0. Accessed using TableBuilder Pro
Average property prices	NSW Valuer General's Office, 2020. Accessed using Property sales inquiry Realestate.com, 2019. Retrieved from https://www.realestate.com.au/neighbourhoods/
Tourist accommodation occupancy rates	ABS, 2015-2016. ABS Tourist Accommodation Report, Australia. Accessed from www.abs.gov.au

5.7 NATURAL CAPITAL

Natural capital refers to natural assets and resources that contribute to community strength and sustainability. Natural capital can include the presence and use of resources such as minerals, productive agricultural soil, oil and gas, and forests; which provide commercial and practical benefit to the community. Natural capital can also include other environmental assets and ecosystem services, which generate tourism or provide other social, cultural, and recreational value, such as waterways or lakes.

Assigning definite values to natural capital is difficult and may be considered controversial. Additionally, as natural landscape values are not confined to socially defined boundaries (such as suburb or LGA boundaries), different values of natural capital often co-exist between different communities in different places. For example, privately-owned bushland may have one value for

the landholder who seeks to run cattle, different values for local environmental protection groups, other values for local government authorities who rate the land, and different values again for the resource extraction industry who may seek to mine the land in the future. Aspects which give some indication of the natural capital of the local area and wider region, as relevant to the Project, are detailed below.

The Mid-Western Regional LGA features a range of natural reserves, including the Cudgegong River, Dungeree State Forest, Avisford Nature Reserve and Capertee Valley and is surrounded to the north-east by the Goulburn River National Park and by Wollemi National Park to the south-east.

Review of local media suggests that the Mid-Western Regional LGA, including Mudgee and Lue, are currently experiencing a drought that has been negatively affecting the communities reliant on agriculture (refer to **Annexure 3, Article 7, 11, 20, 23, 30**). As at the 2016 ABS Census, approximately 9% of workers in the Mid-Western Regional LGA reported the census category of 'agriculture, forestry and fishing' as their industry of employment, compared with 2% across NSW more broadly. A breakdown of this industry categorisation indicates that the majority of these workers are employed in cattle and sheep farming, and there are no fishery operations present in the LGA (refer to Section 5.10.1). The communities of Lue and Rylstone appear to rely most heavily on these industries, with a respective 16% and 11% of the workforce employed in agriculture, forestry and fishing.

- A relatively high proportion of people are employed in the census category of agriculture, forestry and fishing[16] in Lue (16%) and Rylstone (11.2%) compared with the State average of 2.1%. Agriculture, forestry and fishing was the chief employer in Lue, followed by accommodation and food services (12.3%).
- The majority of individuals employed in agriculture, forestry and fishing in the Mid-Western Regional LGA are employed in sheep and cattle farming and related industries (69.0% of persons employed in agriculture, forestry and fishing). Other significant employers in agricultural industries include grape growing (4.8%), horse breeding (4.2%), and grain production (3.9%), the latter of which includes production of grain for use in sheep and cattle farming (ABS Tablebuilder, 2016).

Bowdens Silver currently operates a ~1,650 ha farm within and surrounding the Mine Site which is planned to continue should the Project be approved. Approximately 1,534 ha is currently used for Merino Sheep and Black Angus cattle and a further approximately 46 ha is cropped.

During engagement undertaken for the SIA, Lue and locality residents also attested to the natural capital of the area. When asked to describe Lue, a number of participants outlined that the natural beauty of the environment was a key asset of the community:

> *It's quiet and peaceful.*
>
> *Tranquillity - A good lifestyle, fresh air, and natural beauty.*
>
> *It's quiet and peaceful, a beautiful little place.*

[16] Note that whilst the ABS groups Agriculture, Forestry and Fisheries together at the level of analysis shown in **Table 5.22**, further investigations indicates that no persons in the Mid-Western Regional LGA are employed in Fishing or aquaculture

> *I used to run around these hills and loved it, it was just such a wonderful moment in my life.*
>
> *The environment, the size of the village is not too big, its peaceful, been here 26 years. I've spent 26 years regenerating my property and it feels like a waste of my life if this goes ahead.*
>
> *Tourism, the natural beauty of the area, history, creek flats. People go there to get away from the city, go to the vineyards, visit the drip, Dunns Swamp, they want to enjoy the nature reserves/parks.*

Within the region, there is also a strong history of viticulture, with winemaking dating back to the 1850s. Mudgee is a well-known food and wine destination amongst tourists and features an annual Food and Wine Festival. Other tourist attractions in the region include Gulgong, a historic goldmining town with over 130 heritage listed buildings, Windamere Dam, Munghorn Gap Nature Reserve, Dunns Swamp (Ganguddy), the Henry Lawson Centre, the Colonial Inn Museum (Mudgee), Kandos Museum, Gulgong Pioneers Museum and the Mudgee Observatory.

The Mid-Western Regional LGA attracts over 573,000 visitors each year through its viticulture, food, sport and cultural events (Mid-Western Regional Council, 2019). Deemed the gateway to the Central West and Far West regions of the State, and 3-4 hours' drive from Sydney and Newcastle, Mudgee is also easily accessible from the surrounding regional centres. According to Tourism Research Australia, visitors to the Mid-Western Regional LGA spent on average three nights in the area, with a total annual spend of $148 million dollars (Tourism Research Australia, 2017). Recent media articles (April 2019) also state that tourism in the Mid-Western Regional LGA is increasing (refer to **Annexure 3, Article 15, 16**).

According to the Mudgee Region Annual Report (2018), the tourism industry in the Mudgee tourism region generated $924,083 in revenue for the year 2018. This was an increase of $44,116 (5%) from 2017 ($879,967 revenue).

The region is also rich in terms of minerals, with mining (predominantly coal mining) contributing $270 million to the local economy (refer to **Annexure 3, Article 39**).

5.8 HUMAN CAPITAL

Human Capital refers to the health, welfare, knowledge and skills of members in a community (Coakes and Sadler, 2011). The status of a community's human capital is assessed by considering population size, age distribution, education and skills, general population health and the prevalence of at-risk groups.

Table 5.7 provides a summary of the key human capital indicators for the study communities relevant to the Bowdens Silver Project. This data is compared with NSW, where relevant, with further discussion regarding these indicators and key issues of significance provided in the subsequent sections.

Table 5.8 shows the key human capital indicators for the additional communities surrounding Lue and the communities through which the pipeline is proposed to traverse. Note that all these SSCs, except for Cooks Gap and Budgee Budgee, are considered to have too small a population for proportions to be considered accurate. As such, data should be interpreted as indicative only.

Table 5.7
Summary of Key Human Capital Indicators for Study Communities

Indicator	Kandos	Gulgong	Lue	Mudgee	Rylstone	Mid-Western Regional	NSW
Population	1 318	2 518	193	10 927	920	24 074	7 480 231
Indigenous (%)	5	8	5	6	4	5	3
Gender – Males/Females (%)	51:49	49:51	52:48	49:51	49:51	50:50	49:51
Median Age (years)	52	41	46	37	50	42	38
Proportion born overseas (%)	10	7	10	8	11	8	30
Year 12 or equivalent (%)	24	33	36	42	35	39	59
Equivalent Post-Secondary Education[17] (%)	28	35	31	43	41	41	49
Bachelor's degree level (%)	7	10	9	16	14	14	26
Living with a profound or severe disability[18] (%)	-	-	-	-	-	5.8	5.6
Earning or learning[19] (%)	-	-	-	-	-	77.2	85
Children Developmentally vulnerable in two or more domains (2015)	-	-	-	-	-	7.6	9.6
Source: ABS Census (2016) – Community Profiles, PHIDU 2020							

5.8.1 Key Population Characteristics and Trends

5.8.1.1 Population

Of the key population centres neighbouring the Mine Site, Lue is the closest in proximity, with a population of approximately 193.

Of the main study communities for which data was collected (refer to **Table 5.7**), the Indigenous proportion of the population is largest within the townships of Gulgong and Mudgee, with a higher proportion of Indigenous residents compared with the State average (refer to **Figure 5.6**). This is not unexpected given that the Gulgong and Mudgee area has a rich Indigenous history, with multiple clans across the Wiradjuri Nation. Mudgee also has its own Local Aboriginal Land Council.

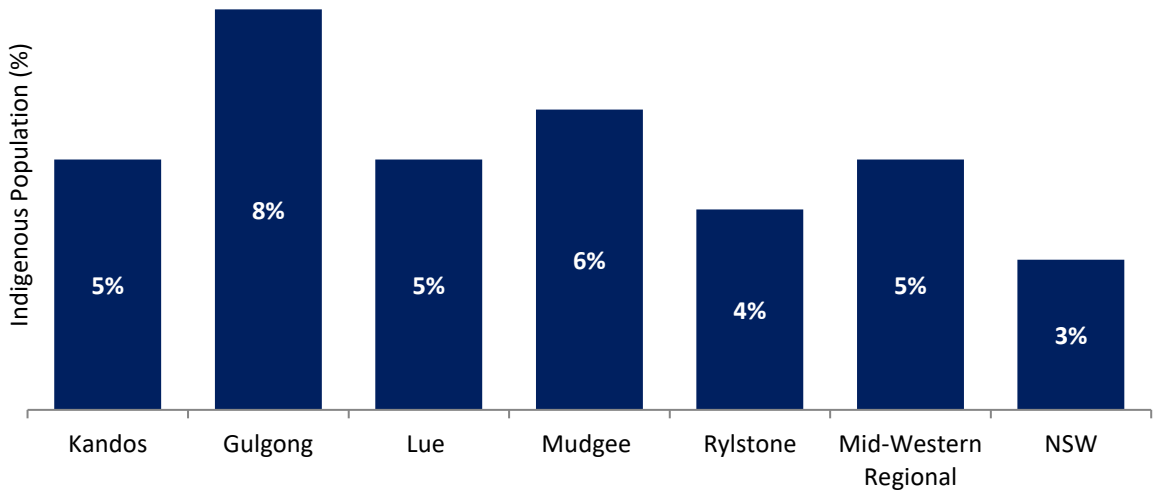
[17] Includes Cert III & IV, Diploma and Bachelor. Community Profile Census data (GCP). Cert Level I & II are excluded as both the SEIFA Index and Census define these levels as being equivalent to Years 11 and 12.
[18] CSI/PHIDU – People with a profound or severe disability (includes people in long-term accommodation), All ages
[19] Learning or Earning at ages 15 to 24

Table 5.8
Summary of Key Human Capital Indicators for Additional Lue and Pipeline Communities

Indicator	Monivae	Pyangle	Bara	Havilah	Hayes Gap	Budgee Budgee	Cross Roads	Stony Creek	Linburn	Moolarben	Cooks Gap	Ulan
Population	33	17	25	20	14	196	19	56	56	17	533	58
Indigenous (%)	-	-	-	-	-	-	-	-	-	-	9	-
Gender – Males/Females (%)	49:51	64:36	59:41	52:48	35:65	57:43	48:52	53:47	52:48	54:46	65:35	50:50
Median Age (years)	38	37	27	46	53	51	46	37	34	41	57	43
Proportion born overseas (%)	30	0	0	18	0	0	2	13	7	7	0	10
Year 12 or equivalent (%)	65	0	20	77	0	37	100	63	23	0	32	46
Equivalent Post-Secondary Education[20] (%)	68	27	60	33	30	53	41	63	27	18	39	35
Bachelor's degree level (%)	17	0	27	21	0	18	0	13	23	0	10	0
Source: ABS Census (2016) – Community Profiles												

[20] Includes Cert III & IV, Diploma and Bachelor. Community Profile Census data (GCP). Cert Level I & II are excluded as both the SEIFA Index and Census define these levels as being equivalent to Years 11 and 12.

Figure 5.6 Indigenous Population Proportion 2016



Source: ABS Census (2016) – Community Profiles

As indicated in Section 5.6.2, only two of the additional communities intersected by the proposed pipeline had sufficient population size for proportions from ABS data to be indicative of actual proportions within the population. Notably, the Indigenous population was higher in Cooks Gap (9%) and lower in Budgee Budgee (2%) in comparison to the study communities shown in **Figure 5.6**.

5.8.1.2 Age Structure

Compared with the NSW average, the populations in most of the study communities are older with median ages ranging from 41 years in Gulgong to 52 years in Kandos, compared with 38 years across broader NSW (refer to **Table 5.7** and **Figure 5.7**).

The exception to this is Mudgee, with the median age on par with NSW – 37 versus 38 years. The median age of residents across the Mid-Western Regional LGA was 42 years.

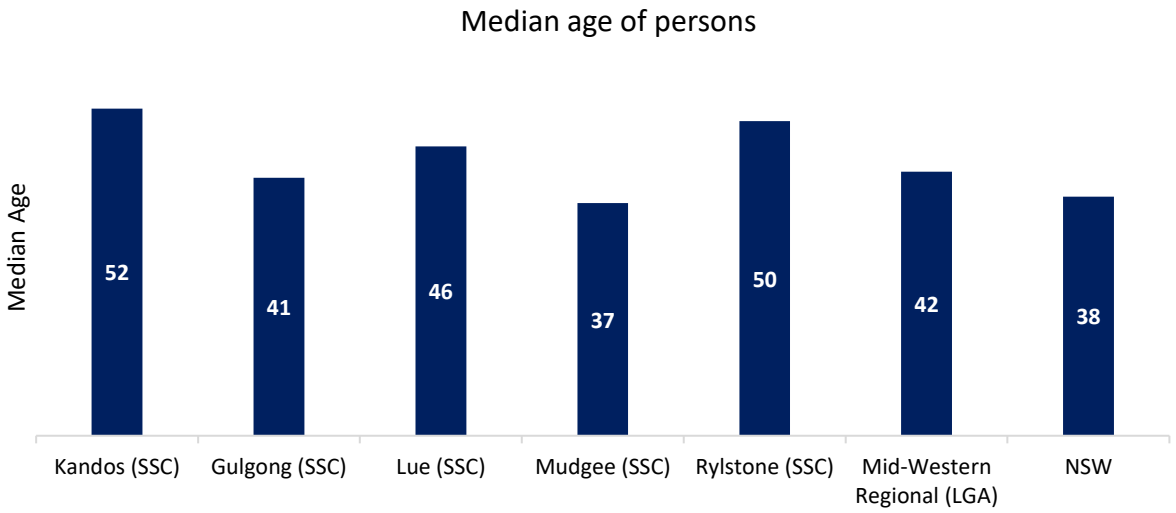
In regard to the additional communities surrounding Lue and along the proposed pipeline route, median age ranged from 27 years in Pyangle to 57 years in Moolarben (refer to **Figure 5.7**). However, given the low population in these areas (17 residents in each locality), these medians may be affected by random adjustments and should be taken as indicative only.

Figure 5.9 to Figure **5.14** illustrate the age structure by gender in each of the study communities. These figures indicate that:

- Overall, the balance of males and females is roughly equal across study communities, in line with the Mid-Western Regional LGA (50%) and NSW (49%) more broadly. Lue and Rylstone have a slightly higher proportion of male residents (52% and 51%) compared to the other study communities (49%).
- The majority of the population within all of the study communities fall within the 45-64-year age cohort.

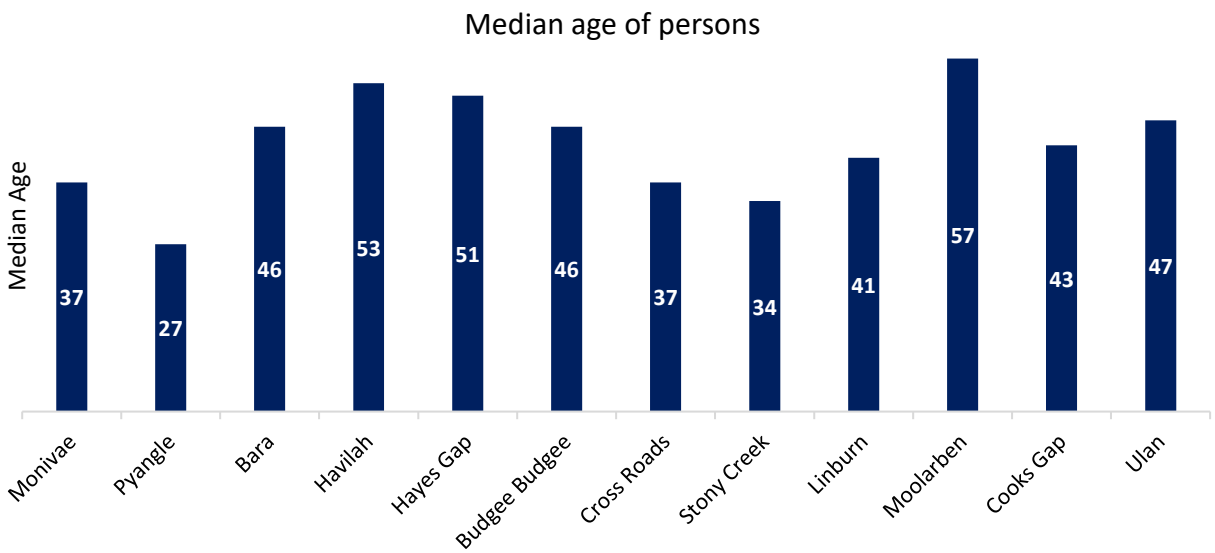
- Comparable to the NSW average, a large proportion of the population in Mudgee are of 'working age' (25-64 years of age).
- There are currently high numbers in the population in the retirement age bracket of 65-85 years plus, particularly in Kandos and Rylstone. Overall, Gulgong, Lue, Mudgee and the Mid-Western Regional LGA, have a large proportion of their populations that would be moving into this age bracket in the near future. Population Projections presented at **Figure 5.14** below demonstrate this prediction. In 2016, those aged 65 years and over comprised 20% of the population, a figure which is projected to increase to 27% by 2036.

Figure 5.7 Median Age of the Resident Population



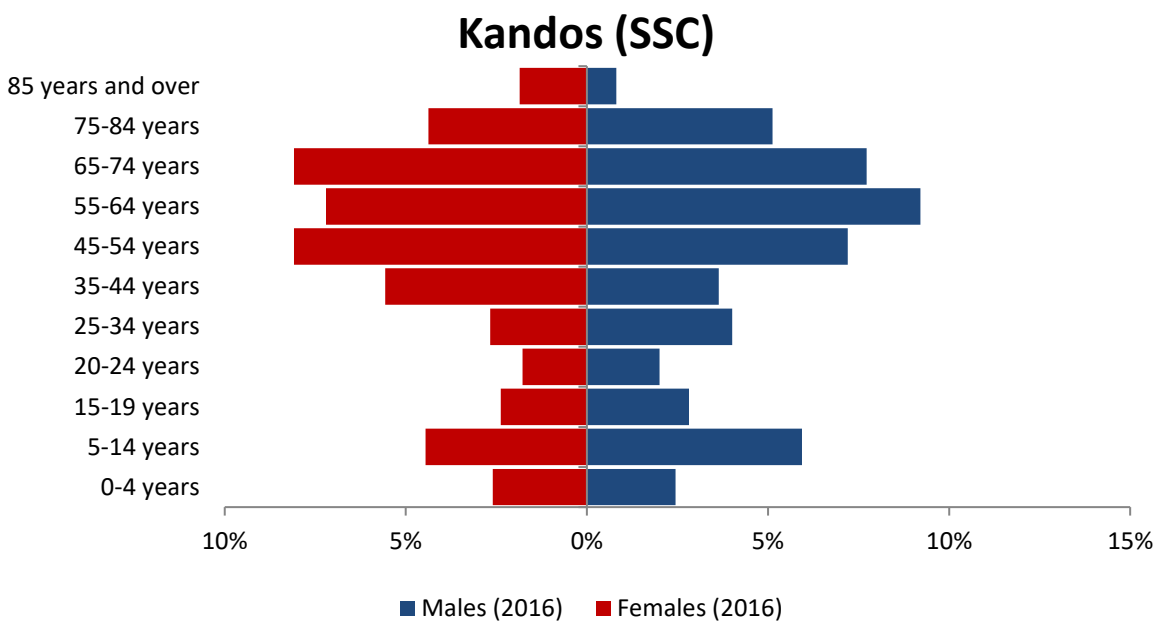
Source: ABS Census (2016) – Community Profiles

Figure 5.8 Median Age of the Resident Population – Additional Communities



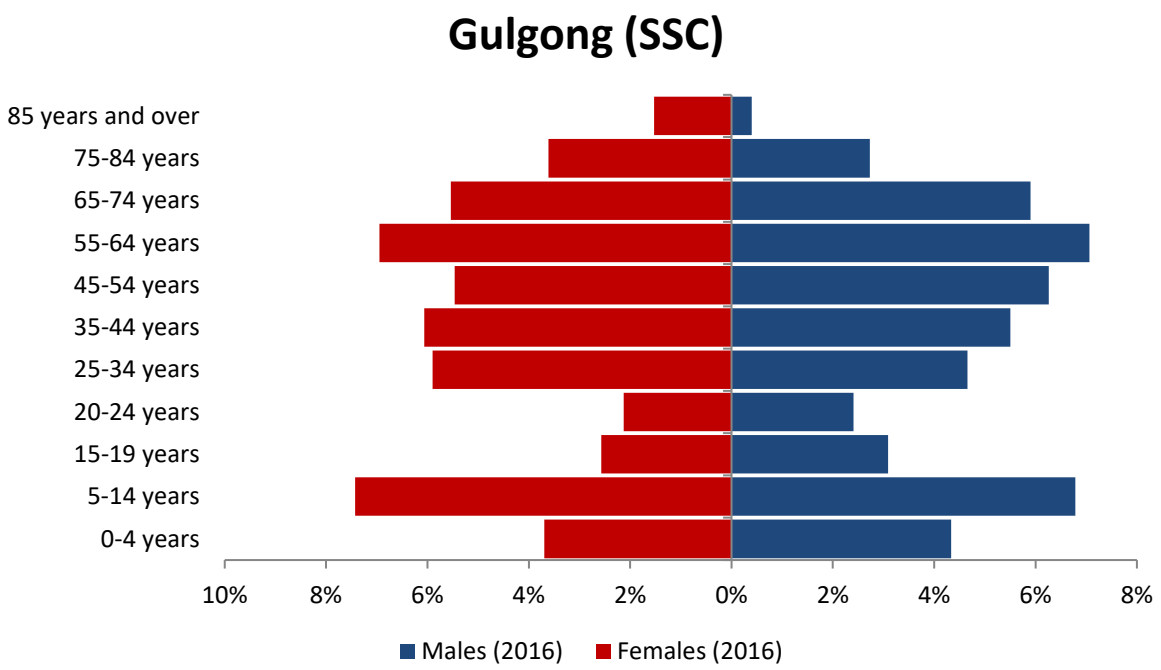
Source: ABS Census (2016) – Community Profiles

Figure 5.9 Kandos Population Distribution (Age in years by Gender)



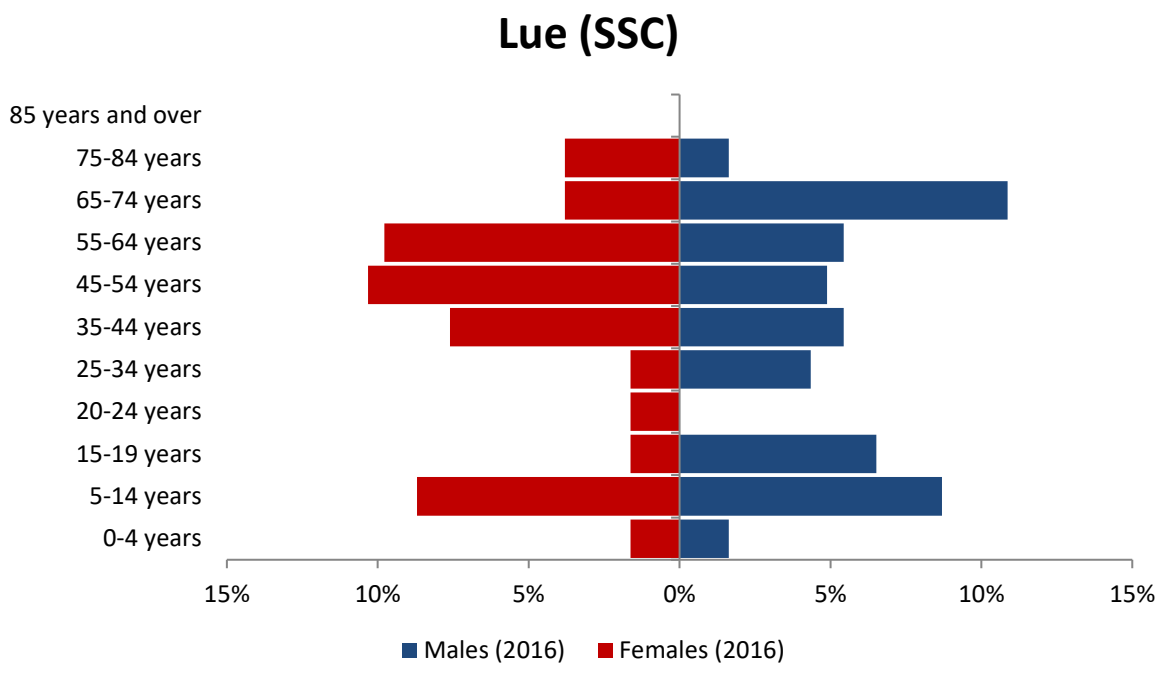
Source: ABS Census (2016) – Community Profiles

Figure 5.10 Gulgong Population Distribution (Age in years by Gender)



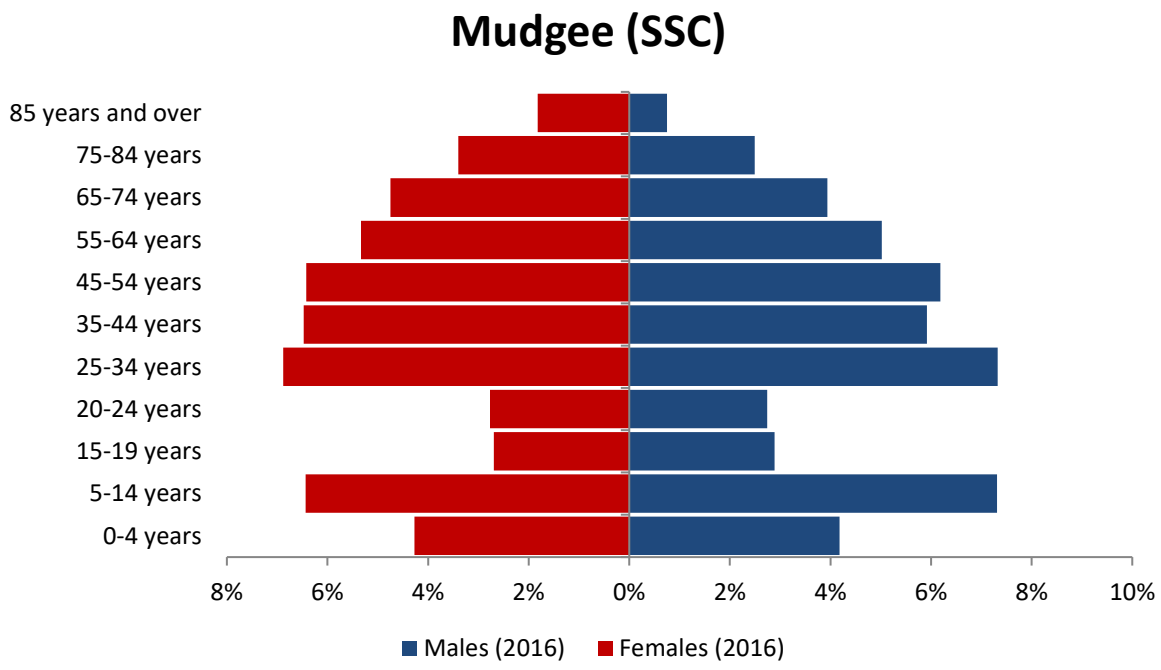
Source: ABS Census (2016) – Community Profiles

Figure 5.11 Lue Population Distribution (Age in years by Gender)



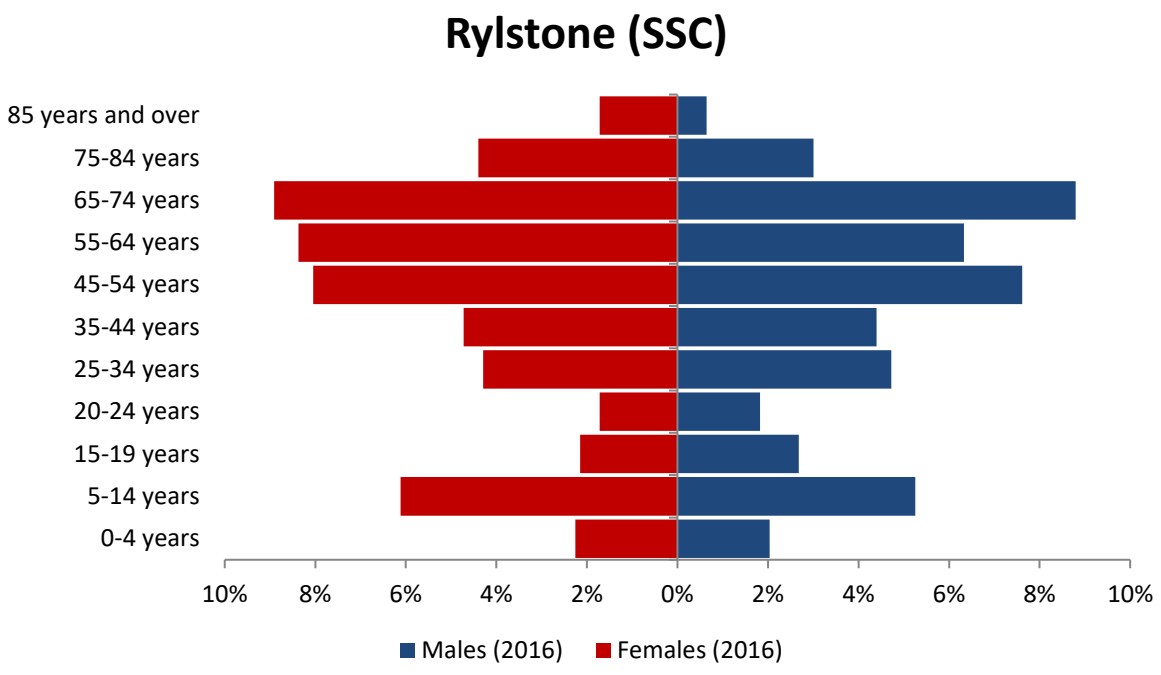
Source: ABS Census (2016) – Community Profiles

Figure 5.12 Mudgee Population Distribution (Age in years by Gender)



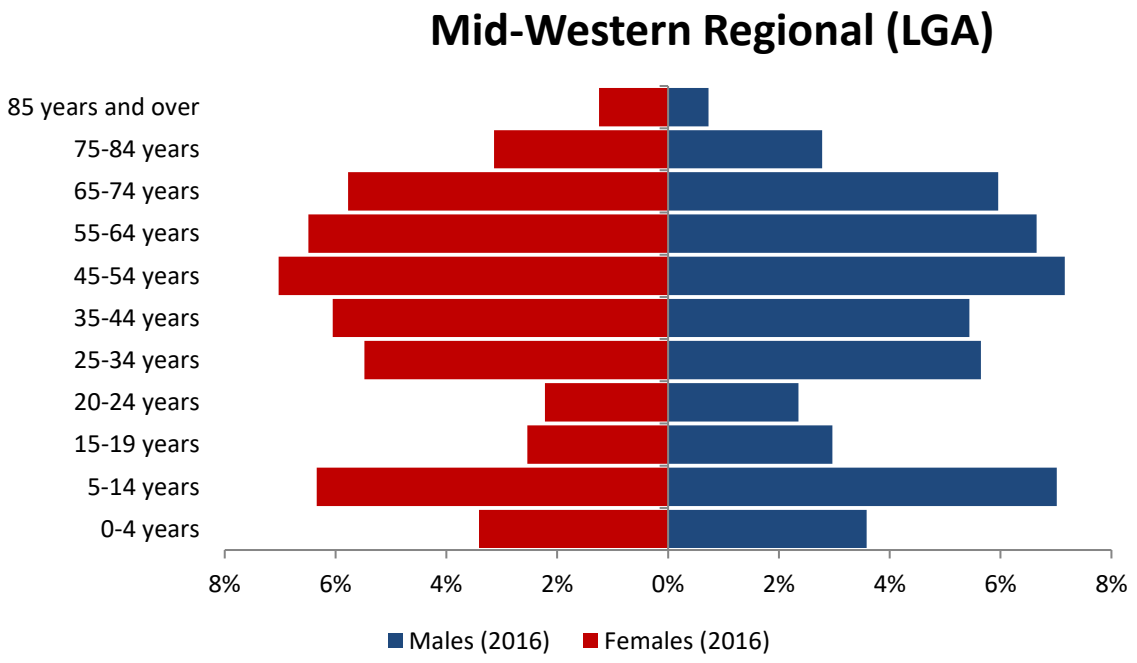
Source: ABS Census (2016) – Community Profiles

Figure 5.13 Rylstone Population Distribution (Age in years by Gender)



Source: ABS Census (2016) – Community Profiles

Figure 5.14 Mid-Western Regional LGA Population Distribution (Age in years by Sex)



Source: ABS Census (2016) – Community Profiles

5.8.1.3 POPULATION GROWTH

Population change across the Mid-Western Regional LGA has steadily increased from 2006 through to 2018 with an average annual proportional increase of 1.2%. This is not too dissimilar from the average annual population change in NSW (1.4%) across the same time period (refer to **Table 5.9**).

Table 5.9
Average Annual Population Change (Estimated Resident Population)

	Mid-Western Regional LGA			NSW		
	Estimated Resident Population*	Annual Increase	Proportion Change (%)	Estimated Resident Population*	Annual Increase	Proportion Change (%)
2006	21 641	-	-	6 742 690	-	-
2007	21 887	246	1.1	6 834 156	91 466	1.4
2008	22 186	299	1.4	6 943 461	109 305	1.6
2009	22 469	283	1.3	7 053 755	110 294	1.6
2010	22 774	305	1.4	7 144 292	90 537	1.3
2011	23 020	246	1.1	7 218 529	74 237	1.0
2012	23 343	323	1.4	7 304 244	85 715	1.2
2013	23 742	399	1.7	7 404 032	99 788	1.4
2014	24 059	317	1.3	7 508 353	104 321	1.4
2015	24 374	315	1.3	7 616 168	107 815	1.4
2016	24 546	172	0.7	7 732 858	116 690	1.5
2017	24 827	281	1.1	7 867 936	135 078	1.7
2018	25 086	259	1.0	7 988 241	120 305	1.5
Average Annual Change		287	1.2		103 796	1.4

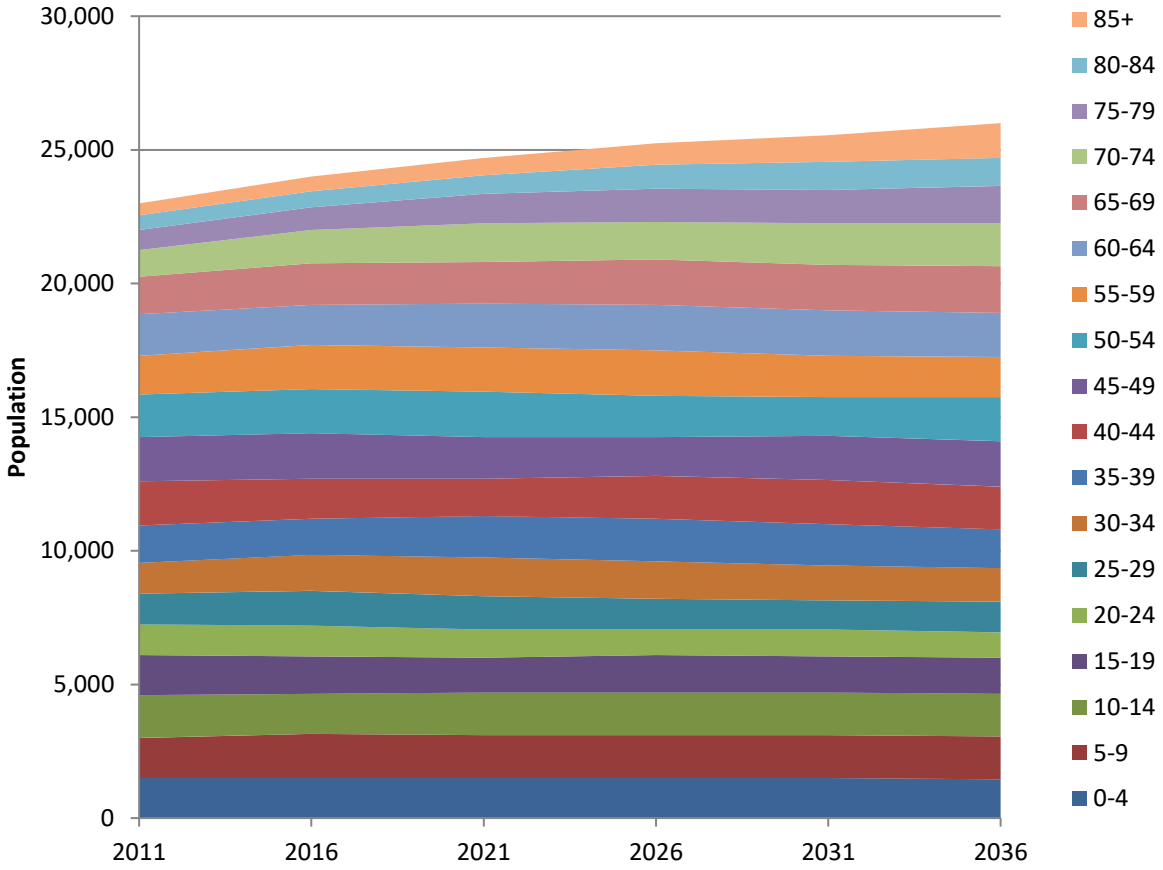
* ERP is an estimate of actual population calculated annually by the ABS, which takes into account a range of factors including Census numbers, annual growth rates, births and deaths, and migration.

Source: ABS Stat Beta, 2018; Estimated Resident Population (ERP)

Population Projections from 2011-2036 prepared by the NSW Government for the Mid-Western Regional LGA (refer to **Figure 5.15** and **Figure 5.16**) indicate:

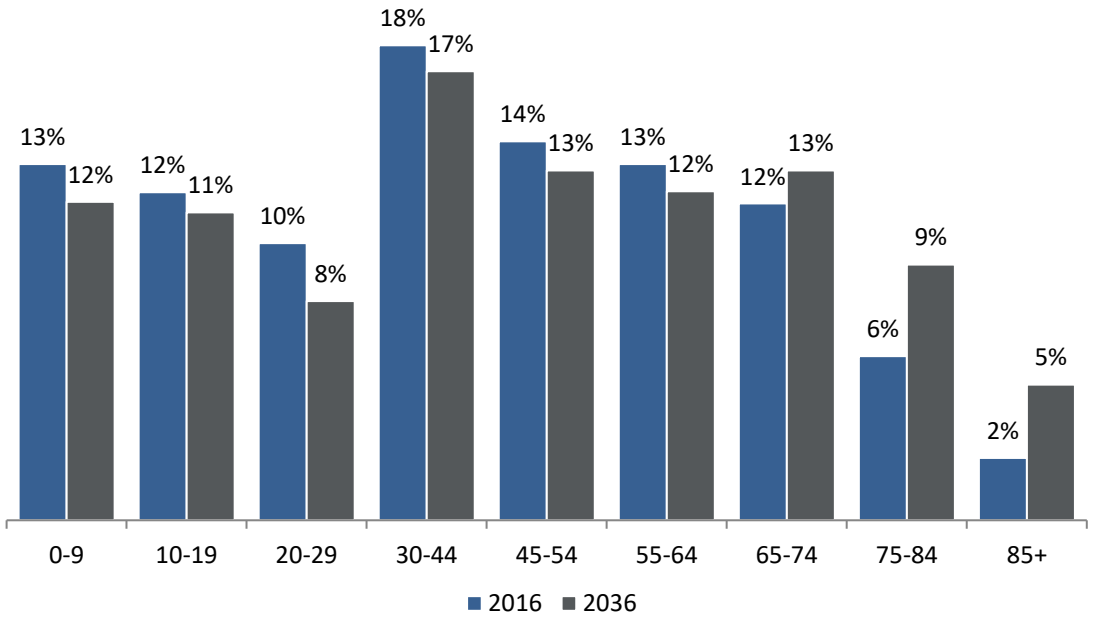
- Population increases of approximately 2000 people are expected from 2016 to 2036, with an estimated 0.4% annual growth rate over this period.
- Population change from 2016-2036, across all age groups 0-64 years. The most notable change predicted being in the 20-29 years age bracket (comprising 10% of the population in 2016 and predicted to decline to 8% in 2036 - equating to a decrease of around 350 persons).
- Decreases in population numbers are predicted for age groups; 0-9; 15-34; and 55-59 years.

Figure 5.15 Population Projections – Mid-Western Regional LGA



Source: Created by Umwelt utilising data sourced from NSW Government Planning & Environment, 2016 New South Wales State and Local Government Area Population and Household Projections, and Implied Dwelling Requirements

Figure 5.16 Population Projections by Age Category (Mid-Western Regional LGA)



Source: Created by Umwelt utilising data sourced from NSW Government Planning & Environment, 2016 New South Wales State and Local Government Area Population and Household Projections, and Implied Dwelling Requirements

Population projections used in the Manidis Roberts (2012) report estimated that with predicted workforce migration related to other mining Projects in the Mid-Western Regional LGA, the population of the LGA would reach 30,875 by 2020. The latest ABS Estimated Resident Population (ERP) figure indicates that as of 30 June 2018, the ERP of the Mid-Western Regional LGA was 25,086, up 2,066 persons since 30 June 2011 (ERP of 23,020; data sourced from ABS Tablebuilder, 2019). In order for the predicted 2020 resident population to be achieved, an overall population increase of 23% over two years would be required. Current projections indicate that population increases will be significantly less than this, even when the predicted increase associated with the proposed Bowdens Silver Project is taken into account (refer to Section 7.1).

While the Mid-Western Region LGA's population is Projected to increase slightly through to 2036, the Shire is cognisant that 'future growth driven by mining expansion' will be a key consideration for future planning; with the Mayor indicating that the community is experiencing 'unprecedented growth in industry and population, fuelled largely by the global demand for resources' (MWRC, 2019).

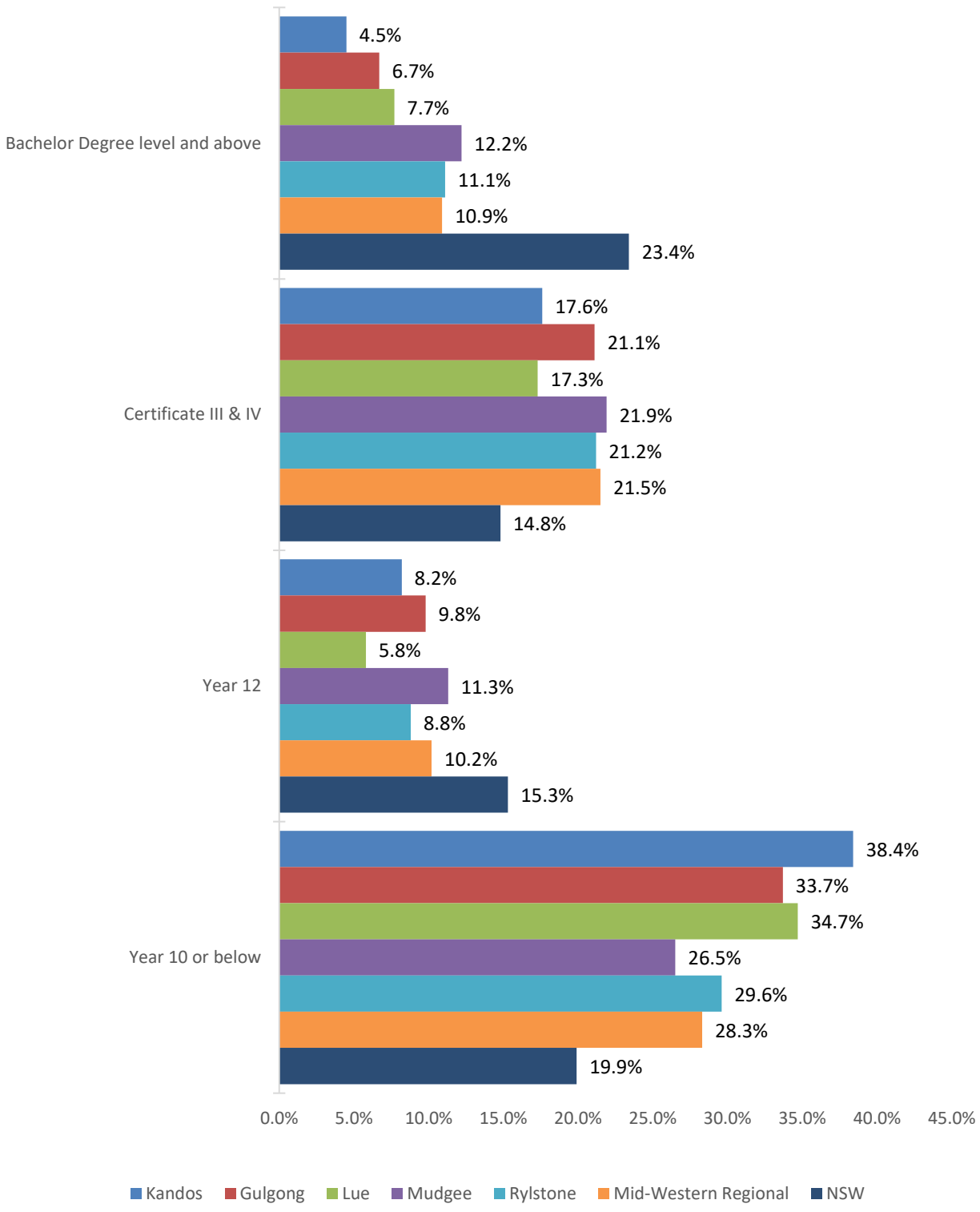
5.8.2 Skills, Education and Training

Figure 5.6 depicts the highest level of educational attainment across the study communities (including secondary and post-secondary levels). Across the study communities, education attainment is lower than the State average. The study communities have higher proportions of the population achieving Year 10 or below as their highest level of education. Similarly, the study communities had a lower than State average proportion of the population who have achieved a Bachelor degree or higher. Sections 5.8.2.1 and 5.8.2.2 provide further discussion on educational attainment across the study communities.

According to the 2016 Census (ABS Quickstats, 2016), 6.5% of Cooks Gap residents and 12.6% of residents in Budgee Budgee had completed Bachelor level or higher as their highest qualification, aligning with levels in Gulgong and Mudgee respectively (refer to **Figure 5.17**). Attainment of Certificates III and IV were higher in both Cooks Gap (24.5%) and Budgee Budgee (29.8%) than in the study communities and NSW (refer to **Figure 5.17**).

The proportion of persons with highest educational attainment of year 12 was equivalent to Mid-Western Regional LGA (10.2%) in Cooks Gap (10.9%) and Budgee Budgee (10.6%). The proportion of persons with highest education as year 10 or below was equivalent to NSW levels in Budgee Budgee (20.5%), whilst levels in Cooks Gap (29.6%) aligned with higher rates evident across the LGA (refer to **Figure 5.17**). Note that due to low numbers in Budgee Budgee, these proportions are indicative only and may vary slightly in the actual population of the SSC.

Figure 5.17 Highest Level of Educational Attainment



Source: ABS Census (2016) – QuickStats

5.8.2.1 Primary and Secondary

Table 5.10 presents the highest levels of school-based education attained in each of the study communities. As indicated in the table, levels of school-based education attained are low across the board, and lowest in Kandos, followed by Gulgong, with only 24% and 33% of the population respectively having attained Year 12 as the highest level of secondary education. According to Census data, this is due to high proportions of students leaving school at Year 10. It is possible that these figures are skewed by the fact that there are fewer options for secondary education in some of these locations, however the school to household ratios are well within established benchmarks (refer to Section 5.11.5). The level of secondary education attained is highest within Mudgee, with 42% having completed Year 12 at the 2016 Census, however this is still well below the State average of 59%.

Table 5.10
Highest Level of Schooling Attained

	Kandos	Gulgong	Lue	Mudgee	Rylstone	Mid-Western Regional	NSW
Year 12 or equivalent (%) (Non-Indigenous/ Indigenous)	24	33	36	42	35	39/28	59/33
Year 11 or equivalent (%) (Non-Indigenous/ Indigenous)	8	8	8	8	8	8/11	5/10
Year 10 or equivalent (%) (Non-Indigenous /Indigenous)	39	38	42	35	38	36/39	23/34
Year 9 or equivalent (%) (Non-Indigenous/ Indigenous)	14	13	8	9	10	10/13	6/14
Year 8 or below (%) (Non-Indigenous/ Indigenous)	15	7	7	6	8	7/9	5/9

Note: Excludes highest year of school not stated. Highest level of schooling attained data identifying non-Indigenous and Indigenous separately is not available for Kandos, Gulgong, Lue, Mudgee and Rylstone at the SSC level.

Source: ABS Census (2016) - Community Profile, ABS Census (2016) - Aboriginal and Torres Strait Islander Community Profiles

Educational attainment in the communities of Cooks Gap and Budgee Budgee, through which water is proposed to be pumped via the water supply pipeline, have relatively similar levels of Year 12 level educational attainment to the Project study communities (32% and 37% respectively). Highest school qualification of year 10 was also equivalent, being higher than the state average of 23% for both Budgee Budgee and Cooks Gap (both 41%).

Within the Mid-Western Regional LGA, a smaller proportion of the Indigenous population have completed Year 12 than non-Indigenous. Proportions differ from the NSW average, with fewer Indigenous students completing year 12, and higher proportions leaving school at Year 10. The large number of students leaving school at Year 10 is reflected in the prominent industries of employment (discussed further in Section 5.10.1).

Bowden Silver recognises a need for education and training in the areas of Lue, Kandos and Rylstone through graduate programs, apprenticeships and work experience. Further funding for local schools was also raised as a key community need. Bowdens Silver has commenced preliminary conversations with Mudgee TAFE, Skillset Workforce and Kandos High School to discuss employment pathways for students and identify potential partnerships.

Primary and secondary education facilities, available within the study communities, are summarised in **Table 5.11** including available information via the MySchool website operated by the Australian Curriculum Assessment and Reporting Authority (ACARA), that relates to:

- Proportion of students that are either Indigenous and / or from non-English speaking backgrounds;
- Attendance rates; and School positioning on the Index of Community Socio-Educational Advantage (ICSEA) scale. This scale represents levels of educational advantage.

In summary, the data collected from MySchool, and relevant information from the Mid-Western Regional Council strategic planning documents, indicates the following.

- All schools in the Mid-Western Regional LGA, except for one, have high proportions of students in the lower percentiles of the Index of Community Socio-Educational Advantage (ICSEA) scale.
- Attendance rates drop from primary school to high school - falling below 90%. The lowest rates of attendance (for Semester 1, 2019) were recorded in Kandos (84%), Mudgee (86%) and Gulgong (88%) high schools.
- Student to teacher ratios range from 7 to 18, suggesting that some schools are above the National average teacher-student ratio of 13.5 students per teacher (ACARA, 2019).

The additional communities associated with the proposed pipeline route largely fall within the Gulgong Public and Gulgong High School catchments. However, there is also a small primary school in Ulan (K-6), with 16 students enrolled in 2019. Of these students, 19% of students were Indigenous, and 81% fell within the bottom quarter of the ICSEA scale, indicating very low levels of socio-educational advantage. Attendance rates were on par with higher attendance schools in surrounding localities, at 92% for all students (ACARA, 2019). A Full-time equivalent teaching staff of 1.4 equates to 11 students per teacher, a relatively low ratio (for comparison, refer to **Table 5.11**).

5.8.2.2 NON SCHOOL QUALIFICATIONS AND FIELDS OF STUDY

According to the 2016 Census the proportion of residents in the Mid-Western Regional LGA with post-secondary education was 41%, below the proportion for the State generally (49%). The highest rate of post-secondary education in the study communities was in Mudgee (43%), followed by Rylstone (41%). The lowest rate of post-secondary education was observed in Kandos (28%) followed by Lue (31%) and Gulgong (35%).

There are very limited tertiary education options within the Mid-Western Regional LGA, with only one TAFE campus in Mudgee and no University. The closest University campus is Charles Sturt University, with three campuses located at approximately equal distances from Mudgee by road. Campuses operate in Dubbo (127km, 1.5 hours' drive), Bathurst (131 kms, 1.75 hours' drive), and Orange (187 km, 2.25 hours' drive).

Table 5.11
Educational Facilities

LGA	School / Facility	Level	Enrolments (2018)	Proportion Aboriginal Students (%)	FTE Teaching Staff	Student Attendance Rates (2019)[21] (%)	Students per Teacher (FTE)	Other Relevant Information (2019)
Mid-Western Regional	Lue Public	K-6	22	27	1.9	95	12	55% in the bottom quarter of the ICSEA 19% Language background other than English
	Rylstone Public	K-6	69	1	3.8	91	18	42% in the bottom quarter of the ICSEA 3% Language background other than English
	Kandos Public	U, K-6	143	20	12.8	90	11	70% in the bottom quarter of the ICSEA 4% Language background other than English
	Mudgee Public	U, K-6	677	16	42.6	93	16	49% in the bottom quarter of the ICSEA 5% Language background other than English
	Gulgong Public	U, K-6	344	15	21.5	90	17	63% in the bottom quarter of the ICSEA 2% Language background other than English
	Cudgegong Valley Public School, Mudgee	K-6	550	12	30.2	92	18	43% in the bottom quarter of the ICSEA 3% Language background other than English
	All Hallows Catholic Primary School, Gulgong	K-6	80	14	6.6	92	12	39% in the bottom quarter of the ICSEA 1% Language background other than English
	Mudgee High School	U, 7-12	820	12	67.4	86	12	50% in the bottom quarter of the ICSEA 4% Language background other than English
	Kandos High School	U, 7-12	200	13	27.2	84	7	52% in the bottom quarter of the ICSEA 4% Language background other than English
	Gulgong High School	U, 7-12	275	16	30.7	88	9	53% in the bottom quarter of the ICSEA 5% Language background other than English
	St Matthew's Catholic	K-12	932	4	59.9	92	16	15% in the bottom quarter of the ICSEA 2% Language background other than English

K = Kindergarten
U = students and/or classes, which cannot readily be allocated to a specific year of education; for example, students with special education needs.
Source: ACARA, 2019, MySchool

[21] As at Semester 1, 2019

The Council's *Towards 2030 Community Strategic Plan* (MWRC, 2018) highlights the need for development of additional pre-schools and educational facilities. The Mudgee TAFE has undergone redevelopment in 2016 with new buildings and alterations added (refer to **Annexure 3, Article 65**), however there are no other plans to develop new tertiary education facilities.

Within the study communities:

- Completion of Bachelor level degrees is low compared with NSW as a whole; however, this level of qualification is still the second most frequently attained type of non-school qualification for the Mid-Western Regional LGA overall.
- Certificate qualifications are more prominent across all the study communities, reflective of the predominant occupations in the communities - labourers, machinery operators and trades workers (refer to **Table 5.12**).

Table 5.12
Non School Qualifications

Level of Qualification (%)	**Kandos**	**Gulgong**	**Lue**	**Mudgee**	**Rylstone**	**Mid-Western Regional**	**NSW**
Postgraduate Degree Level	1	2	4	2	3	2	9
Graduate Diploma/ Graduate Certificate Level	1	1	0	2	2	2	3
Bachelor degree Level	7	10	9	16	14	14	26
Advanced Diploma and Diploma Level	9	11	13	12	13	12	15
Certificates	46	47	45	44	45	44	30
Source: ABS Census (2016) – Community Profiles							

Within the additional community of Cooks Gap, levels of equivalent post-secondary education are also low (39%). However, rates appear to be equivalent in Budgee Budgee at 53%, compared to 49% across NSW. Furthermore, rates of certificate qualifications were heightened in both Cooks Gap (48%) and Budgee Budgee (53%) compared to rates in NSW (30%). Whilst approximately equivalent, these rates are slightly higher than those seen across the study communities and the Mid-Western Regional LGA (refer to **Table 5.13**).

Table 5.13 shows the key fields of tertiary study, with top three fields highlighted for each location. Those who were recorded in the 2016 Census as having pursued a non-school qualification across the study communities - Kandos, Gulgong, Mudgee and Rylstone - were most likely to study the census category 'Engineering and Related Technologies'. While engineering is also one of the most studied fields in NSW, proportions are much higher across each of the study communities. For Lue, the highest studied census category was 'Management and Commerce', closely followed by 'Engineering and Related Technologies', and 'Architecture and Building'.

Table 5.13
Fields of Tertiary Study

Field of Study (%)	Kandos	Gulgong	Lue	Mudgee	Rylstone	Mid-Western Regional	NSW
Engineering and Related Technologies	36	28	17	24	23	26	17
Management and Commerce	13	15	21	17	15	17	25
Health	10	11	15	11	12	11	11
Society and Culture	11	9	11	10	11	10	13
Education	8	12	6	10	8	10	8
Architecture and Building	5	7	17	8	7	8	6
Food, Hospitality and Personal Services	8	8	6	8	7	7	5
Agriculture, Environmental and Related Studies	3	4	8	5	9	6	2
Creative Arts	5	3	0	3	4	3	5
Natural and Physical Sciences	1	1	0	2	1	2	3
Information Technology	1	1	0	1	1	1	4
Mixed Field Programmes	0	0	0	0	0	0	0
Source: ABS Census (2016) – Community Profiles							

5.8.3 Health Characteristics

The study communities and Mid-Western LGA, fall within the Western NSW Local Health District (LHD). The district spans an area of 246,676 km^2 and is the largest rural health service in Australia (NSW Health, 2019).

The health district has three major rural referral hospitals at Orange, Dubbo and Bathurst, 50 community health centres, which provide access to a wide range of multidisciplinary primary, and community health services, 38 inpatient facilities including 25 Multipurpose Services and District Health Services at Mudgee, Cowra, Parkes and Forbes. Across the LHD, health services are delivered to an estimated resident population of 267,000 people (NSW Health, 2019). The Mudgee Hospital is currently undergoing a major redevelopment. Construction commenced in March 2019 (refer to Section 5.11.2, NSW Health, 2019a).

The Council's *Deliver Program 2017/18 – 2020/21* and *Operational Plan 2018/19,* has identified funding to be provided to support rural doctors ($15,000), a University of Wollongong Scholarship ($6,000), and the Healthy Communities Program ($27,000). The focus of the Healthy Communities program is to reduce the prevalence of people that are overweight or obese by engaging adults in physical activity and healthy eating programs (MWRC 2019). The 2018/19 program has aqua fitness classes in Mudgee and Gulgong for people aged 18 years and above. The program also includes an exercise class called Heartbeat aimed at mature aged people, seniors or people with a stable pre-existing medical condition (MWRC 2019).

A range of health statistics is outlined in **Table 5.14**. This table compares the Mid-Western Regional LGA, Country NSW, Urban NSW and the State as a whole. Country NSW excludes the major urban centres that comprise 'Urban NSW' and which includes Greater Sydney, the Illawarra, Newcastle and Lake Macquarie.

Table 5.14
Health Indicators

Health Indicators	Source Date	Mid-Western Regional	Country NSW[22]	Urban NSW[23]	NSW
Barrier to Accessing Health Care[24] (ASR per 100[25])	2014	2.1	2.8	2.4	2.5
People aged 18 years and over with one of four risk factors (ASR per 100)[26]	2014-15	84.5	83	76.5	78.2
Smoking during pregnancy (%)	2012-14	20.5	19.7	7.1	9.8
Alcohol[27] (ASR per 100)	2017-18	21.9	20.1	13.9	15.5
Obesity (ASR per 100)	2017-18	41.0	38.0	28.3	30.9
Rates of respiratory disease[28] - (ASR per 100)	2014-15	38.2	33.6	29.1	30.2
Asthma (ASR per 100)	2017-18	13.7	13.3	9.7	10.6
Admissions to all hospitals - respiratory system disease (ASR per 100,000)	2016-17	2 159	2 278	1 877	1 994
Admissions to all hospitals - cancer (ASR per 100,000)	2016-17	2 066	2 528	2 315	2 382
Fair or poor self-assessed health (ASR per 100)	2017-18	16.8	15.8	13.5	14.1
Psychological Stress[29] (ASR per 100)	2017-18	12.6	13	12.2	12.4
Learning or earning[30] (%)	2016	77.2	79.7	86.7	85
Children developmentally vulnerable in one or more domains[31] (%)	2015	18.4	21.6	19.7	20.2
Proportion of the population over 65 years receiving a pension (%)	2017	66.1	68.4	60.4	63.2
Poor proficiency in English[32] (%)	2016	0.3	0.4	5.1	3.8
Persons with a profound or severe disability and living in the community, all ages (%)	2016	5.8	6.5	5.3	5.6
Source: PHIDU 2020					

[22] Country NSW: excludes Greater Sydney, Illawarra, Newcastle and Lake Macquarie

[23] Urban NSW: includes Greater Sydney, Illawarra, and Newcastle and Lake Macquarie

[24] Estimated number of people aged 18 years and over who experienced a barrier to accessing healthcare when needed it in the last 12 months, with main reason being cost of service

[25] Age-Standardised Rate is as summary of the rate a population would have if it had a standard age structure (WHO, 2010)

[26] Risk Factors: Smoking, harmful use of alcohol, physical inactivity, obesity

[27] Estimated number of people aged 15 years and over who consumed more than two standard alcoholic drinks per day on average (modelled estimates)

[28] Includes asthma and chronic obstructive pulmonary disease

[29] Estimated number of people aged 18 years and over with high or very high psychological distress, based on the Kessler 10 Scale (K10)

(modelled estimates)

[30] Learning or earning at ages 15 to 24

[31] Five Domains outlined by AEDC: Physical health and wellbeing, social competence, emotional maturity, language and cognitive skills, communication skills and general knowledge.

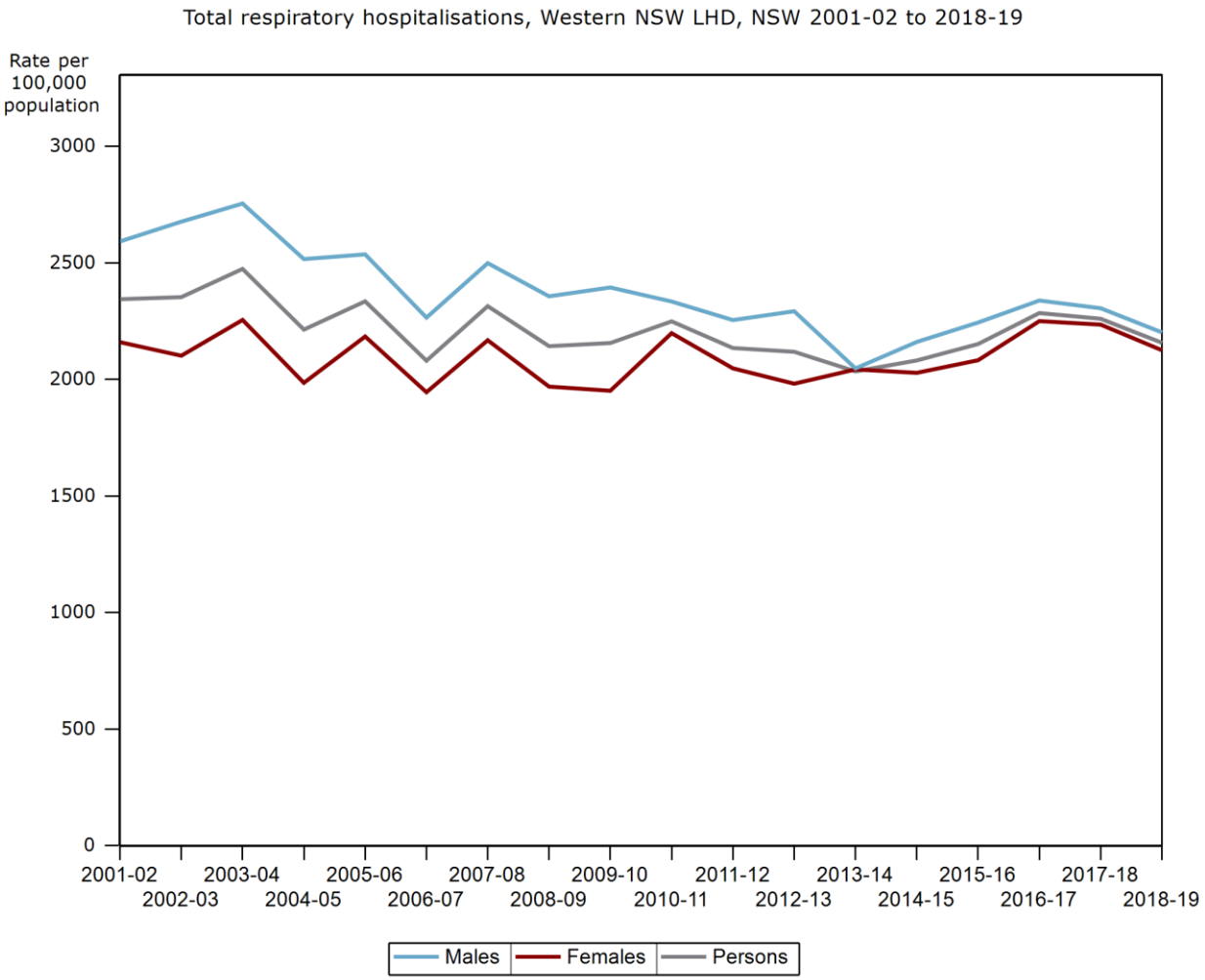
[32] People born overseas who speak English not well or not at all

Table 5.14 indicates differences between Country and Urban NSW. Country NSW appears to be disadvantaged compared to Urban NSW, across all indicators. This trend is also present in the Mid-Western Regional LGA. Key indicators where the Mid-Western Regional LGA are lower are shaded grey in the table and summarised below.

- 18.4% of children in the Mid-Western Regional LGA and 20.2% of those in NSW identified as developmentally vulnerable in one or more Australian Early Development Index (AEDI) domains in 2015. Additionally, the proportion of youth aged 15 to 24 who are learning or earning in the LGA is substantially lower than the proportion across NSW (77.2% compared to 85%). However, it is largely in keeping with the high rates of un-employed youth who are not studying across Country NSW (79.7% learning or earning).
- Equivalent proportions of people within the Mid-Western Regional LGA and NSW are living with a profound or severe disability (5.8% versus 5.6% respectively). However, the estimated number of obese people (2017/18) living in the LGA was higher than the NSW average (4 ASR per 100 compared with 30.9 ASR per 100 for NSW), as were smoking rates (24.2 ASR per 100 compared with 16 ASR per 100 for NSW).
- Social Health Atlas data from 2014-15 showed that, for every 100 people 18 years and older, there are approximately 84.5 people in the Mid-Western Regional LGA with one of four risk factors (current smokers, high risk alcohol consumption, obesity, no or low exercise in the previous week). This is higher than the State average of 78.2 per 100 people.
- There are slightly higher rates of fair or poor self-assessed health (2017/18) in the Mid-Western Regional LGA compared with NSW (16.8 ASR per 100, compared with 14.1 ASR per 100 for NSW).
- The standardised rates of admissions to all hospitals for cancer in the LGA are notably lower than Country NSW and across the State more broadly. In the 2016-17 financial year, Mid-Western Regional LGA rates of 2066 hospitalisations per 100,000 persons was 18% lower than Country NSW (2528 hospitalisations per 100,000 persons), 11% lower than Urban NSW (2315 hospitalisations per 100,000 persons), and 13% lower than NSW as a whole (2382 hospitalisations per 100,000 persons).

Health data for the Western NSW LHD shows a decrease since 2001 in hospitalisations for respiratory diseases (which include influenza and pneumonia, other acute respiratory infections, asthma, chronic obstructive pulmonary disease, lung cancer, and 'remaining respiratory disease'). Rates of hospitalisations for respiratory diseases per 100 000 persons increased from 2035.4 in 2013/2014 to 2285.1 in 2016/2017, in line with increases across the state, but decreased to 2157.5 in 2018/2019 (refer to **Figure 5.18**).

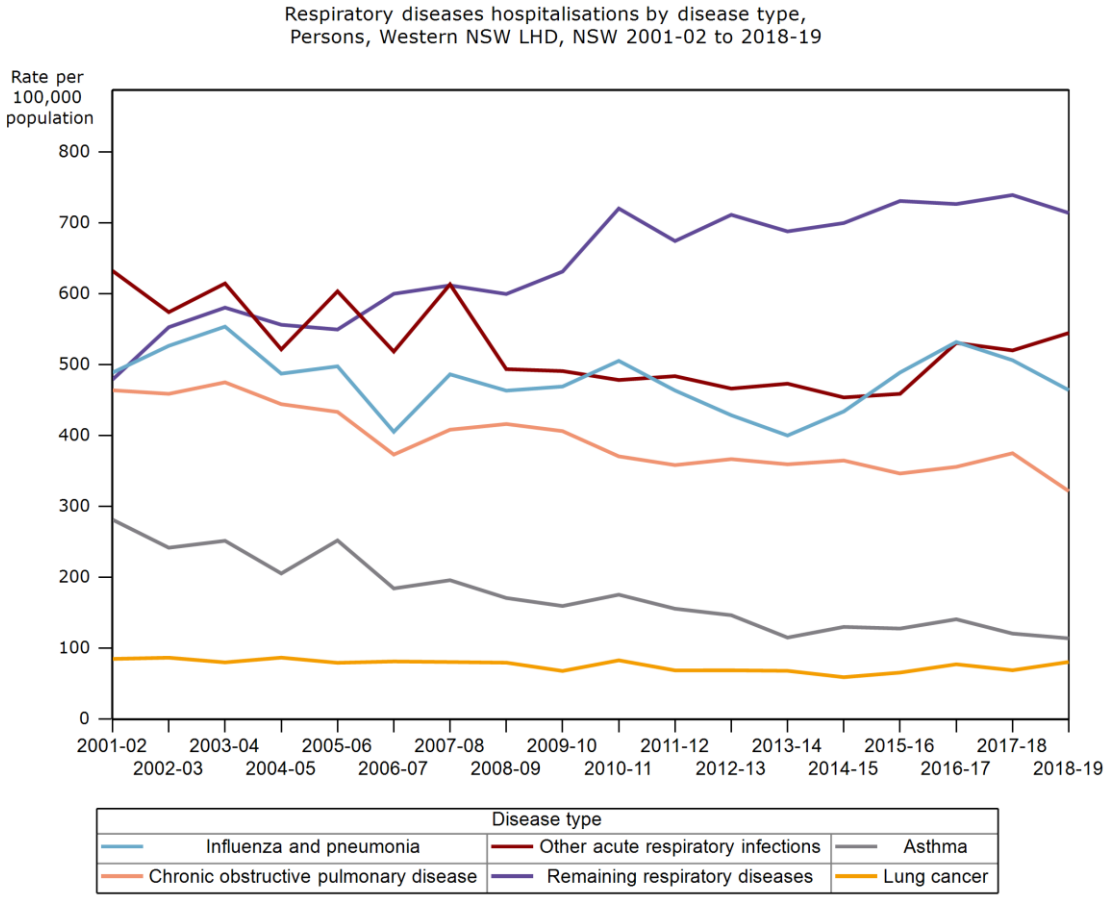
Figure 5.18 Total respiratory hospitalisation for Western NSW LHD (2001/2002 to 2018/2019)



Note: Persons refers to total hospitalisations of both males and females
Source: HealthStats NSW (2019), http://www.healthstats.nsw.gov.au/

Figure **5.19** shows the breakdown of respiratory diseases by type for the Western NSW LHD, with 'remaining respiratory diseases' accounting for the majority of hospitalisations. Furthermore, hospitalisations from 2016/2017 to 2018/2019 have decreased for influenza and pneumonia, obstructive pulmonary disease, remaining respiratory diseases and asthma, increased for lung cancer and remained stable for 'other acute respiratory diseases'.

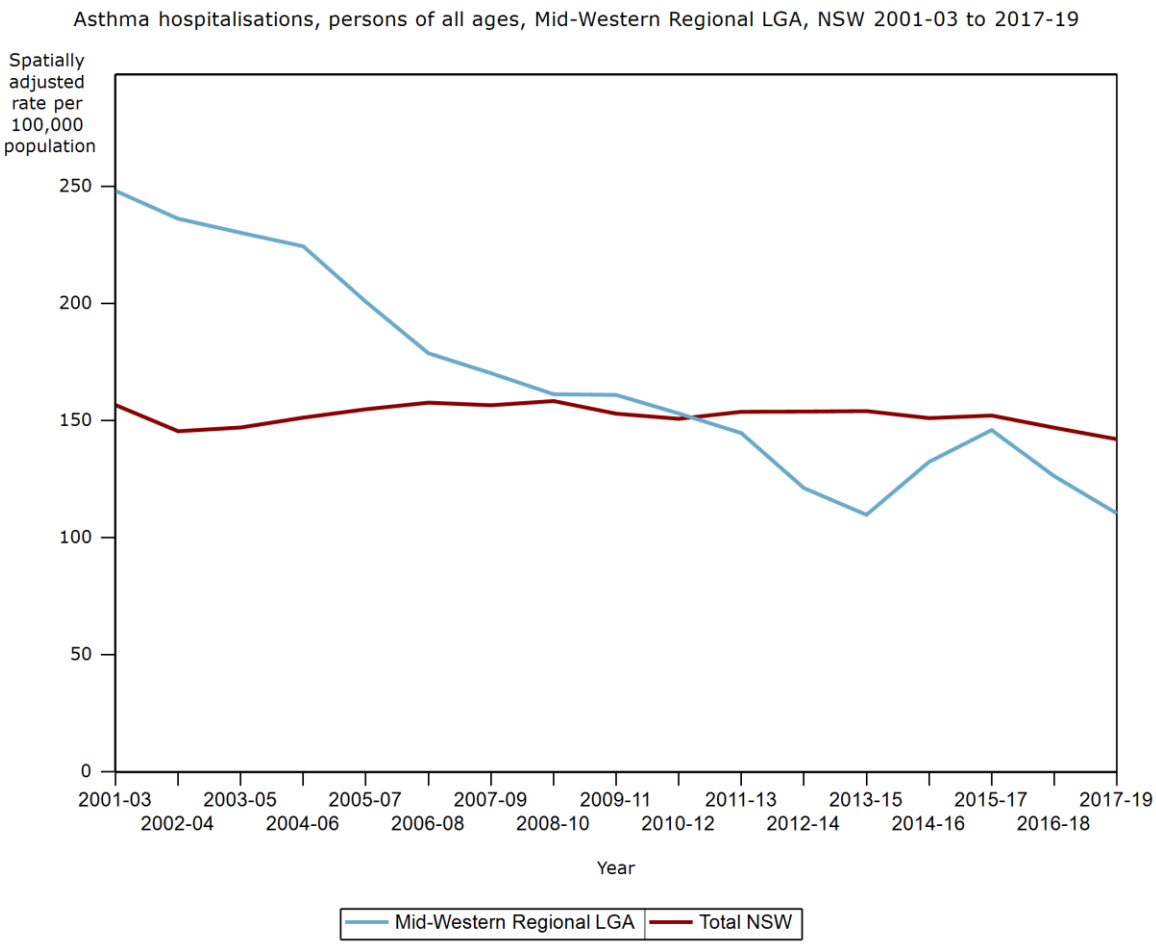
Figure 5.19 Respiratory diseases hospitalisations by disease type for Western NSW LHD (2001/2002 to 2018/2019)



Source: HealthStats NSW (2019), http://www.healthstats.nsw.gov.au/

Rates of hospitalisations due to asthma were higher than the NSW average from 2001 to approximately 2009, whilst declining from 2001 to 2013. In 2013 asthma hospitalisation rates began to increase again, reaching 146.0 per 100,000 in 2015-17, but since this time have decreased to 110.4 per 100,000 in 2017-2019. With this rate being lower than the NSW average of 142.1 per 100,000 (refer to **Figure 5.20**).

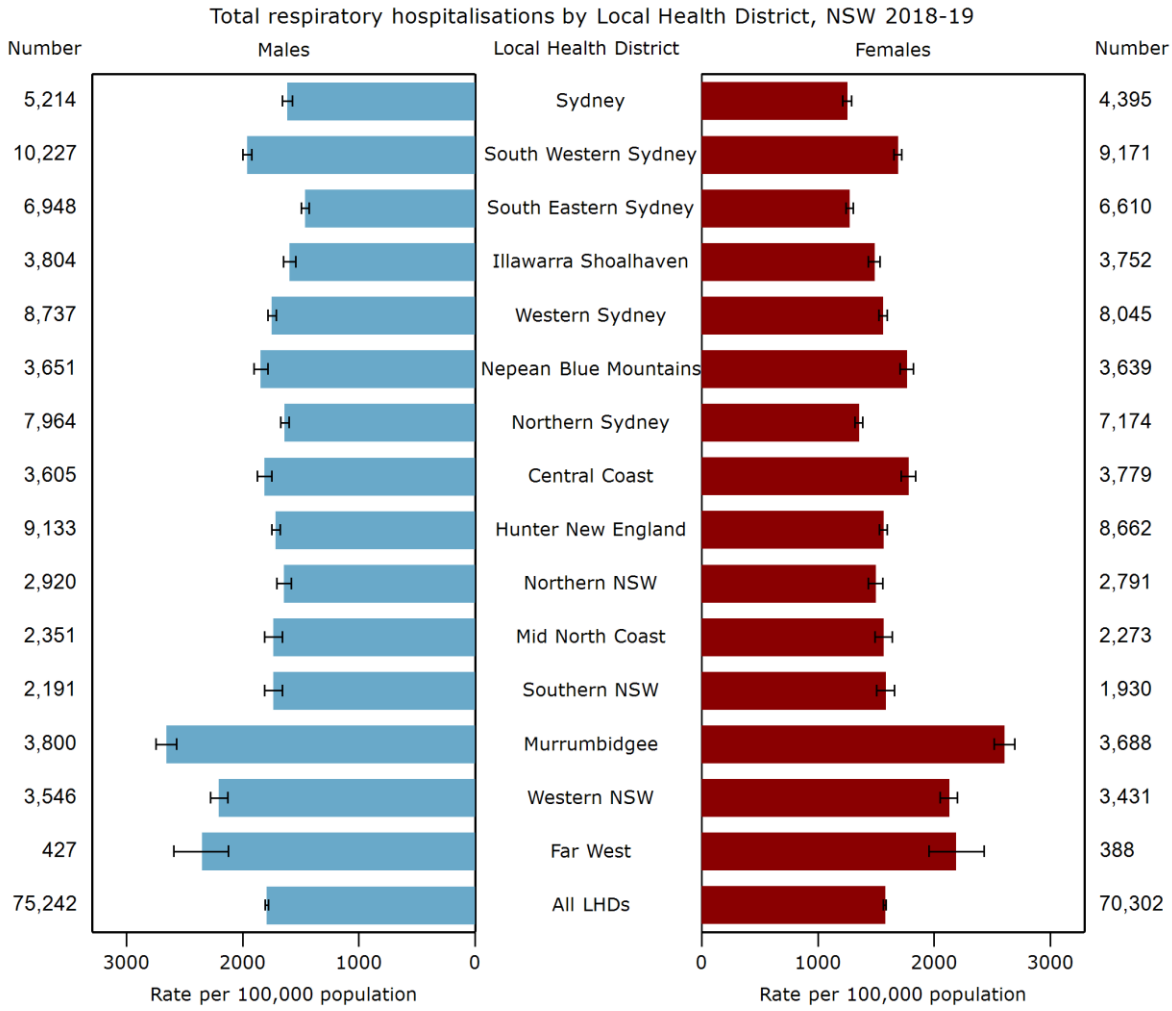
Figure 5.20 Asthma hospitalisations for persons of all ages Mid-Western Regional LGA (2017-2019)



Source: NSW Health Stats, 2019

With a total of 6 977 hospitalisations for respiratory diseases in 2018-19, the Western NSW LHD has the second highest rate of respiratory disease across NSW, with a rate of 2 157.5 per 100,000 population (refer to **Figure 5.21**). Western NSW LHD is second only to Far West LHD, where rates of respiratory disease hospitalisations are 2254.7 per 100,000. The NSW average is 1675.2 per 100,000 (Healthstats NSW, 2020).

Figure 5.21 Total respiratory hospitalisations by LHD (2018/2019)



Source: HealthStats NSW (2020), http://www.healthstats.nsw.gov.au/

Additional information on available health infrastructure and services is provided in the Physical Capital section at Section 5.11.

5.8.4 Human Capital Summary

In summary, the Mid-Western Regional LGA and the study communities have higher median ages than the State average. These populations are projected to age, with a large proportion entering a 'retiree' age bracket (NSW Government Planning & Environment, 2016). Population numbers for younger age groups, in particular working age groups, are also expected to decline by 2036. These trends are expected to create strain on the LGA and its services. The Manidis Roberts (2012) report's predicted high population increases that have not been realised, with a slow increase in population experienced from 2011 to present.

Levels of educational attainment are low, and generally below State averages, with only 39% of people in the LGA having completed year 12 or equivalent. Levels of post-secondary equivalent education in the study communities are also low, compared with the NSW average. Post-secondary equivalent levels of education range from 28% to 43% of the community in Kandos and Mudgee respectively, compared with 49% across NSW.

Engineering and related technologies are the most popular field of tertiary study in almost all the study communities. Management and commerce were the most popular in Lue, closely followed by engineering and related technologies.

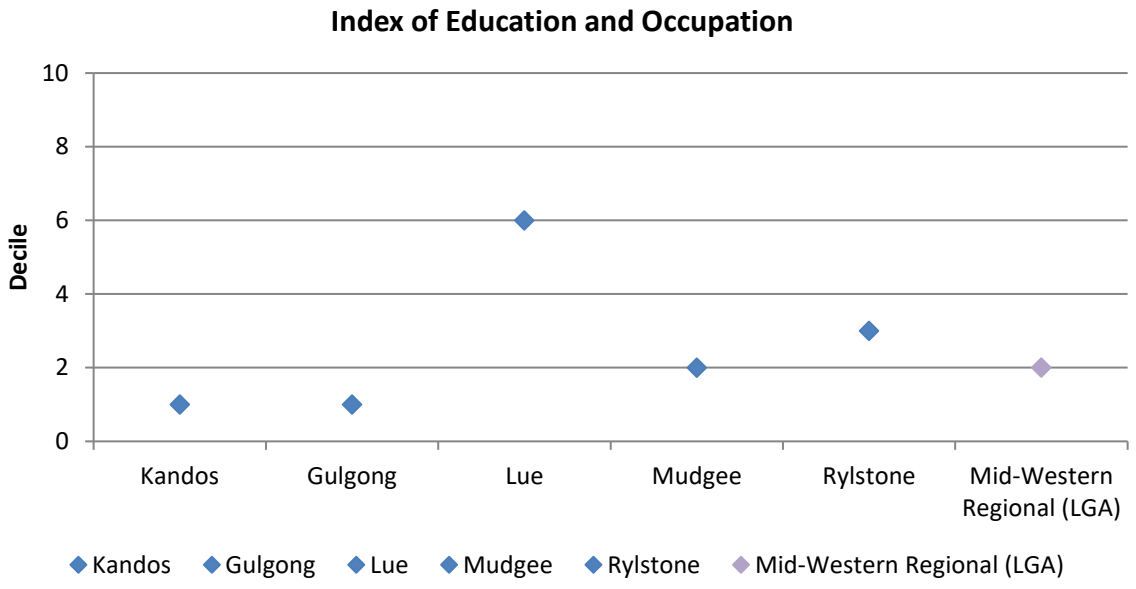
Rates of respiratory disease hospitalisations in the Mid-Western Regional LGA are among the highest of all the Local Health Districts in NSW. This is predominantly due to high rates of pneumonia and influenza, and 'remaining respiratory diseases[33]'. However, the average rates of cancer across all cancer types are very low compared to Country NSW and substantially lower than overall rates across the state.

Rates of obesity, excessive consumption of alcohol and smoking during pregnancy in the Mid-Western Regional LGA are all higher than the State average, with obesity being a primary concern for Council.

The SEIFA Index of Education and Occupation (IEO), prepared by the ABS, reflects the general level of education and occupation-related skills of people within an area, with a value of one indicating low levels of skills, and a value of ten indicating high levels of skills. The LGA falls in the second decile compared with other LGAs within NSW, indicating an overall low level of Educational and Occupational advantage across the LGA.

A comparison of the IEO SEIFA Index for each of the study communities indicates that Lue has a relatively high education and occupation status compared to other state suburbs in NSW (refer to **Figure 5.22**). Kandos and Gulgong have particularly low status, falling within the lowest index decile, while Rylstone is slightly higher (but still well below average) in the third decile. The Index score for the larger population centre of Mudgee is consistent with the low levels observed in the surrounding communities, with the Mudgee SSC falling in the second decile.

Figure 5.22 Index of Education and Occupation (IEO)



Source: ABS, SEIFA Indexes (2016)

[33] The 'remaining respiratory diseases' category includes respiratory diseases such as asbestosis, silicosis, pleural diseases, abscesses, pulmonary oedema and others (Healthstats NSW, 2018)

This result could be skewed by the small populations in these communities, particularly Lue. Within small communities, each person greatly impacts the SEIFA score, making it more difficult to undertake comparisons against larger population centres like Mudgee. However, where communities are considered too small or have too little data for accurate comparisons, the ABS do not report SEIFA Index values, indicating that the smaller communities of Lue, Kandos, Gulgong and Rylstone sit above the minimum population threshold of validity.

5.9 SOCIAL CAPITAL

Social capital refers to community cohesion and the strength of relationships within a community. Various indicators are used to examine social capital, including the level of volunteering, population mobility, crime rates and the cultural composition of the community (percentage of people born overseas, language spoken at home). The influx of visitors to an area and the extent of a transient workforce population can also contribute to varying levels of social capital and resilience within a community.

Table 5.15 provides a summary of the key social capital indicators for the study communities relevant to the Project and compared with the State of NSW, with further discussion regarding these indicators is provided in the subsequent sections.

Table 5.15
Summary of Key Social Capital Indicators for Study Communities (2016)

Indicator	Kandos	Gulgong	Lue	Mudgee	Rylstone	Mid-Western Regional	NSW
Married (%)	36	45	55	45	45	48	49
Families with children (%)	31	40	37	43	30	41	46
Families with no children (%)	47	40	49	37	49	42	37
Single parent family (%)	21	18	14	18	18	16	16
Group households (%)	3	2	0	3	4	3	4
Single (or Lone) person households (%)	42	31	28	29	31	29	24
Proportion living at a different address 1 year ago (population mobility) (%)	12	13	9	17	14	14	14
Proportion living at a different address 5 years ago (population mobility) (%)	28	34	20	45	33	37	39
Volunteered through an organisation or group (last 12 months) (%)	21	21	20	20	25	22	18
Proportion of the population over 65 receiving a pension (%)	-	-	-	-	-	66.1	63.2
Poor proficiency in English (%)	-	-	-	-	-	0.3	3.8
Source: ABS Census (2016) – Community Profiles, PHIDU (2020)							

Table 5.16 shows the key social capital indicators for the additional communities surrounding Lue and the proposed pipeline route. Proportions, medians and averages for all community's except for Cooks Gap and Budgee Budgee are impacted by random adjustments to Census data and should be interpreted as indicative only.

Table 5.16
Summary of Key Social Capital Indicators for Additional Lue and Pipeline Communities

Indicator	Monivae	Pyangle	Bara	Havilah	Hayes Gap	Budgee Budgee	Cross Roads	Stony Creek	Linburn	Moolarben	Cooks Gap	Ulan
Married (%)	63	40	70	73	50	63	76	56	58	76	48	33
Single (or Lone) person households (%)	0	0	46	0	60	16	0	14	13	0	22	21
Proportion living at a different address 1 year ago (population mobility) (%)	0	0	72	18	0	21	18	8	5	0	9	5
Proportion living at a different address 5 years ago (population mobility) (%)	44	63	72	45	0	38	0	40	30	0	33	53
Volunteered through an organisation or group (last 12 months) (%)	50	0	40	45	30	28	35	34	27	18	16	15
Source: ABS Census (2016) – Community Profiles, Quickstats												

5.9.1 Mobility and Community Networks

The levels of mobility across the study communities of Gulgong and Rylstone and the Mid-Western Regional LGA are similar to the State average. Lue, followed by Kandos, has the lowest mobility of all communities – with 20% and 28% respectively having lived at a different address five years ago. The additional communities of Cooks Gap and Budgee Budgee also align closely with mobility levels across the LGA and NSW more broadly (33% and 37% respectively).

Mudgee has much higher rates of mobility with 45% of people reporting to have lived at a different address five years ago. This may be due to a number of factors, including migration of students and workers to the area to study at TAFE or seek work in the mining industry. Given that many of the mines in the area around Mudgee are isolated from other major centres, workers employed on a Drive in / Drive out basis would likely need to reside in Mudgee or the surrounding communities in order to satisfy the workplace safety requirements of the mines. This could potentially result in an increase in the migration rate and result in more people moving into the area (Roberts, 2012).

Levels of participation in volunteering activities are higher for all study communities, and the LGA, compared with the NSW average. The highest proportion of volunteering was in Rylstone with 25% of those aged 15 years and over having spent time doing voluntary work through an organisation or group over the preceding 12 months.

Despite high levels of volunteering, volunteer services interviewed during the SIA process indicated that there were some difficulties in sourcing volunteers in emergency situations, due to a high number of volunteers working shifts in the mining industry. One service provider stated 'sometimes during work hours there aren't many people available. We haven't had a situation where we couldn't get to an emergency, but sometimes it feels like that could be down to luck.' This mirrors impacts raised in the Manidis Roberts (2012) report, which found that volunteer availability due to shift work was a key vulnerability for the Fire and Emergency response sector. Interestingly, volunteering in Budgee Budgee appears to be higher than in the study communities (28%), while levels in Cooks Gap (16%) appear to be lower than the state average (18%).

Cultural diversity is low in Lue, with only 10% of residents born overseas, lower than the State average of approximately 30%. The top countries of birth after Australia include England and New Zealand. In addition, only 0.3% of residents in the Mid-Western Regional LGA had poor proficiency in English and were born overseas, much lower than the State average of 3.8% (ABS 2016).

Engagement undertaken for the SIA also attested to the strength of social capital in Lue. Residents were asked to describe Lue, including the aspects of Lue they felt were the most important. Responses included the peace, tranquillity and privacy of the area, with community cohesion and support also noted as highly valued aspects:

> *We like the farming community and the support they can give.*
>
> *We pull together when we need to. We can call anyone if we need a chat or help.*
>
> *It's a friendly place if you are willing to go out of your way and participate. There's a community feel where we barter with others (e.g. with sheep).*
>
> *We enjoy the tranquillity and privacy of Lue. It's a good community and it's good knowing everyone.*
>
> *A good community where everyone pitches in to help people. Although we're close, I also enjoy that we mind our own business.*
>
> *People look after the town.*
>
> *If push comes to shove you can rely on people here.*

Residents also noted that the Lue Public School and the Lue Pub were both a place for people to come together and meet or host activities.

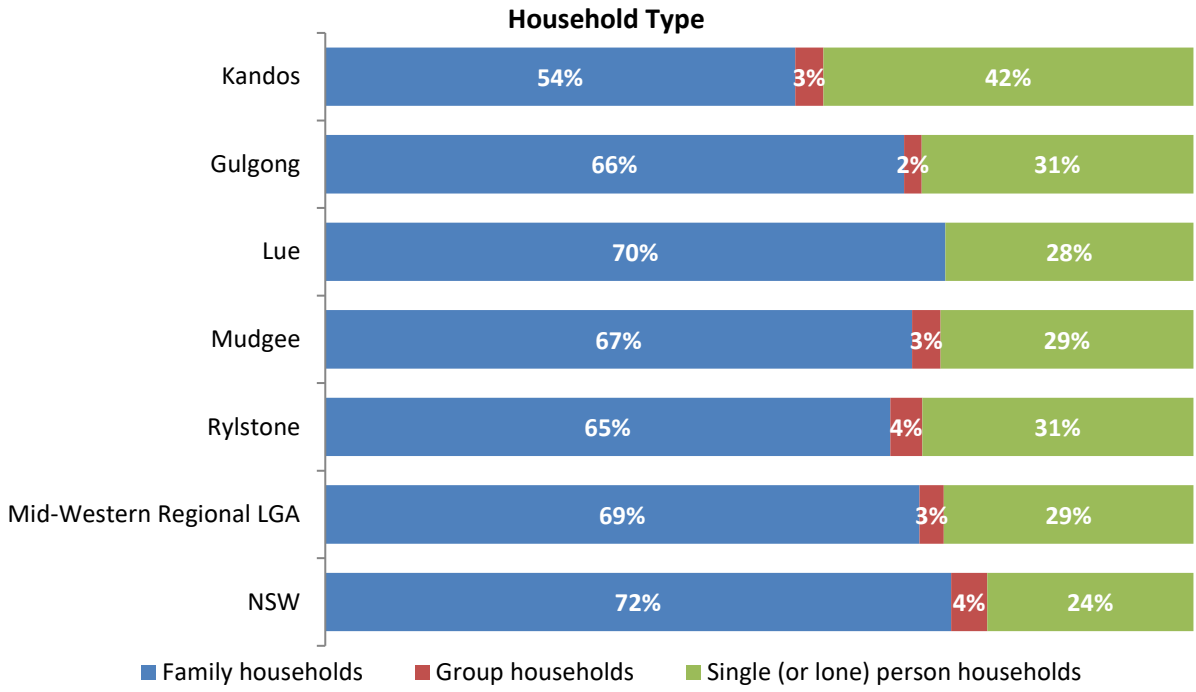
> *The pub brings people together, darts on the Friday nights*
>
> *Lue School is really good and the parents do a lot down there.*

Given its agricultural history, residents in the area associate with farming, and despite the presence of mining within the broader LGA, this connection to the agricultural sector remains strong. As is noted in the economic capital section (refer to Section 5.10), a relatively high proportion of people are employed in the census industry category of "agriculture, forestry and fishing" in Lue (16%) and Rylstone (11.2%) compared with the State average of 2.1%. This sector is the chief employer in Lue, followed by accommodation and food services (12.3%).

5.9.2 Family and Household Composition

A breakdown of the different household types for each study community (**Figure 5.23**) shows that there are fewer family households and more single (or lone) person households[34] within each of the study communities compared with the NSW average. Kandos has a considerably smaller proportion of family households followed by Rylstone and Gulgong. This was coupled with higher proportions of single (or lone) person households primarily made up of elderly singles in Kandos and Rylstone, in conjunction with older independents in Gulgong (ABS, 2016; realestate.com, 2019).

Figure 5.23 Household Type



Source: ABS Census (2016) – Community Profiles

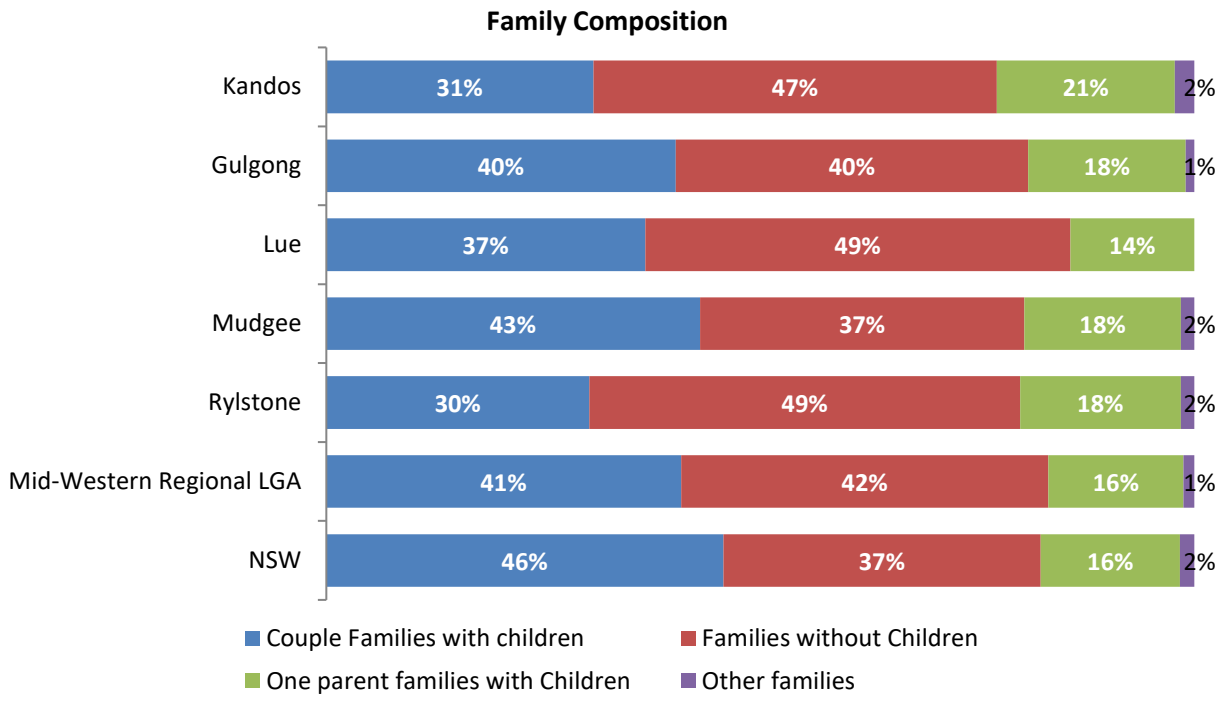
Most family households within the study communities are families without children, aside from Mudgee, which has a higher proportion of couple families with children consistent with NSW proportions.

Rylstone and Lue have the greatest proportion of families with no children (both 49%). As has been noted in Section 5.8.2.1, this may be due to the more limited availability and opportunities for education in the area.

Kandos also has the highest proportion of single parent families with children across all the study communities (refer to **Figure 5.24**).

[34] Lone person household is an ABS household categorisation which refers to properties where a single person has identified the location as their place of residence, and has explicitly identified themselves as the sole occupant. It is important to note that 'lone person households' is distinct from single (i.e. not romantically attached) – a lone person household resident may have a partner or be married but living apart.

Figure 5.24 Family Composition



Source: ABS Census (2016) – Community Profiles

5.9.3 Justice and Crime

Crime rates can also be an indicator of the strength of social capital present in a community. Data collected and reported by the Bureau of Crime Statistics and Research ranks the 120 LGAs of NSW according to crime rates per 100,000 of population, affording comparison across LGAs for different categories of crime. **Table 5.17** indicates the rankings from 2013 to December 2019 for the Mid-Western Regional LGA. A ranking of 120 is the highest crime rank possible. The closer the rank value is to 1, the more incidents of crime and the higher the rates per 100,000 people.

The most recently available NSW crime statistics, as reported by the Bureau of Crime Statistics and Research (BOCSAR), suggest the following:

- In 2017, the Mid-Western Regional LGA had higher rates of crime incidents for prohibited weapons offences, arson, liquor offences, sexual offences and drug offences relating to cannabis, as indicated by low rankings in comparison to other LGAs across the state. Notably, rankings for prohibited weapons and liquor offences have been consistently low since 2013.
- As of 2018, crime rates improved, as demonstrated by increases in the rankings across most crime incidents. Specifically, the LGA rankings have increased substantially for break and enter offences (dwellings and non-dwellings), sexual offences, steal from a motor vehicle, liquor offences, and arson, indicating a reduction of incidents in comparison to other LGAs across the state.

Table 5.17
Crime Rankings

Mid-Western Regional LGA Crimes and Crime Rankings	2013	2014	2015	2016	2017	2018	2019	Change 2018-19
	Rank	Rank	Rank	Rank	Rank	Rank	Rank	↑↓
Assault - Domestic Violence	63	39	40	40	53	43	24	↓
highest rank	120	120	119	119	119	119	119	
Assault - Non-Domestic violence	30	28	25	32	44	44	34	↓
highest rank	120	120	119	119	119	119	119	
Break and Enter Dwelling	80	55	51	65	42	89	55	↓
highest rank	120	120	119	119	119	119	119	
Sexual Offences	20	44	40	37	30	64	27	↓
highest rank	120	120	119	119	119	119	119	
Break and Enter Non-Dwelling	63	91	56	70	88	106	77	↓
highest rank	120	120	119	119	119	119	119	
Steal from a Motor Vehicle	74	36	77	69	45	75	92	↑
highest rank	120	119	119	119	119	119	119	
Steal from a Retail Store	57	54	80	78	83	60	81	↑
highest rank	117	118	116	116	117	116	119	
Steal from a Dwelling	41	20	34	33	40	44	67	↑
highest rank	120	120	119	119	119	119	119	
Liquor Offenses	29	37	10	52	22	48	26	↓
highest rank	120	120	119	118	118	117	119	
Malicious damage to property	32	26	29	51	43	22	39	↑
highest rank	120	120	119	119	119	119	119	
Motor vehicle theft	65	70	72	90	77	79	71	↓
highest rank	120	119	118	118	119	119	119	
Drug offences - cannabis	30	39	61	26	33	28	28	-
highest rank	118	120	119	119	119	119	119	
Arson	69	34	27	93	17	31	25	↓
highest rank	119	119	119	117	118	115	118	
Prohibited weapons offences	28	24	29	31	13	13	24	↑
highest rank	120	120	119	119	119	119	119	

Note: BOCSAR rates NSW LGAs with a population greater than 3000. A ranking of 120 is the lowest crime rank possible and indicates an LGA has the lowest rate of crime for that category, while a ranking of 1 indicates the LGA has the highest rate of crime for that category.

Source: NSW Bureau of Crime Statistics and Research (Dec 2019)

- However, in 2019 the Mid-Western Regional LGA fell in the rankings for both domestic and non-domestic assaults, break and enters, sexual offences, liquor offences and arson reflecting increases in incident rates, or a continuation of low rankings.
- Particularly large changes to rankings between 2018 and 2019 were seen for domestic violence assaults, liquor offences, sexual offences and break and enters.
- The lowest crime ranking (reflecting the highest level of crime) for the LGA in 2019 is domestic violence assaults and prohibited weapons offences, representing the 24th highest levels of this crime compared to all other LGAs across the state. Other low ranks (high crime levels) in 2019 included arson (25), liquor offences (26), sexual offences (27) and non-domestic violence assaults (34).

The Mid-Western Regional Council has outlined in their Regional Community Plan for 2030 that they are aiming to work with key partners and the community to reduce crime and anti-social behaviour and improve community safety.

Overall, the crime rank data from 2013 to 2019 indicates that crime levels in the Mid-Western Regional LGA have fluctuated, with improvements in seen in 2018 for a number of offence types, followed by a surge in incidences in 2019. The LGA has had some notable reductions in stealing from motor vehicles, dwellings and retail stores, malicious damage to property and arson over the last year. Prohibited weapons offences, domestic and non-domestic violence assaults, liquor offences, sexual offences and arson are presently a strong issue for the LGA, while levels of Arson, pose a significant risk to the community given the current drought conditions (refer to Section 5.7).

5.9.4 Sense of Community – Visioning Workshop with Lue Public School

To obtain the perspectives and values of the younger cohorts within the community, and what is valued by students, a workshop was held with six students of the Lue Public School.

Specifically, the aim of the workshop was to:

- identify places of importance to students in Lue
- provide a snapshot of life in Lue (and surrounds) as evidenced through after school and recreational activities
- obtain student perceptions of the school, including future needs
- discuss what Lue might look like in the future.

The workshop was designed to be as interactive as possible, with students invited to use a variety of mechanisms and materials to convey their ideas, including play dough, drawings, and collages.

5.9.4.1 Places of Importance

Students were first shown a map of Lue, with a number of landmarks identified on the map (the school, the Lue hotel, the railway line etc) and asked to indicate areas of importance or value (refer to **Figure 5.25**).

Figure 5.25 Lue Places of Importance

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Places of significance to students included:

- The Lue Hall that is used by the school for various events including the annual Christmas concert and school discos: *'We practise singing and dancing there.'*
- The Louee Enduro and Motocross Complex - several students own their own motorbikes and regularly visit the track.
- Lue Hotel, which was identified as a venue used by parents and family members to socialise: *'Mum takes Grandpa to the Lue Hotel for food and a beer.'*
- The Railway station / line – a 'hangout' spot for some of the students.

5.9.4.2 Life in Lue and Surrounds

Students were asked to discuss some of the activities that they are involved with outside of school hours in their respective homes and towns. Some of the responses included:

- The Louee motorbike track;
- Visiting a local café (Kandos);
- Using the Kandos pool, including for swimming lessons;
- Bike riding – especially on 'home-made' and established bike tracks; and
- Playing on trampoline at home.

Students were asked how living / going to school in Lue was different to a big city, with references made to the rural lifestyle and environment, having lots of space and an ability to spend a greater amount of time outside, less traffic and quieter.

> *There are lots of trees, and it feels like the country.*
>
> *I have a big backyard; you wouldn't have that in the city.*
>
> *There's not much noise.*
>
> *You drive through some places in the city and there are houses all joined together.*

Students were also asked what they liked about attending the Lue Public School. Some of the responses obtained included:

- Recreational facilities like the pool, bike track, and tennis court;
- A vegetable garden;
- Chickens that lay eggs, which are then used for cooking; and
- The Lue oval for sports and cross-country practice.

The students were especially proud of the 'friendly people' with one student noting that there are 'no bullies' and the fact that 'every child has a computer'.

As identified above, the children valued the vegetable garden and cooking activities undertaken at the school. As a part of the sustainability program, the children harvest the produce they grow and use it to cook healthy dishes to share with students. In 2015, the Parents and Citizens Association (P&C) of the Lue Public School funded a new kitchen and storeroom to allow for the implementation of the 'Stephanie Alexander Kitchen Garden Program' on a weekly basis (Lue Public School, 2015). In conjunction with the development of the new kitchen and storeroom, a revamp of the existing community garden was also funded.

The students were asked to use play dough to create something that they would like to see at the Lue Public School in the future (refer to **Figure 5.26**). Some of their ideas included:

- A flower/fairy garden;
- A zip line;
- Rock climbing wall;
- Rock pool;
- Trampoline;
- Basketball hoop; and
- Pizza oven.

Figure 5.26 What students would like to see at the Lue Public School

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5.9.4.3 LUE OF THE FUTURE

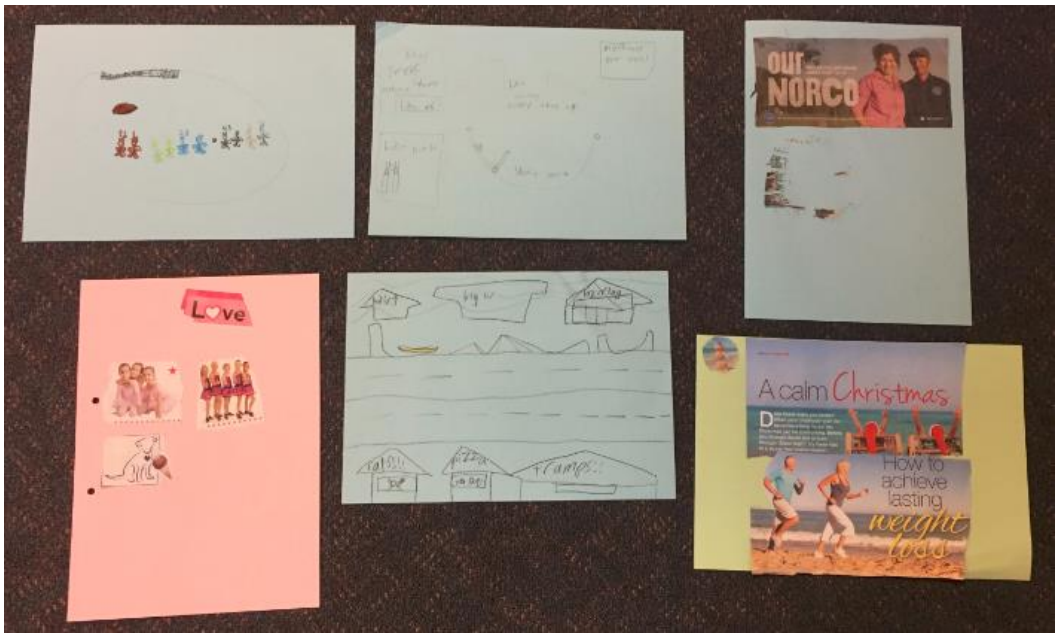
A slideshow was presented to students showing how communities change over time (refer to **Figure 5.27**). Following the presentation, students were asked to create collages of what they would like to see in Lue in the future (refer to **Figure 5.28**). Some of the collages identified:

- Additional shops e.g. a pet store, bike shop, pizza shop
- Places to do different activities e.g. a dancing/ballerina studio;
- Other entertainment areas e.g. laser tag, trampoline park;
- Football field;
- A beach;
- Bike jumps; and
- Farms for fresh food and milk.

Figure 5.27 Communities then and now presentation

© Umwelt, 2017

Figure 5.28 What students would like to see in Lue



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5.9.5 Social Capital Summary

The levels of mobility amongst the study communities of Gulgong and Rylstone are similar to the State average. In contrast, the township of Mudgee has much higher rates of mobility, potentially a consequence of having the only tertiary education facility in the LGA and a high

proportion of people employed in the mining sector. The townships of Lue and Kandos, however, have the lowest mobility of all communities. All study communities had high proportions of the population involved in volunteering, compared with the NSW average.

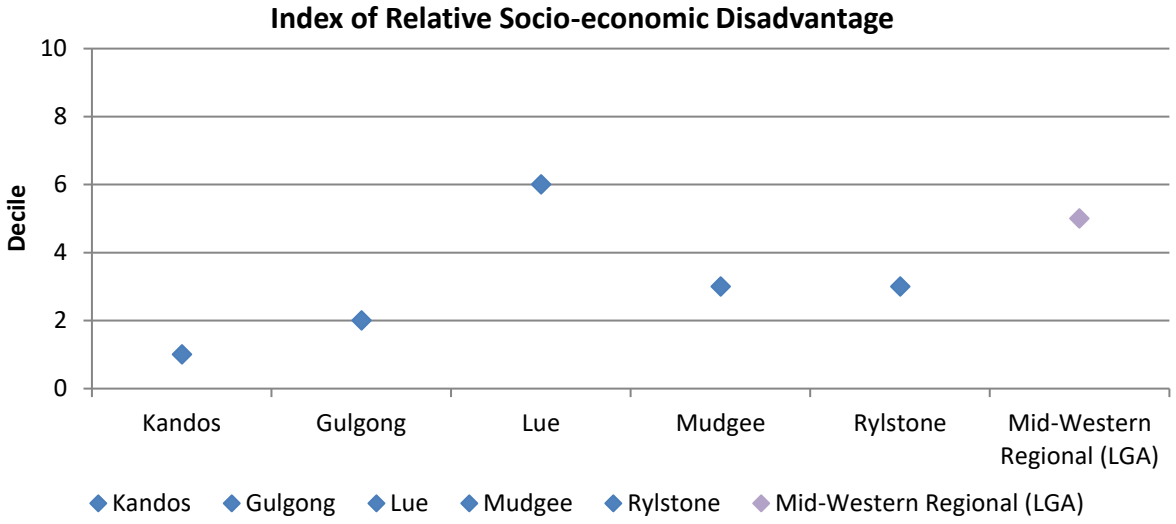
Across the LGA, social capital can be described as follows.

- There is a higher proportion of people aged 65 years and over who are receiving a pension (66.1%), compared with the NSW average (63.2%)
- Cultural diversity is lower in Lue compared with NSW with the proportion of residents born overseas being 10%, lower than the State average of 30%. The top countries of birth, after Australia, were England and New Zealand.
- In addition, for the LGA, 0.3% of residents had poor proficiency in English and were born overseas, much lower than the State average of 3.8%.
- Rates of volunteering remain high; however, some services hold concerns around availability of volunteers, many of whom are employed in shift work in the mining industry (see Manidis Roberts, 2012). This is particularly true for emergency services, who often require volunteers to respond at short notice.
- Many households within the study communities are families without children, except for Mudgee which has a higher proportion of couple families with children, consistent with NSW rates.
- Levels of crime in the LGA are relatively high compared with other LGAs in NSW, as indicated by the high ranks for a range of offences particularly domestic violence assaults, prohibited weapons offences, arson and liquor offences.
- Crime data rates from 2013 to 2019 indicates that crime levels in the Mid-Western Regional LGA have fluctuated, with improvements in seen in 2018 for a number of offence types, followed by a surge in incidences in 2019. The LGA has had some notable reductions in stealing from motor vehicles, dwellings and retail stores, malicious damage to property and arson over the last year. (BOCSAR, 2019).

Figure 5.29 provides the overall socio-economic status and level of disadvantage within each of the study communities, as determined by the Index of Relative Socio-economic Disadvantage (IRSD) - a SEIFA score prepared by the ABS which ranks areas in Australia and States or territories according to relative socio-economic disadvantage. A low score indicates a greater degree of disadvantage, with the lowest 10% of areas receiving a decile of one, and the highest, a decile of ten. It should be noted that no comparison can be made between LGAs and State suburbs on ranking, as rankings are only comparative within each geographic classification. Based on this index, the data indicate that:

- Compared with other LGAs within NSW, the Mid-Western Regional LGA exhibits an average level of socio-economic disadvantage, falling within the 5th decile.
- All of the study communities are more disadvantaged than Lue, which ranks in the 6th decile, compared with the other SSC's within the Mid-Western Regional LGA.
- Of the study communities, Kandos is the most disadvantaged ranking within the 1st decile, followed by Gulgong in the 2nd.

Figure 5.29 Index of Relative Socio-Disadvantage (IRSD)



Source: ABS, SEIFA Indexes 2016

Furthermore, the Lue Public School is a central building and place within Lue which holds social value to Lue residents and the children that attend from both Lue and surrounding communities. Schools serve as a meeting place for students and parents and are often considered 'hubs' of local communities. While school numbers have fluctuated over the years, there is a desire for the school to continue to grow and attract further students from the locality and more regionally.

5.10 ECONOMIC CAPITAL

Economic Capital is defined as the extent of financial or economic resources within a town or community. Examining a community's economic capital involves consideration of a number of indicators, including industries of employment, workforce participation and unemployment, income levels and cost of living pressures, such as weekly rent or mortgage repayments.

Table 5.18 provides a summary of the key economic capital indicators for the relevant communities with further discussion of these indicators provided in the subsequent sections.

Table 5.19 provides the key economic indicators for the additional Lue and Pipeline related communities where available. Medians and proportions may be impacted by random adjustments in low population areas, particularly in the smallest communities of Pyangle, Hayes Gap, Cross Roads, and Moolarben (population 14-19); and the small communities of Monivae, Bara, and Havilah (population 20-33).

Table 5.18
Summary of Key Economic Capital Indicators for Study Communities

Indicator	Kandos	Gulgong	Lue	Mudgee	Rylstone	Mid-Western Regional	NSW
Median total personal income ($/ weekly)	420	523	504	623	474	547	664
Median total household income ($/ weekly)	698	1 086	825	1 256	856	1 131	1 486
Median mortgage repayment ($/monthly)	867	1 517	1 322	1 733	1 495	1 690	1 986
Median rent ($/weekly)	190	250	250	300	220	270	380
Labour force participation (15-85 years) (%)	33.0	52.4	51.9	57.9	45.9	54.1	59.2
Unemployment (%)	16.5	8.6	5.0	5.8	8.4	6.5	6.3
Financial stress from mortgage or rent[35] (2016) (%)	-	-	-	-	-	22.4	29.3
Employment in mining (%)	8.9	19.6	3.7	16.9	11.2	15.0	0.9
Source: ABS Census (2016) – Community Profiles, PHIDU (2020)							

Table 5.19
Summary of Key Economic Capital Indicators for Additional Lue and Pipeline Communities

Indicator	Monivae	Pyangle	Bara	Havilah	Hayes Gap	Budgee Budgee	Cross Roads	Stony Creek	Linburn	Moolarben	Cooks Gap	Ulan
Median total personal income ($/ weekly)	784	887	379	824	725	568	900	687	486	389	491	462
Median total household income ($/ weekly)	1 625	1 812	1 687	2 250	1 562	1 062	2 583	1 096	1 375	1 625	1 812	1 687
Median mortgage repayment ($/monthly)	-	-	-	-	-	1950	-	2295	1813	-	1600	-
Median rent ($/weekly)	-	-	-	250	-	280	-	-	230	-	240	210
Labour force participation (15-85 years) (%)	58.3	20.0	35.0	86.4	40.0	63.9	76.5	80.5	71.1	64.7	49.1	43.6
Unemployment (%)	-	-	-	-	-	3.2	-	-	-	-	4.3	-
Employment in mining (%)	-	-	-	-	-	18.6	-	9.4	20.0	50.0	19.3	42.9
Source: ABS Census (2016) – Community Profiles, Quickstats												

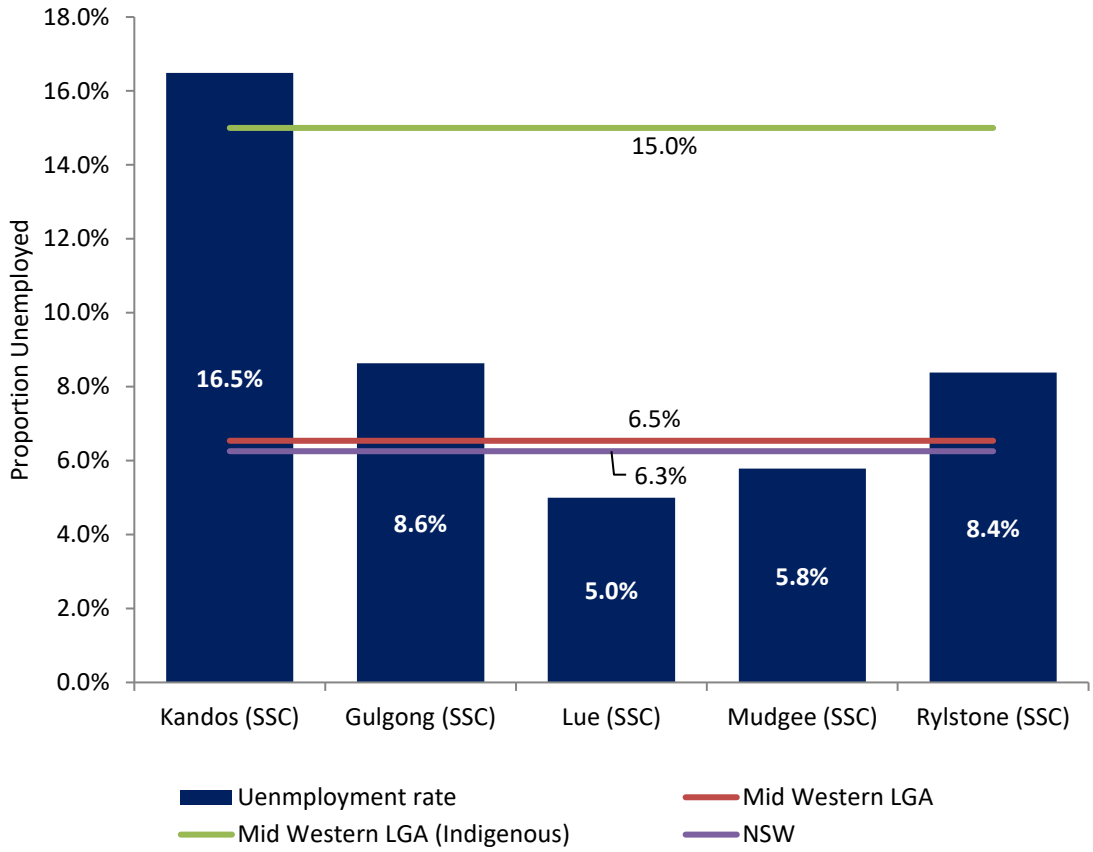
[35] Low income households (households in bottom 40% of income distribution) under financial stress from mortgage or rent

5.10.1 Industry and Employment

5.10.1.1 Employment and Labour Participation

The average rate of unemployment in the LGA (6.5%) is similar to the State average (6.3%), although there are some distinct differences in each of the townships within the LGA (**Figure 5.30**). The most notable is the rate of unemployment in Kandos (16.5%) which is 10% higher than the unemployment rate in the LGA and the State. Lue has the lowest unemployment rate in the LGA (5.0%), followed by Mudgee (5.8%) – both below the State average. Both Rylstone and Gulgong have unemployment rates around 2% above the unemployment rates for the LGA and NSW at 8.4% and 8.6% respectively.

Figure 5.30 Proportion of Population Unemployed (2016)

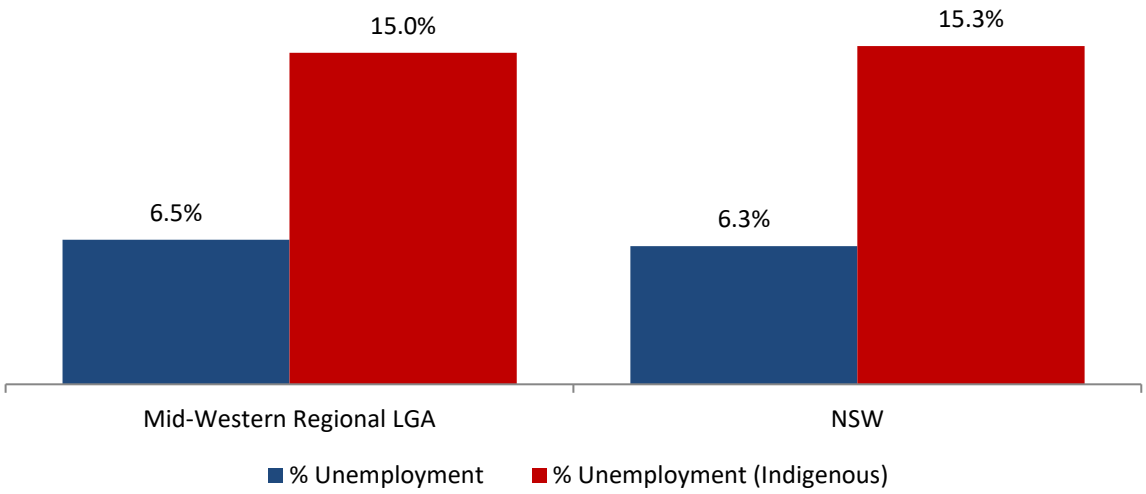


Source: ABS Census (2016) – Community Profiles

This was supported by data collected during engagement for the SIA, with regional community members and Bowdens Silver employees suggesting that the LGA was in need of employment opportunities, particularly for young people.

Like many areas in Australia, the rate of unemployment amongst the Indigenous residents of the Mid-Western Regional LGA is significantly higher than that of the general population (**Figure 5.31**). Whilst the rate in the LGA was 6.5%, unemployment amongst the Indigenous population totalled 15.0%, with few programs in the LGA to address this issue.

Figure 5.31 Proportion of Population Unemployed – Indigenous vs Non-Indigenous (2016)



Source: ABS Census (2016) – Community Profiles

In all communities, apart from Kandos, there was at least a slight increase in the unemployment rate between the 2011 and 2016 Census periods. However, there was a significant jump in the unemployment rate in Kandos between the 2006 and 2011 Census periods (from 12.1% to 17.0%) and the rate between 2011 and 2016 has remained high (16.5%) (**Table 5.20**).

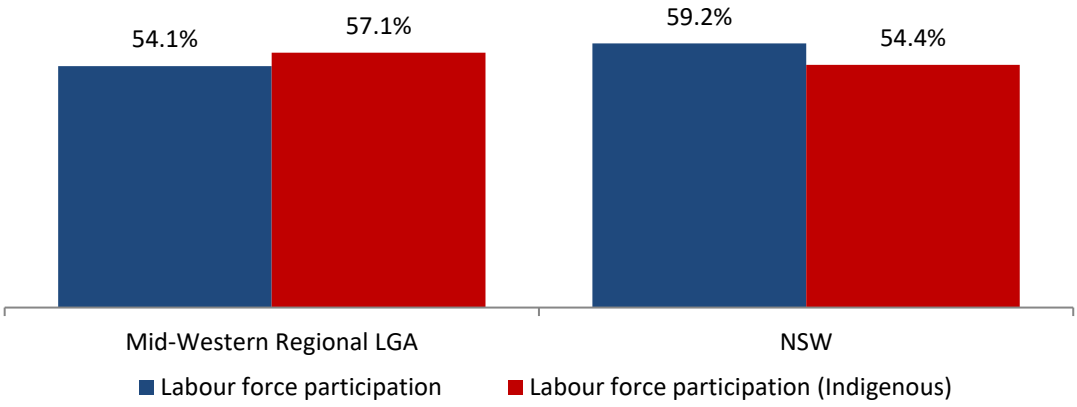
Table 5.20
Rate of Unemployment

Location	2006	2011	2016	Change 2011 - 16
Kandos (SSC) (%)	12.1	17.0	16.5	↓
Gulgong (SSC) (%)	7.4	6.5	8.6	↑
Lue (SSC) (%)	3.0	1.7	5.0	↑
Mudgee (SSC) (%)	7.2	5.3	5.8	↑
Rylstone (SSC) (%)	7.0	6.1	8.4	↑
Mid-Western Regional LGA (%)	7.3	5.7	6.5	↑
NSW (%)	5.9	5.9	6.3	↑
Source: ABS (2006, 2011 and 2016)				

One of the biggest changes between 2011 and 2016 occurred in Lue, where unemployment jumped from 1.7% to 5.0%. There was a 2.3% change in Rylstone where it increased to 8.4% in 2016 from 6.1% in 2011 and a 2.1 % increase in Gulgong (8.6% in 2016 from 6.5% in 2011). The increase in Mudgee was relatively small, moving from 5.3% in 2011 to 5.8% in 2016. However, it should be noted that changes in SSC boundaries may impact on this data.

The labour force participation rate (i.e. the number of people who are either employed or are actively looking for work) in the general population was slightly below the State average whilst the participation rate amongst the Indigenous population was slightly above the State average (refer to **Figure 5.32** below).

Figure 5.32 Labour Force Participation – Indigenous vs Non-Indigenous (2016)

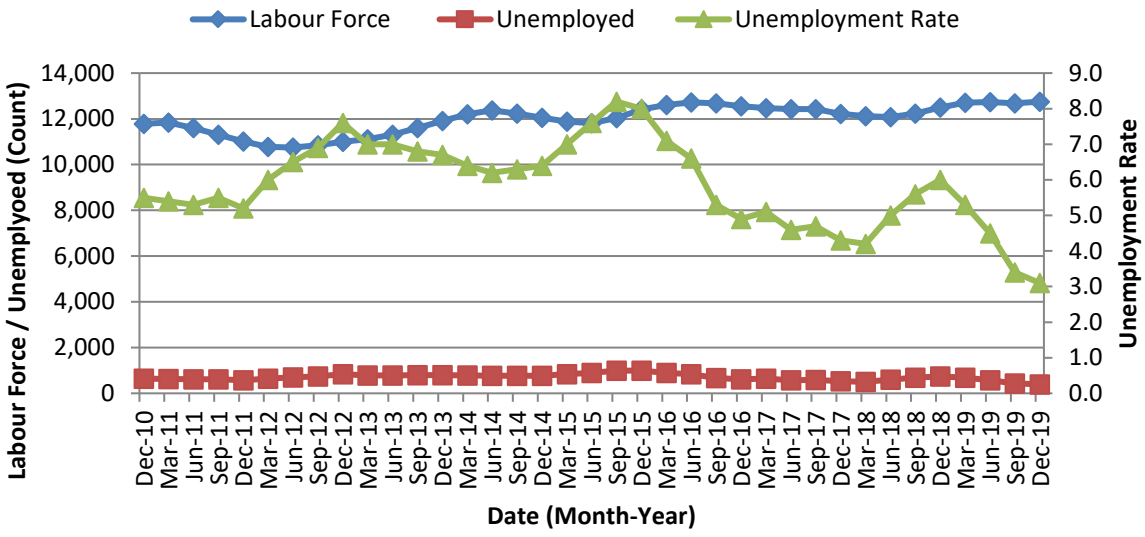


Source: ABS Census (2016) – Community Profiles

In the Mid-Western Regional LGA there has been considerable variation in the unemployment rate since 2010, with a rate of 5.5% in 2011 marking the beginning of a sharp spike in unemployment rates in the area (refer to **Figure 5.32**). Rates peaked twice, initially rising to 7.6% in December 2012 before falling back to 6.3% in June 2014, thereafter, rising sharply to a maximum of 8.4% in September of 2015. Since September 2015, unemployment rates have fallen dramatically, reaching a low of 4.3% in March of 2018. However, unemployment began to rise once again, with an increase from March 2018 peaking at 6.0% in December 2018, decreasing back down to 5.4% in March 2019.

The unemployment rate (green line) coupled with work force participation (blue line) and unemployment numbers (brown line) in **Figure 5.33** show that the sharp unemployment rate increase occurred at the same time as a decrease in the labour force, and an increase in the numbers of unemployed persons. From March 2018 to December 2018 there was an increase evident in both labour force participation and unemployed persons, indicating that there may be an increasing number of working age persons seeking employment in the LGA. However since, December 2018, unemployment rates have decreased to 3.1% in December 2019, with labour force participation remaining stable.

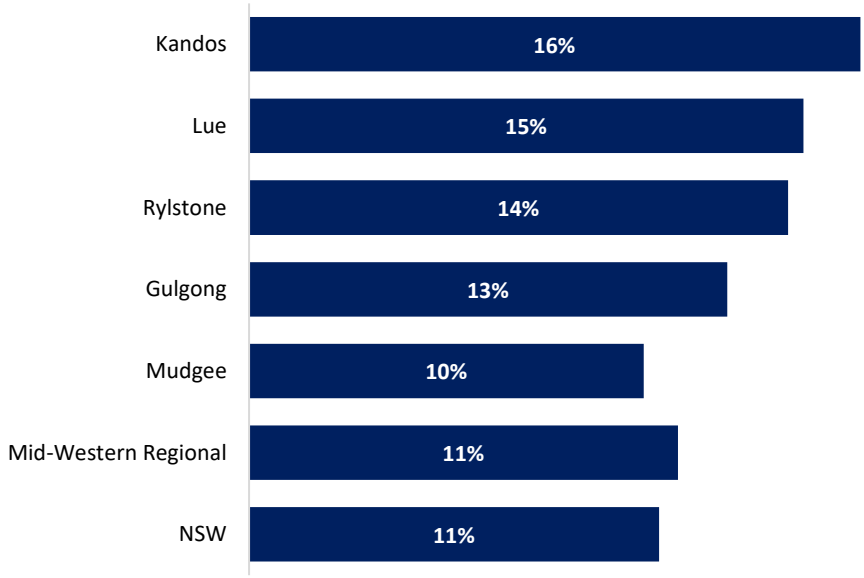
Figure 5.33 Mid-Western Regional LGA Unemployment rate December 2010 through to December 2019



© Umwelt, 2020
Source: Small Area Labour Markets, Department of Jobs and Small Business, Australian Government (2019)

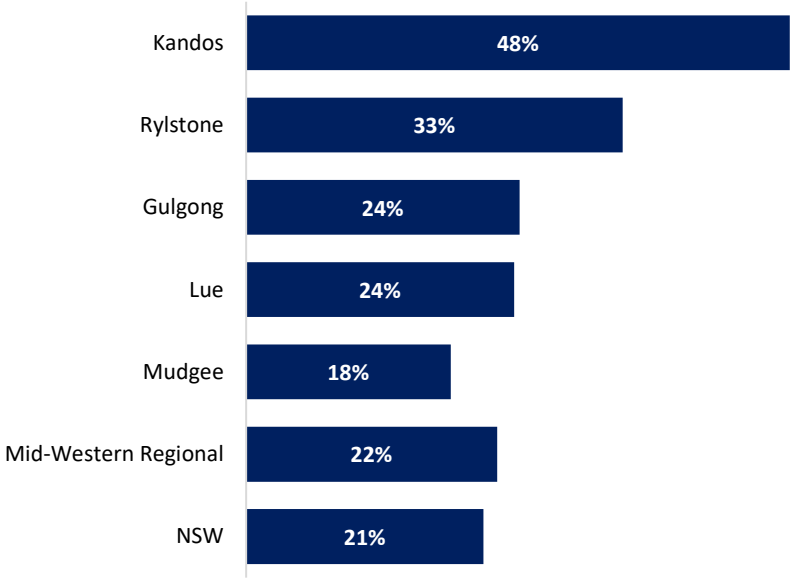
Kandos, Lue, Rylstone and Gulgong have higher proportions of employed people only working between one and 15 hours per week, than the State average and the LGA (refer to **Figure 5.34**). In addition, Kandos and Rylstone have higher proportions of couple families where both parents are not working (refer to **Figure 5.35**).

Figure 5.34 Proportion of the Population Employed – Working 1-15 hours per Week



Source: ABS Census (2016) – QuickStats

Figure 5.35 Parents in Couple Families – both not working



Source: ABS Census (2016) – QuickStats

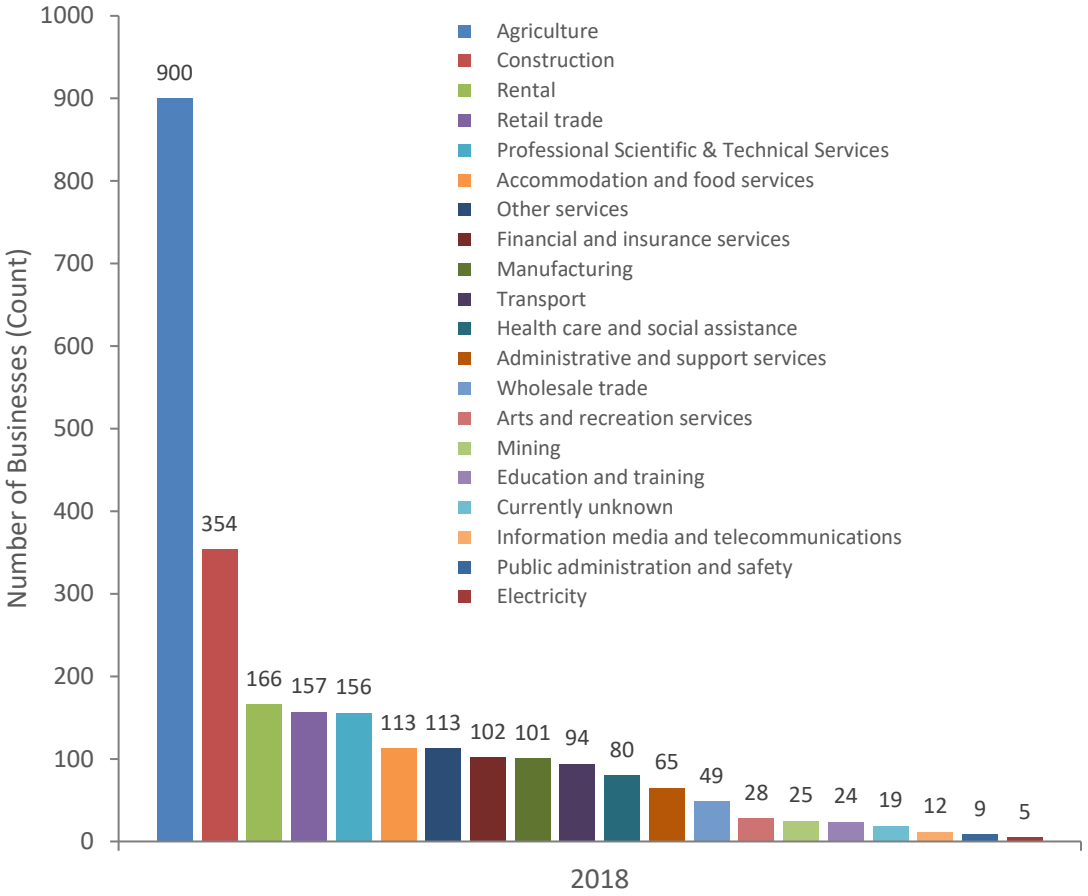
5.10.1.2 Economic Diversity - Key Industries and Occupations

The Mid-Western Regional LGA is home to a diverse and growing economy, with significant key industries including mining, agriculture, viticulture, construction, retail and tourism. Mining is a well-established and growing industry in the Mid-Western Regional LGA, with rapid expansion over the last 14 years due to demand for the significant coal and mineral resources present in the area (MWRC, 2015). There are currently three (3) coal mines operating in the LGA - Ulan (Glencore), Wilpinjong (Peabody Energy) and Moolarben (Yancoal) (refer to Section 5.5).

The LGA is also a popular tourist destination due to the rich history of agriculture, viticulture and culinary experiences, combined with the natural amenity of regional NSW (further detail provided in Section 5.7).

As of 2018, there were 25 businesses in the Mid-Western Regional LGA who identify their main industry as mining, which translates to just 1% of all businesses across the LGA (ABS, 2018; refer to **Figure 5.36**). Agriculture is the most prominent industry in terms of number of businesses, accounting for 36% of all registered businesses in the LGA. Other industries with high numbers of businesses include construction (354 or 14%), rental (166 or 6.5%), retail trade (157, 6.2%), and professional scientific and technical services (156, 6.1%). However, this business tally does not take the size of businesses into account. As can be seen in **Table 5.22**, mining is a significant employer in the LGA and many of the study communities.

Figure 5.36 Number of Businesses by Industry, Mid-Western Regional LGA 2018



Source: ABS Stat Beta, 2018

Table 5.21 shows the Herfindahl Index of Industrial Diversity for the study communities. The Herfindahl index is a measure of homogeneity and is used to measure economic diversity. It is calculated as the sum of squares of proportional employment within detailed industry sectors, using ABS INDP4 data (with an index closer to one indicating less economic diversity). The Herfindahl index for the Mid-Western Regional LGA is 0.0291, indicating lower levels of economic diversity than NSW (0.0092) as the score is closer to one. Lower levels of economic diversity are common in regional towns across NSW and Australia.

Table 5.21
Herfindahl Index of Industrial Diversity

	Kandos	**Gulgong**	**Lue**	**Mudgee**	**Rylstone**	**Mid-Western Regional LGA**	**NSW**
Herfindahl Index	0.0272	0.0446	0.0500	0.0351	0.0336	0.0291	0.0092

All study communities have considerably less economic diversity than NSW, with Lue showing the lowest levels (0.05), followed by Gulgong (0.0446), Mudgee (0.0336) and Rylstone (0.0336). Of the studied communities, Kandos shows the greatest levels of economic diversity, equivalent

to the broader LGA at 0.0272. However, the index scores for Lue and Rylstone should be interpreted with caution; given that Lue has a very small population of 193 people, and Rylstone also has a low population at 920, with these communities only having a small number of different industries of employment. Given these small sample sizes, counts for each industry have been randomly adjusted by the ABS for confidentiality. Herfindahl scores can be more robustly interpreted at an LGA level.

As discussed further in Section 5.12, building a strong and diverse local economy in the Mid-Western Regional LGA is a key objective of the Mid-Western Regional Council. The community plan, 'Towards 2030' (2017) identifies the need to attract a diverse range of businesses and industries to the LGA, to support Projects that create jobs and help build a diverse, multi-skilled workforce, and to minimise the impacts of mining on agricultural Industries (including viticulture). More broadly, the community plan identified ten (10) key focus areas. These included:

- Tourism (including Indigenous)
- Employment
- Business Support
- Economic Diversity
- Attracting New Residents
- Major Events
- Education & Skills
- Investment
- Marketing and Promotion
- Economic Infrastructure

In addition to the Economic Development team at the Mid-Western Regional Council, there are a number of business chambers including the Mudgee Chamber of Commerce, the Gulgong Chamber of Commerce and Rylstone Kandos Business and Tourism Incorporated (of which both Peabody and Ulan Coal are sponsors).

A breakdown of the key industries of employment in 2016 across the studied communities, the LGA and NSW is shown in **Table 5.22**. The mining industry was the largest employer in the Mid-Western Regional LGA, employing 15% of the working population. The retail sector was the next biggest employer with 10.5% of employed residents in the LGA working in this sector. When looking at the various industry sectors, there are some key differences in the townships within the Mid-Western Regional LGA. These include:

- Across the study communities, the proportion of the population employed in mining is above the State average (0.9%). This proportion is the highest in Gulgong (19.6%) and Mudgee (16.9%), where mining was the largest single employer. Mining was also a significant employer in Rylstone (11.2%) and Kandos (8.9%), followed by Lue (3.7%).

Table 5.22
Industries of Employment (2016)

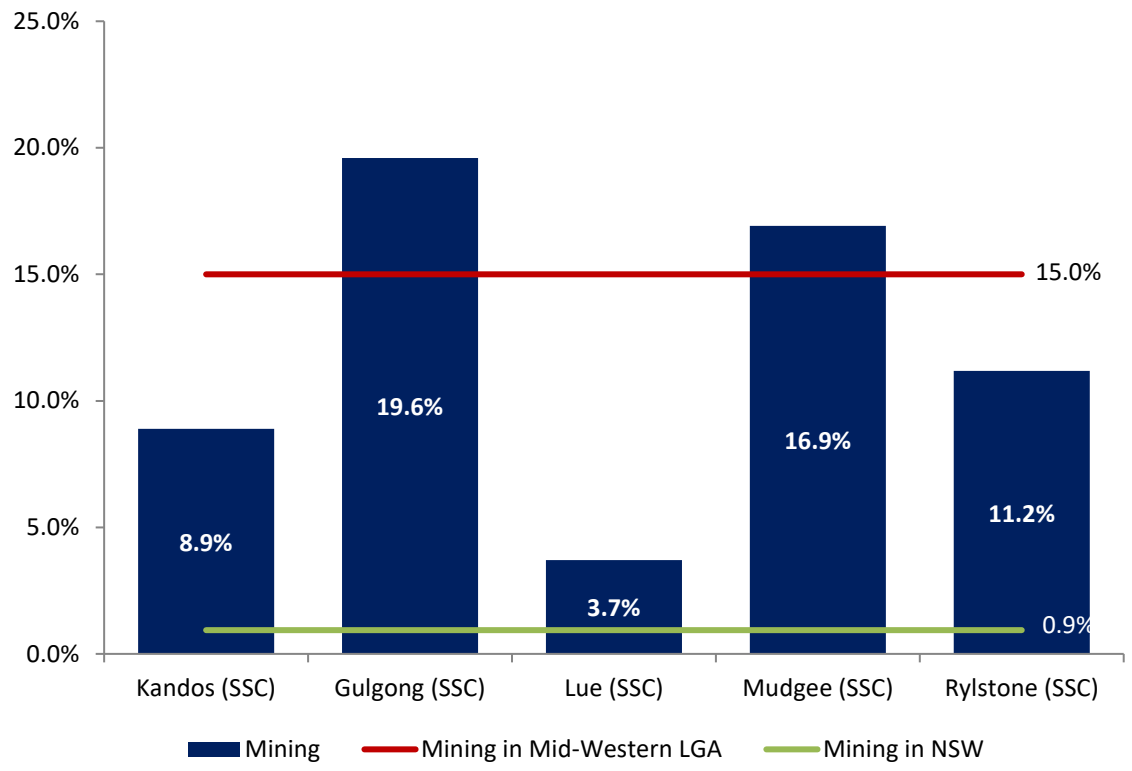
Industry of Employment	Kandos (SSC)	Gulgong (SSC)	Lue (SSC)	Mudgee (SSC)	Rylstone (SSC)	Mid-Western Regional (LGA)	NSW
Health care and social assistance (%)	12.4	11.4	7.4	10.1	11.8	9.9	12.5
Retail trade (%)	11.7	8.7	0.0	12.1	13.6	10.5	9.7
Education and training (%)	9.5	8.2	6.2	7.6	10.0	7.6	8.4
Construction (%)	5.1	7.1	9.9	8.0	4.8	8.0	8.4
Professional, scientific and technical services (%)	1.6	1.5	3.7	3.5	4.5	3.4	8.1
Accommodation and food services (%)	11.4	9.4	12.3	9.0	6.3	7.8	7.1
Public administration and safety (%)	5.7	3.5	4.9	4.6	6.0	4.4	6.0
Manufacturing (%)	4.1	3.2	3.7	4.3	4.8	4.0	5.8
Financial and insurance services (%)	1.0	1.2	3.7	1.2	0.9	1.1	4.9
Transport, postal and warehousing (%)	4.8	3.6	0.0	2.3	1.8	2.7	4.7
Administrative and support services (%)	2.2	3.4	3.7	3.0	1.8	2.8	3.5
Wholesale trade (%)	1.0	1.2	0.0	2.5	0.9	2.1	3.1
Information media and telecommunications (%)	0.0	0.9	0.0	1.1	0.9	0.8	2.2
Agriculture, forestry and fishing (%)	4.4	5.3		2.5			2.1
Rental, hiring and real estate services (%)	1.9	1.2	3.7	1.4	0.9	1.2	1.8
Arts and recreation services (%)	1.0	1.2	0.0	1.3	0.9	1.1	1.5
Electricity, gas, water and waste services (%)	2.9	1.6	0.0	0.9	0.9	1.0	0.9
Mining (%)	8.9		3.7				0.9
Other services (%)	4.8	5.6	0.0	5.3	3.3	4.7	3.7
Source: ABS, 2016							

- A relatively high proportion of people are employed in the census category of 'agriculture, forestry and fishing[36]' in Lue (16%) and Rylstone (11.2%) compared with the State average of 2.1%. 'Agriculture, forestry and fishing was the chief employer in Lue, followed by accommodation and food services (12.3%).
- The majority of individuals employed in agriculture, forestry and fishing in the Mid-Western Regional LGA are employed in sheep and cattle farming and related industries (69.0% of persons employed in agriculture, forestry and fishing). Other significant employers in agricultural industries include grape growing (4.8%), horse breeding (4.2%), and grain production (3.9%), the latter of which includes production of grain for use in sheep and cattle farming (ABS Table builder, 2016).
- A relatively high proportion of people are employed in retail in Rylstone (13.6%).

[36] Note that whilst the ABS groups Agriculture, Forestry and Fisheries together at the level of analysis shown in **Table** 5.22, further investigations indicates that no persons in the Mid-Western Regional LGA are employed in Fishing or aquaculture

The proportion of people employed in the mining sector in both Gulgong and Mudgee is significantly higher than the State average. As these are two of the most populated towns within the LGA, the average within the LGA is also significantly greater that the State average (refer to **Figure 5.37**).

Figure 5.37 Proportion of Workforce Employed in Mining



Source: ABS Census (2016) – Community Profiles

Table 5.23 shows the changes in industry of employment across the Mid-Western Regional LGA between the 2011 and 2016 ABS Census'. Notably, the mining related workforce resident in the LGA increased by 161 persons, as did the construction workforce (45 people). Other industries which experienced a large increase in the number of employed workers were health care and social assistance (98), administrative and support services (65), education and training (53), and other services (90).

The largest decrease in employed persons was seen in manufacturing, where 174 fewer persons were employed in 2016 than in 2011. Decreases were also seen in transport (47), retail trade (41), wholesale trade (31) and agriculture (27).

Table 5.23
Industry of Employment in the Mid-Western Regional LGA

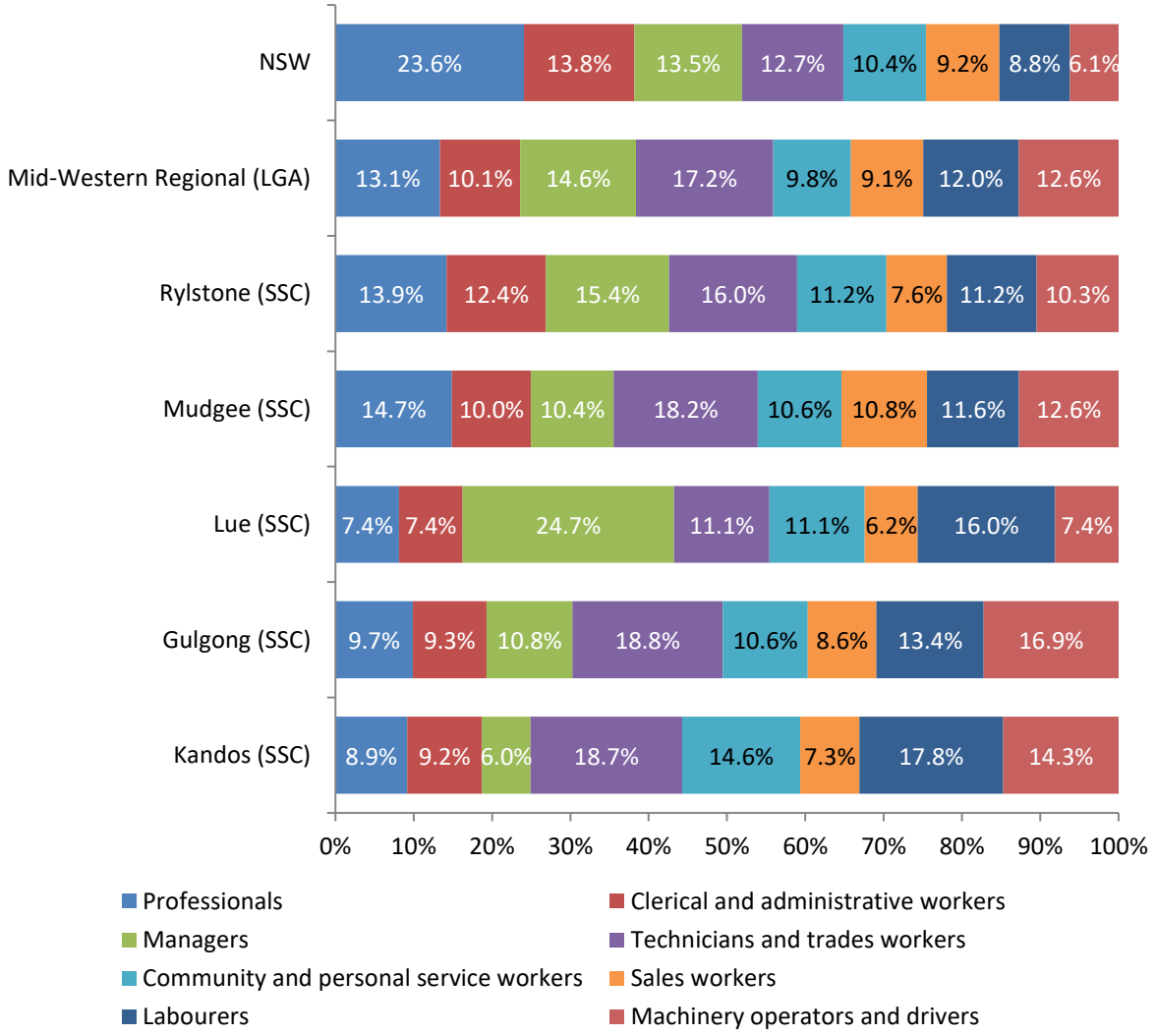
Industry of Employment	2011		2016		Change 2011-16	
	No.	%	No.	%	No.	%
Agriculture, Forestry and Fishing	889	9.5	862	8.9	27↓	↓
Mining	1 292	13.8	1 453	15.0	161↑	↑
Manufacturing	562	6.0	388	4.0	174↓	↓
Electricity	112	1.2	97	1.0	15↓	↓
Construction	730	7.8	775	8.0	45↑	↑
Wholesale trade	234	2.5	203	2.1	31↓	↓
Retail trade	1 058	11.3	1017	10.5	41↓	↓
Accommodation and food services	768	8.2	756	7.8	12↓	↓
Transport	309	3.3	262	2.7	47↓	↓
Information media and telecommunications	75	0.8	78	0.8	3↑	-
Financial and insurance services	112	1.2	107	1.1	6↓	↓
Rental	122	1.3	116	1.2	5↓	↓
Professional Scientific & Technical Services	328	3.5	329	3.4	2↑	↓
Administrative and support services	206	2.2	271	2.8	65↑	↑
Public administration and safety	393	4.2	426	4.4	33↑	↑
Education and training	683	7.3	736	7.6	53↑	↑
Health care and social assistance	861	9.2	959	9.9	98↑	↑
Arts and recreation services	66	0.7	107	1.1	41↑	↑
Other services	365	3.9	455	4.7	90↑	↑
Total persons employed	**9 363**		**9 689**		**326↑**	

Key workforce occupations within the Mid-Western Regional LGA and relevant communities as at the 2016 ABS census are presented in **Figure 5.38**.

The data indicate that whilst 'Professionals' comprised the single largest proportion of roles within the State (23.6%), these roles were less common in the Mid-Western Regional LGA (13.1%), particularly in Lue (7.4%), Gulgong (9.7%) and Kandos (8.9%).

Workers were most likely to be employed as 'Technicians and trades workers' within the communities of Gulgong (18.8%), Kandos (18.7%), Mudgee (18.2%) and Rylstone (16%). In Lue, one quarter of the workforce was comprised of 'Managers'. Given the comparatively low proportion of persons employed in mining within Lue (refer to **Figure 5.37**), this divergence may be attributed to a lower proportion of technicians and trades workers required within other industries. 'Labourers' also made up a significant portion of the workforce in both Lue (16.0%) and Kandos (17.8%).

Figure 5.38 Primary Occupations



Source: ABS Census (2016) – Community Profiles

The reduction in employed persons in the agriculture, forestry and fishing industry (as shown in **Table 5.23**) represents a possible reduction in the economic diversity of the Mid-Western Regional LGA. This reduction may be further exacerbated with current drought conditions making it difficult for farm operations to remain viable.

An analysis of the impact of drought conditions on farmers and agricultural production in 2018 by The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) indicated that production rates were falling and that continued drought conditions could lead to increasing difficulties for farms across Australia to remain viable, especially for smaller farming operations (ABARES, 2018a). Current drought reporting released by the Bureau of Meteorology indicates that, as of 8 November 2019, some areas of Australia are approaching three years of drought conditions, with the majority of NSW, QLD, SA and part of the Murray-Darling basin having been affected by drought since the beginning of 2017. Agricultural production is expected to continue to fall in the 2019/2020 financial year, with a 3% loss in production value from agriculture across the country.

According to a snapshot of the Australian Agriculture workforce released by ABARES (2018b), the majority of workers were employed full time (73%), with a high proportion being owner managers or contributing family workers (~55%) compared to NSW, where the majority are employees (~85%). This was particularly true for sheep, cattle and grain farming, with approximately 46% of workers being owner managers and 25% being contributing family workers (total ~71%). Approximately 10% of persons who stated their main employment as a farmer or farm manager also reported being employed in other industries, most frequently in food product manufacturing; agriculture, forestry and fishing support services, beverage and tobacco manufacturing; and basic material wholesaling. For many farmers and farming families, it is necessary to supplement on farm income with other sources of income. This is further evidenced by the ABS 2017-18 Agricultural Commodities report, which states that for the 2017-2018 financial year, 11% of income for farming businesses was received from off-farm employment and business activities.

As identified in the ABARES report (2018a), drought conditions can cause smaller, less resilient farming operations to close completely, requiring farm operators and their employees to seek employment elsewhere.

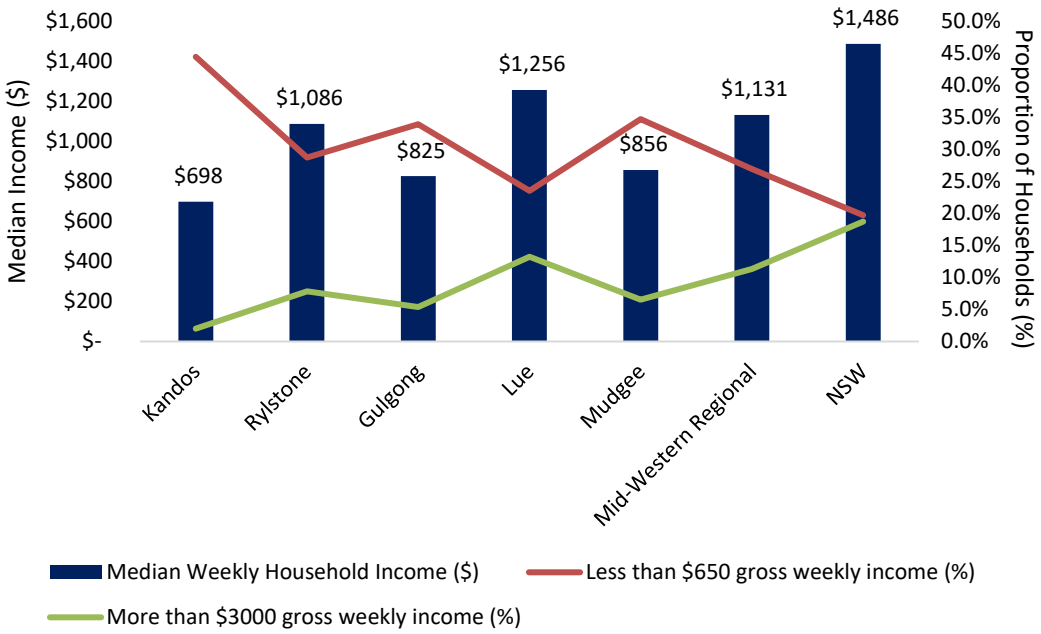
5.10.2 Income, Spending and Cost of Living

On average, weekly household incomes in all the communities within the Mid-Western Regional LGA were below the State average of $1,486. The average household income in Mudgee was the highest at $1,256 followed by Gulgong at $1,086. The average household income in all other study communities was below $1,000 per week with $698 the lowest reported at Kandos. Rylstone and Lue had average household incomes of $856 and $825 respectively.

All study communities had above State average proportions of householders receiving less than $650 gross weekly income, and lower than State average proportions of households had a gross weekly income over $3,000 (refer to **Figure 5.39**). These differences were the most pronounced in Kandos. Reasons for the low income in Kandos may be attributed to the high levels of unemployment and part time employment, whilst reasons for the low income in both Rylstone and Lue may be attributed to the ageing population and the high proportion of farms that operate as small businesses in the area.

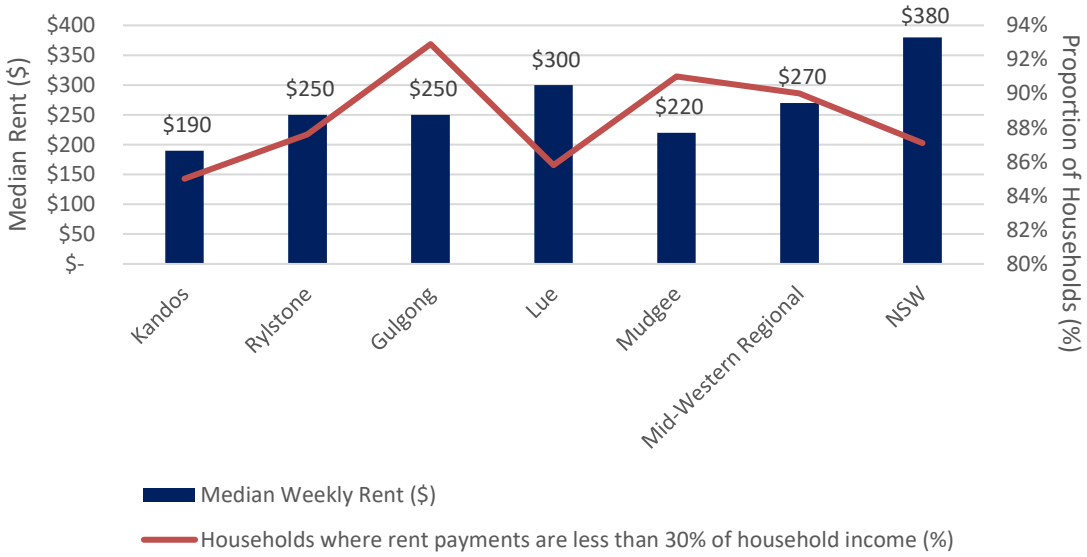
Median weekly rents were below the State average ($380 per week) in all studied communities (refer to **Figure 5.40**). Mudgee, the most populated town within the LGA, had the highest median weekly rent at $300 per week, whilst the lowest median weekly rent occurred in Kandos ($190 per week). This result may be influenced by a higher than average rate of public housing stock in Kandos, and the lower overall demand for housing in Kandos compared with the more urban hub of Mudgee (refer to Section 5.11.3). Residents in Gulgong and Mudgee spend a lower proportion of their income on rent, with 93% and 91% (respectively) spending less than 30% of their household income on rent. Residents in Kandos, Lue and Rylstone are paying higher proportions of their income in rent, with 85%, 86% and 88% households having rent payments of less than 30% of household income.

Figure 5.39 Median Total Household Income



Source: ABS Census (2016) – QuickStats

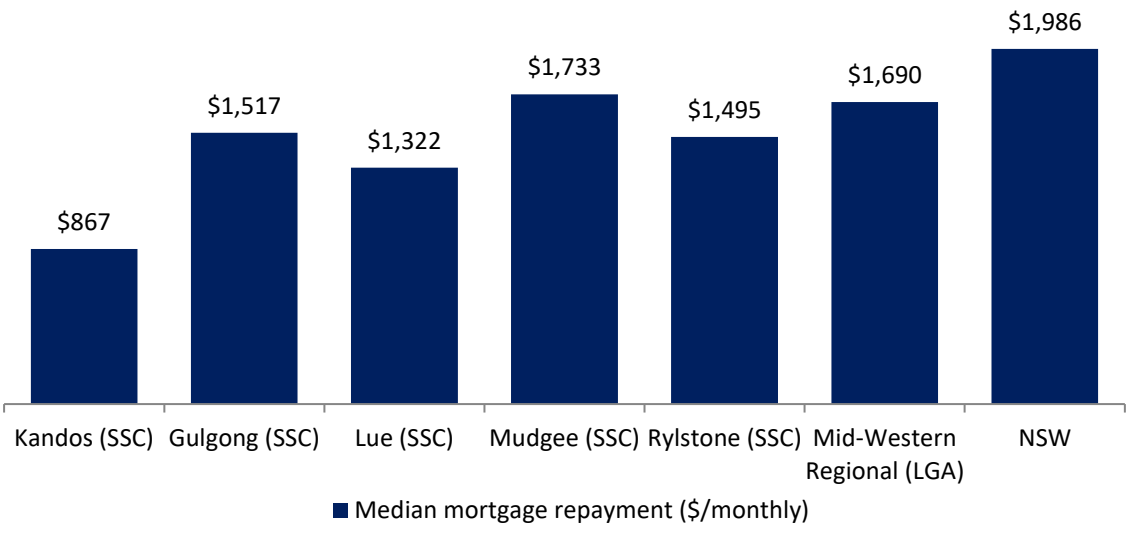
Figure 5.40 Median Weekly Rent (2016)



Source: ABS Census (2016) – Community Profiles

Monthly mortgage repayments tell a similar story (**Figure 5.41**), in that medians in all townships within the LGA were lower than the State median ($1,986 per month). The highest mortgage repayments were seen in Mudgee ($1,733 per month), whilst Kandos had the lowest monthly mortgage repayments, significantly lower than the other study communities at $867 per month. Monthly mortgage repayments in Gulgong and Rylstone were around $200 less than in Mudgee ($1,517 and $1,495 respectively). Monthly mortgage repayments in Lue were lower still, at $1,322 per month.

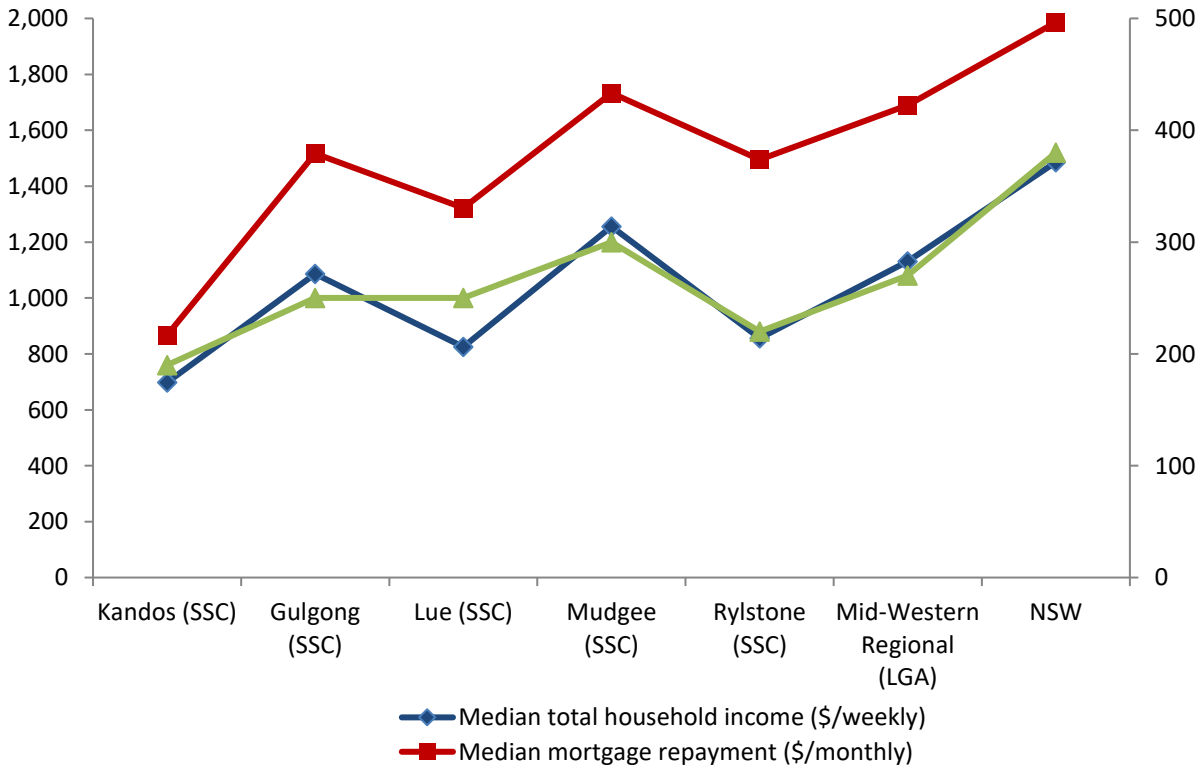
Figure 5.41 Median Mortgage Repayment (2016)



Source: ABS Census (2016) – Community Profiles

Whilst incomes throughout the LGA were lower than the State median in 2016, so were weekly rents and monthly mortgage repayments. As shown in **Figure 5.42** below, trends in each appeared to closely follow one another. An exception to this was Lue, where weekly rent was comparatively higher than other communities when income and mortgage repayments were considered.

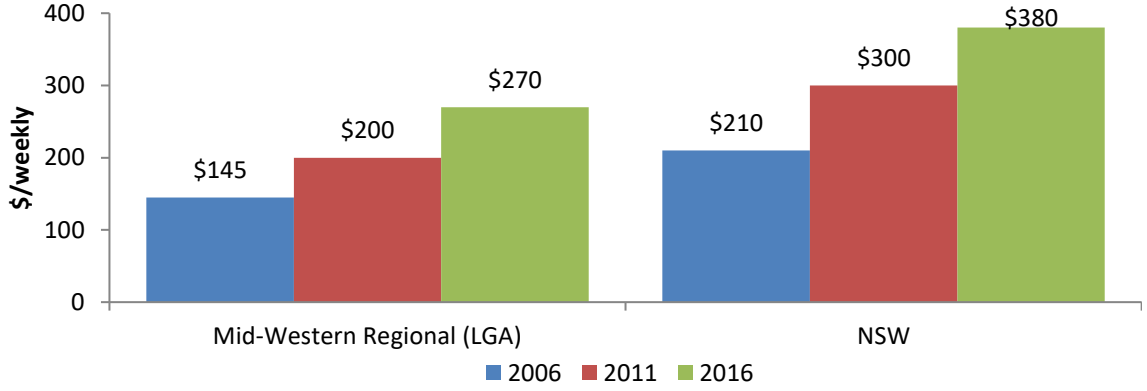
Figure 5.42 Income, Mortgage and Rent Comparisons



Source: ABS Census (2016) – Community Profiles

Median weekly rents have steadily increased across the Mid-Western Regional LGA over the last three Census periods, mirroring an increase evident across NSW[37] (refer **Figure 5.43**).

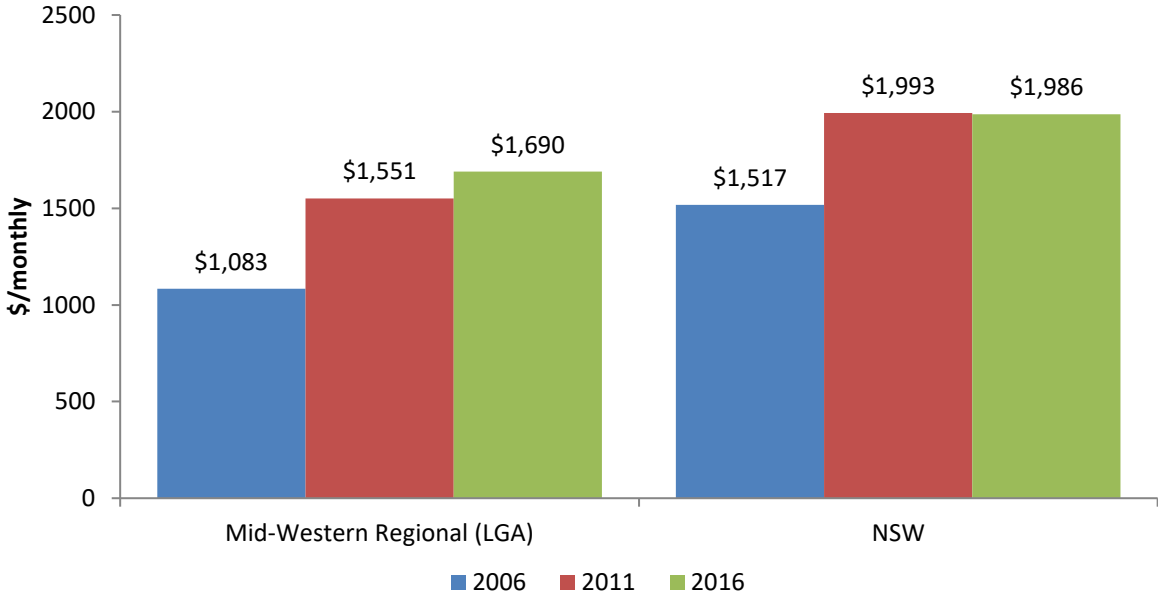
Figure 5.43 Median Weekly Rent – change over time (2006-2016)



Source: ABS Census (2016) – Community Profiles

However, changes in median mortgage repayments over time in the Mid-Western Regional LGA are not consistent with those seen across NSW. Whilst an increase was evident between the 2006 and 2011 Census period, monthly mortgage repayments remained relatively stable between 2011 and 2016 and increased slightly from $1,551 to $1,690 in the Mid-Western Regional LGA. During this period there was no change evident in NSW (refer to **Figure 5.44**).

Figure 5.44 Median Mortgage Repayment – change over time (2006-2016)



Source: ABS Census (2016) – Community Profiles

[37] Boundary changes at the SSC level, no accurate time series data is available.

5.10.3 Local Business Profile

The Mid-Western Regional Council has prepared a 10 Year Plan Economic Development Strategy that is due to expire in 2020. Key industries acknowledged for their contribution to the local economy in this Strategy include agriculture, mining, retail services, tourism and wine.

According to ABS Counts of Australian Businesses, including Entries and Exits, the following businesses were present in the Mid-Western Regional LGA in the year ending June 2017:

- 857 businesses in the Agricultural industry equalling 34% of the local market. The vast majority of these businesses were non-employing (72%) whilst all but three of the remainder were businesses with one to 19 employees.
- 361 businesses in the construction industry equating to 14% of the local market. Whilst most of these businesses were non-employing (55%), the remaining 45% were businesses that employed staff. Again, the vast majority (all but 4) were businesses with one to 19 employees.
- There were similar numbers of Real Estate, Retail and Professional services businesses in the LGA (158, 155 and 149 respectively). Of those, most were Real Estate businesses and non-employing (130 out of 158 businesses), whist those in the retail trade were more likely to employ staff (95 out of 155 businesses).
- Mining was considered 14th out of 20 in terms of the number of local businesses in the LGA, with 31 businesses operating in the sector. Of those, 61% were non employing and 39% employed staff.

There are relatively few businesses based in Lue. Impacted landholders interviewed during round two of engagement raised a need for business and services such as cafés and grocery stores as key to the community's survival, with several lamenting the loss of businesses that had previously operated in Lue.

> *The Hotel is the community centre. I'm not sure of the new people are in there, but the old people were generally friendly and helpful. Once you close the hotel, the village dies. There used to a baker and shops and a post office. The school is still there.*
>
> *They have managed to keep the school going. I used to go to the school there, so they have done well to do that. There's not much here, there's a pub but basically everything is gone. Bake house (uncle owned) is gone. Virtually all that is left is memories.*

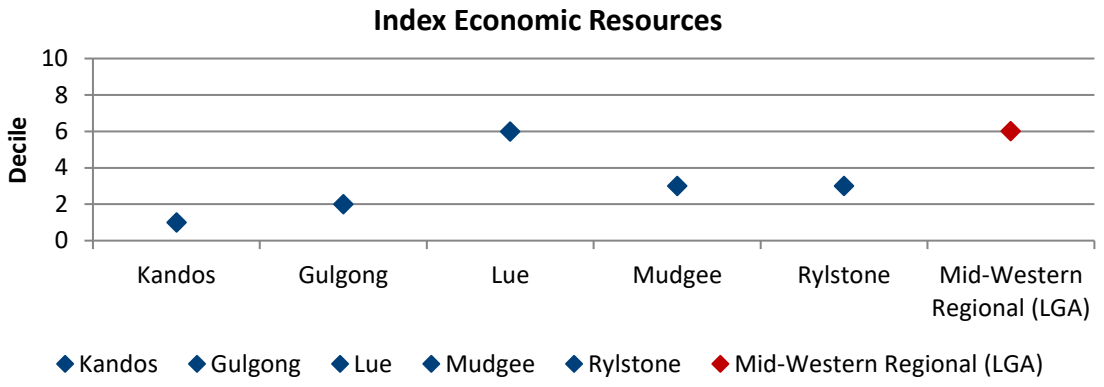
Major businesses include the Lue Pottery, the Lingnan Penjing Academy of Australia (Bonsai studio), the Lue Pub and the Lue Public School. There are also a number of boutique cottage and farm stay businesses offering short stay accommodation services.

5.10.4 Economic Capital Summary

The SEIFA Index Economic Resources (IER) reflects the economic resources of households within an area and includes variables such as household income, housing expenditures (e.g. rent) and wealth (e.g. home ownership. **Figure 5.45** shows the IER for study communities in terms of the decile ranking of their IER. The lowest scoring 10% of areas on the IER have a

decile number of 1, and the highest scoring 10% of areas on the IER have a decile number of 10. A low score indicates a relative lack of access to economic resources in general while a high score indicates relatively greater access to economic resources. For example, a community may have a low IER score if there are many households with low income, or many households paying low rent and few households with high income, or few owned homes.

Figure 5.45 Index of Economic Resources (IER)



Source: ABS, SEIFA Indexes 2016

Based on the IER, Kandos had the lowest level of economic resources of the study communities. All towns in the Mid-Western Regional LGA, other than Lue, were indexed below five indicating an IER score below the average.

Overall, economic indicators for the Mid-Western Regional LGA suggest that there are relatively low levels of economic capital. All indicators in the township of Kandos were lower than the State average, particularly unemployment which was significantly higher. Similarly, unemployment in Rylstone and Gulgong was slightly above the State average. However, as at the 2016 Census (ABS, 2016), unemployment in Mudgee and Lue was slightly below the State average. In a pattern observed throughout the State, unemployment amongst the Indigenous population of the LGA was also significantly above that seen in the general population – with no observed strategies to address this issue.

Whilst incomes throughout the LGA were lower than the State average, so were weekly rents and monthly mortgage repayments, with trends tending to align comparably across all studied communities.

Economic diversity across the Mid-Western Regional LGA was low compared with NSW, especially in Lue, where the dominant industry of employment was agriculture, forestry and fisheries. Similarly, many businesses across the LGA are reliant on agriculture as their main industry of trade (refer to **Table 5.22**).

As stated in Section 5.10.1, the mining industry is a significant player in the Mid-Western Regional LGA with total of 15% of the local workforce employed in mining, indicating a sizeable role in the local economy. The next biggest sector was retail, with the proportion employed within this sector almost 5% lower than that of the mining sector.

5.11 PHYSICAL CAPITAL

Physical capital includes the provision of built infrastructure and services to the community. Within this capital, it is important to consider the type, quality and degree of access to public, built and community infrastructure (including amenities, services and utilities) and housing and accommodation. **Table 5.24** provides a summary of the key physical capital indicators for the study communities, with further discussion regarding these indicators provided in the subsequent sections.

Table 5.24
Summary of Key Physical Capital Indicators for the Study Communities

Indicator	Kandos	Gulgong	Lue	Mudgee	Rylstone	Mid-Western Regional	NSW
Total Occupied Dwellings (%)	87	89	82	88	82	84	90
Total Private Dwellings	660	1 020	87	4 511	472	10 426	2 889 057
Separate houses[38] (%)	92	91	94	86	97	91	66
Owned outright (%)	47.6	37.3	46.5	28.2	48.1	38.0	32.2
Owned with a Mortgage (%)	18.7	30.5	38.0	31.5	24.8	30.6	32.3
Rented (%)	29.3	28.2	7.0	36.5	24.3	27.4	31.8
Other Tenure Type (%)	0.5	0.7	0.0	0.3	0.0	0.7	0.9
Average Household Size	2	2.4	2.6	2.4	2.2	2.4	2.6
Number of people per bedroom (average)	0.7	0.8	0.7	0.8	0.7	0.8	0.9
Internet accessed from dwelling (%)	64	76	78	78	75	77	85
Travel to Work as a Driver – Car (%)	63	67	59	69	66	66	58
Average number of cars per dwelling	1.4	1.7	1.7	1.6	1.8	1.8	1.6
Rent assistance from the Australian Government - 2017 (%)	-	-	-	-	-	19.3	16.3
Overcrowding (%)	-	-	-	-	-	2.1	5
Source: ABS 2016 Census of Population and Housing; PHIDU (2020)							

Table 5.25 shows the key physical capital indicators for the additional communities around Lue and the proposed pipeline. As noted in Section 5.6.2, due to random adjustments in the data made by ABS to preserve anonymity, only data relating to Budgee Budgee and Cooks Gap should be relied upon with any level of certainty. The remaining communities' data is provided for general reference only.

[38] As a proportion of total dwellings.

Table 5.25
Summary of Key Physical Capital Indicators for Additional Lue and Pipeline Communities

Indicator	Monivae	Pyangle	Bara	Havilah	Hayes Gap	Budgee Budgee	Cross Roads	Stony Creek	Linburn	Moolarben	Cooks Gap	Ulan
Total Occupied Dwellings (%)	-	-	-	-	-	88	-	-	-	-	81	-
Total Private Dwellings	13	16	12	10	5	78	10	16	24	7	230	26
Separate houses[39] (%)	100	100	100	89	100	94	-	100	100	100	98	86
Owned outright (%)	50.0	0.0	38.5	33.3	60.0	44.9	75.0	14.3	39.1	42.9	39.8	21.4
Owned with a Mortgage (%)	30.0	-	30.8	-	-	47.8	-	42.9	30.4	-	42.5	-
Rented (%)	-	-	23.1	55.6	-	11.6	-	14.3	17.4	71.4	15.1	85.7
Average Household Size	3.3	0	1	2	1.5	2.6	2	2.9	2.5	2	2.7	2.1
Number of people per bedroom (average)	-	0.6	0.6	-	0.8	0.7	0.5	0.8	0.5	-	0.6	0.6
Internet accessed from dwelling (%)	100	80	85	100	76	91	43	75	64	100	80	85
Travel to Work as a Driver – Car (%)	93	100	50	40	75	59	-	63	56	50	73	57
Average number of cars per dwelling	0.8	-	1.3	1.7	1.2	2.4	2.0	1.1	2.0	1.3	2.0	2.0

5.11.1 Infrastructure and Services

Primary elements of physical capital have been assessed in relation to the Mid-Western Regional LGA and include public amenities and utilities as well as built and transport infrastructure, each of which is summarised below. Infrastructure and service provision were assessed back in 2012 as a result of the findings and recommendations of the Manidis Roberts (2012) capacity assessment.

Community Infrastructure and Services

The Mid-Western Regional LGA has relatively well-developed physical capital, with a number of recreational and open spaces, schools and four libraries. Mudgee is the main hub of the LGA, with the majority of community infrastructure and services located within the boundaries of the Mudgee SSC. Each of the study communities has a hall, with Kandos, Gulgong, Mudgee and Rylstone also having several churches, and the latter three communities having Men's sheds, Rotary and RSL clubs.

Other physical capital features specific to Lue include the Lue Hall that is utilised by the school and community and hosts events such as public dances and fundraising events; the Lue Hotel that is open most days and provides accommodation; a park with play equipment; and a recreational motorcycle track; and the Lue Public School. A summary of the community infrastructure and services within the study is provided in **Table 5.26**.

[39] As a proportion of total dwellings.

Table 5.26
Summary of Services and Infrastructure

Current Service Infrastructure	Kandos	Gulgong	Lue	Mudgee	Rylstone
Community	Catholic Church Anglican Church Christian Fellowship Returned Services Community Club Library Kandos Hall Men's Shed Country Women's Association	Presbyterian Church Catholic Church Memorial Hall Rotary Club RSL Club Showgrounds Library Men's Shed Gulgong Memorial Hall	Lue Hall	Catholic Church Baptist Church Frontline Christian Church Baptist Anglican Church Uniting Church OneLife Church Presbyterian Church Showgrounds Town Hall Theatre The Stables Community and Cultural Centre Library Lions and Rotary Clubs Police Community Youth Club Country Women's Association Men's Shed Various social and hobby groups.	Catholic Church Uniting Church Anglican Church Library Men's Shed Rotary Rylstone Hall
Arts, Culture and History	Museum	Prince of Wales Opera House Gulgong Pioneer Museum Henry Lawson Society of NSW	Lue Pottery Lingnan Penjing Academy of Australia	Colonial Inn Museum Motorcycle Museum Observatory The Mud Factory	Wollemi Standing Stones Rylstone and District Historical Society Gallery 47
Education	Refer to **Table 5.11**	Refer to **Table 5.11**	Refer to **Table 5.11**	Refer to **Table 5.11**	Refer to **Table 5.11**

Table 5.26 (Cont'd)
Summary of Services and Infrastructure

Current Service Infrastructure	Kandos	Gulgong	Lue	Mudgee	Rylstone
Emergency Services/ Policing	Police station Fire station (no rostered staff, covers Kandos and Rylstone) (Ambulance coverage is based in Rylstone)	Police Station Local Court Fire Station (new build, no rostered staff) Ambulance Station	There is no police, fire or ambulance in Lue. The nearest are in Mudgee, Rylstone or Kandos. Local RFS	Police Station Fire Station (no rostered staff) Cudgegong Rural District Fire Control Centre Ambulance State Emergency Services	Police Station (Fire coverage is based in Kandos). Ambulance (Covers Kandos and Rylstone) Hospital.
Local Businesses and other facilities / services	A range of businesses listed in the Rylstone Kandos Business and Tourism Directory	A range of businesses listed in the Chamber of Commerce publication 'Gulgong Gossip'	The few businesses located in Lue include a bonsai store, pottery store and a hotel.	Mudgee is the largest of the towns within the Mid-Western Regional LGA with a wide range of businesses and services to support the wider LGA.	A range of businesses listed in the Rylstone Kandos Business and Tourism Directory
Accommodation and tourism	Kandos Motel Railway Hotel Kandos Fiveways Motel Wollemi Adventure Resort Kandos Serviced Apartments	Options in town and rural retreats including: Ten Dollar Town Motel Centennial Hotel The Prince of Wales Hotel Gulgong Motel Owl Head Lodge Spring Creek Cottage B&B Didgy Ridge Gulgong Accommodation	Lue Hotel Camp at Old Bara Odd Frog Lodges Wyuna Farm Stay Louee Enduro and Motocross Complex	There are over 30 accommodation options in Mudgee and its surrounds including town based and rural retreats. Furthermore, a search of the real estate brokerage site Airbnb found approximately 300 listings for short stay accommodation options in the Mudgee area	Rylstone Hotel The Globe Hotel Rylstone caravan Park Old Mill Accommodation Bridge View Inn apartment + 6 more self-contained apartments, cottages and retreats

Table 5.26 (Cont'd)
Summary of Services and Infrastructure

Current Service Infrastructure	Kandos	Gulgong	Lue	Mudgee	Rylstone
Transport	Kandos coach stop – 3 coaches daily from Lithgow to Gulgong stopping at Kandos Railway no longer in operation Community transport for aged, and people with disabilities (volunteer-based)	3 coaches daily from Lithgow to Gulgong Railway no longer in operation Community transport for aged, and people with disabilities (volunteer-based)	Lue coach stop – 3 coaches daily from Lithgow to Gulgong stopping at Lue. Railway no longer in operation. Community transport for aged, and people with disabilities (volunteer-based)	Community transport for aged, and people with disabilities (volunteer-based) Mudgee coach stop – 3 coaches daily from Lithgow to Gulgong stopping at Mudgee. Airport Mudgee Cabs Railway no longer in operation.	Community transport for aged, and people with disabilities (volunteer-based)
Recreational Facilities/ services	Swimming Pool Golf Club Kandos Sports Ground Darton Park Simkins Park Waratah Park	Gulgong Sports Council Golf Club Bowling and Sporting Club Rugby League Swimming Pool Tennis Courts 24/7 Gym Billy Dunn Oval Victoria Oval 12 Recreational parks	Louee Enduro and Motocross Complex Lue Oval and Playground	Mudgee Sports Council Glenn Willow Regional Sports Stadium Cahill Park Jubilee Oval Victoria Park Walkers Oval Skate Park Westend Complex Swimming pool PCYC 2 x 24 hour gyms Tennis Courts Squash courts	Rylstone Sports Council Rylstone Club (Bowls, Golf, Squash) Kandos Rylstone Fitness Centre KR Gym Connection Tennis Club

Public Utilities and Services

Public utilities within the Mid-Western Regional LGA are generally of a good standard. The communities of Kandos, Rylstone, Mudgee and Gulgong are all serviced by Council operated sewerage schemes. However, as noted in the Council's sewer asset management plan (2016): 'With parts of Mudgee and Gulgong provided with town sewerage systems in the 1940s and 1950s, the age of many underground pipe assets is nearing the end of their useful life.' The estimated cost of replacing the outdated sewer network comes to $72,069,000 over a 10-year period. In contrast, the total Projected Council income is $64,143,000, equivalent to 89% of the total cost. Despite this shortfall, the Council plans to implement all possible upgrades with current revenue. Upgrades are expected to commence shortly, with connection of the town of Charbon to the centralised sewer system commencing in 2018/19 (see MWRC, 2017). Other regional communities in the LGA such as Lue are not connected to the public sewerage system, with residents instead utilising personal septic and bio-cycle style systems.

Other key objectives of Council include the reduction of waste ending up in landfill, with a Food and Garden Waste collection service, where food and garden scraps are diverted from landfill to be used as a new resource. Council would also invest in infrastructure for youth, with plans for a $1.05M water park in Mudgee, $150,000 for a new skate park in Gulgong, and $800,000 for an adventure playground (also located in Gulgong).

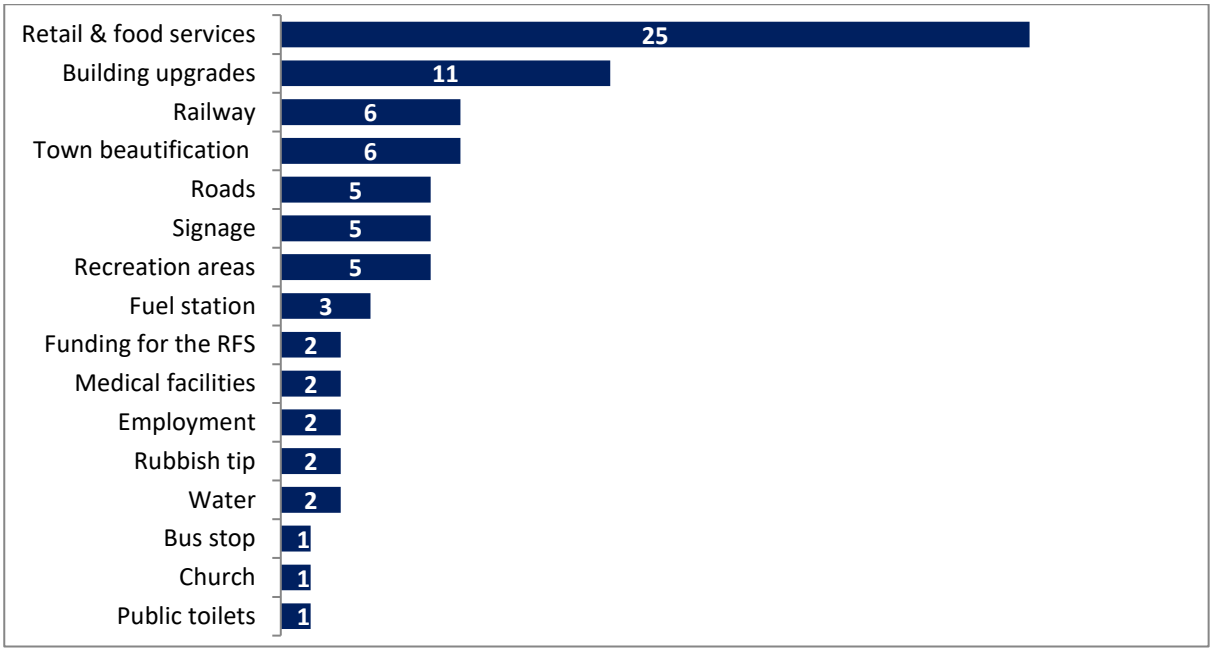
During engagement for the SIA, participants stated that the Lue Public School, Hotel, Hall and local businesses including Lue Pottery and the Lingnan Penjing Academy were key community assets, as noted below:

> ***Lue Public School:*** *'Fantastic school', 'Central to the community, if we lose it, we lose the town', 'A good asset.'*
>
> ***Lue Hotel:*** *'Key gathering point of the community.'*
>
> ***Motorcycle track:*** *'It brings tourists into the area.'*
>
> ***Lue Pottery and the Lingnan Penjing Academy:*** *'Great to see business in the area evolve organically.'*
>
> ***Lue Community Hall:*** *'We'd love to see more activities.'*

Discussion with residents and landholders in the locality, as part of the SIA, was also useful in understanding current community needs and opportunities to further community development. While some residents felt that nothing was needed, and that the community was self-sufficient, other residents identified some focus areas for Lue (refer to **Figure 5.46**).

By far the most popular suggestion was the construction of retail or food services, ranging from a corner shop, that sells milk and bread, to a restaurant or café in Lue. The second most popular suggestion was building upgrades to the school, hall and the historic sites in the area, restoration of the railway and the beautification of Lue. These key needs were also reinforced by other stakeholder groups, including Bowdens Silver employees and regional community members.

Figure 5.46 Community Development suggestions from Residents and Landholders in the Locality



Other suggestions for key needs for the LGA included:

- beautification and greening for Kandos and Rylstone
- infrastructure and upgrades such as areas for youth development, a paved bike corridor along the rail line and improvements to roads for the areas of Lue, Rylstone and Kandos
- preservation of the history and heritage of the area and old railway station or opening a small gallery for the Lue and Rylstone area
- Funding for emergency services, and community charities and events.

5.11.2 Health

According to the Mid-Western Regional Council website, access to medical and health services and facilities is relatively high for a regional area (Mid-Western Regional Council, 2019). **Table 5.27** shows the main health and medical facilities that service the area. There are three main hospitals and health services within the LGA, offering general and some specialist care. The largest of these is the Mudgee Health Service (General Hospital), providing acute care and general medicine with a maternity ward and a combination of permanent doctors and visiting specialists. In December 2018, the Department of Planning and Environment approved a $70.7 million Redevelopment of the Mudgee Hospital, and construction of the new facility commenced in March 2019. The redevelopment would replace the outdated facilities with contemporary buildings and equipment and would include an emergency department, general medical and surgery unit, maternity unit, ambulatory care and renal dialysis treatment for outpatients and oncology (chemotherapy treatments). The development would also see a number of services integrated under a single roof including hospital, community health and dental clinics (refer to NSW Health, 2019a). Smaller health services in the LGA include the Rylstone Multi-Purpose Service, the Gulgong Multi-Purpose Service and private General Practitioner (GP) practices in Mudgee, Gulgong and Kandos.

There are five aged care facilities in the area of varying sizes, with a combined total of 263 beds. As shown in **Table 5.28** these facilities offer a range of services including home care, transitional care for those coming out of hospital, respite care, residential aged care, palliative care and secure dementia care services. According to PHIDU, the Mid-Western Regional LGA has 88.8 residential aged care places per 1,000 persons over the age of 70 years, more than the NSW average of 83.4 (refer to **Table 5.29**).

In general, the number of GPs per 100,000 population operating within the Mid-Western Regional LGA is less than half that of NSW, typical of a low-density regional area (refer to **Table 5.30**). Furthermore, aside from two small general practices in Kandos, it appears that the GPs in the area are concentrated in Mudgee and Gulgong, with residents of the surrounding communities travelling to those centres in order to access medical services.

Table 5.27
Primary Health and Medical Facilities

Location	Facility	Services
Mid-Western Regional LGA	Mudgee Health Service	Less than 50 bed allocations Units: Maternity ward, emergency department, maintenance renal dialysis, obstetrics services, oncology
	Rylstone Multi-Purpose Service	Less than 50 bed allocations Units: Emergency department, Nursing home care
	Gulgong Multi-Purpose Service	Less than 50 bed allocations Units: Emergency department, Nursing home care
	Gulgong Medical Centre	Diabetes Educator, General Practice care, Paediatric Medicine, Psychology service
	Kandos Family Medical Practice	Diabetes Educator, Dietician Service, General Practice
	Kandos Advanced Medical Centre	Diabetes Educator, Dietician Service, General Practice
Source: MyHospitals		

Table 5.28
Aged Care Services

Location	Facility	Services
Mid-Western Regional LGA	Opal Aged Care (Mudgee)	Small nursing home with 48 beds. Provides residential aged care, non-dedicated respite care and palliative care.
	Kanandah Hostel (Mudgee)	Medium sized nursing home with 90 beds. Provides a range of support services including residential aged care, non-dedicated and dedicated respite care, palliative care, and secure dementia care.
	Pioneer House Aged Care (Mudgee)	Medium sized nursing home with 81 beds. Offers residential aged care, non-dedicated and dedicated respite care, palliative care, and secure dementia care.
	Wenonah Lodge (Gulgong)	Small nursing home with 25 beds. Provides residential aged care, non-dedicated and dedicated respite care, palliative care.
	Ada Cottage (Kandos)	Small nursing home with 19 beds, offering residential aged care, palliative care and respite care.

Table 5.29
Aged Care Places

Indicator	Mid-Western Regional LGA	NSW
Residential aged care places per 1 000 population aged 70 years and over	88.8	83.4
Source: PHIDU 2019		

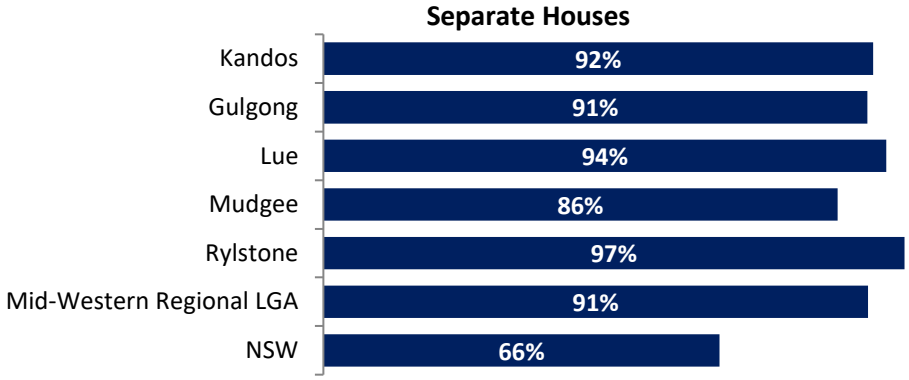
Table 5.30
GPs Per 100,000 Population

Indicator	Mudgee	Gulgong	Mid-Western Regional LGA	NSW
General Practitioners per 100 000 population (2016)	91.5	119.0	87.2	225.3
Source: Tablebuilder 2019				

5.11.3 Housing and Accommodation

Large proportions of separate houses are typically found in regional areas, and this is the case for the Mid-Western Regional LGA and the study communities. This is particularly evident in Lue and Rylstone where population numbers are the smallest and separate houses make up the largest proportion of dwelling types, 94% and 97% respectively refer to **Figure 5.47**). Mudgee being the largest of the study communities, with a population of approximately 11,000, has the lowest proportion of separate house dwellings (86%), however, as a regional area still has more than the NSW average (66%).

Figure 5.47 Separate Houses as a Proportion of Dwelling Type



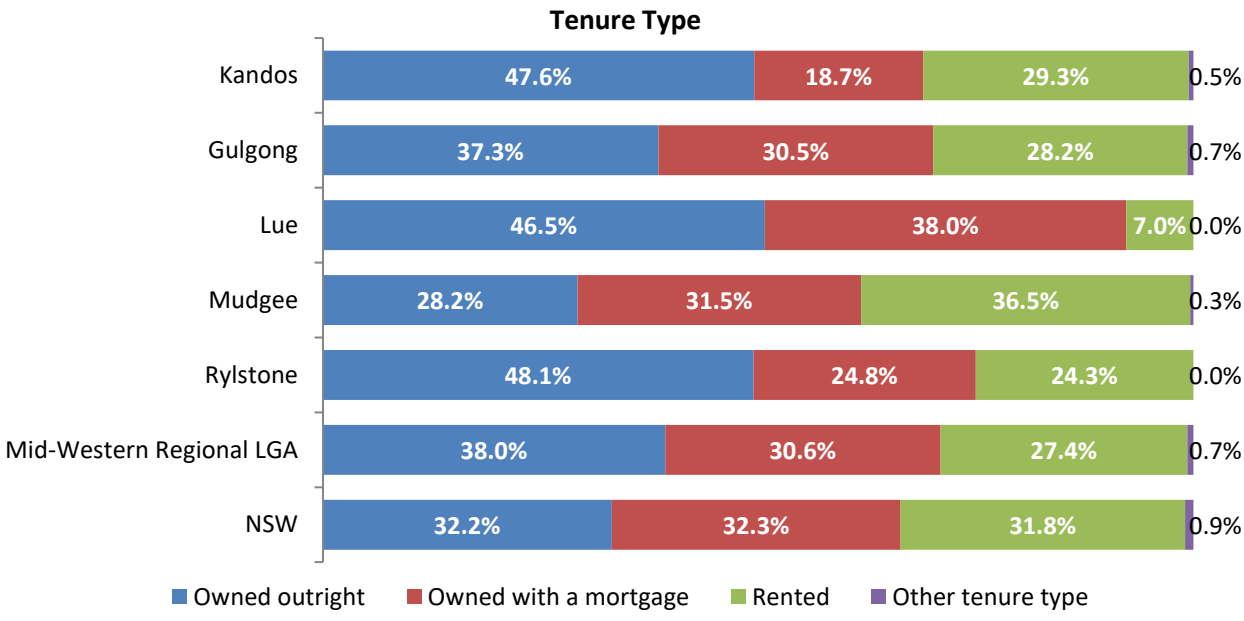
Source: ABS, 2016

The lower levels of housing diversity have been noted by the Council. A key objective in working towards the Council's stated goal of looking after the community, as outlined in the Council's community plan, is to make available diverse, sustainable, adaptive and affordable housing stock through effective land use planning (MWRC, 2017). Council management of housing diversity is ongoing, with annual updates of the effective land use plan, monitoring of the release of suitable land for development as necessary, and provision of emergency housing for women and children fleeing domestic violence (see MWRC, 2018).

Across the study communities, there was a lower than State average proportion of occupied dwellings, with Lue and Rylstone having 82% occupancy rates. Engagement undertaken for the SIA suggests that the low occupancy rates in Lue may be due to people living in other places like Sydney but still holding property in the Mid-Western Regional LGA. These lower than State average occupancy rates suggest that there is currently some unused housing stock available in the LGA.

The proportion of houses rented was highest in Mudgee (36.5%) with all other study communities falling below the NSW average (31.8%). Lue had the lowest proportion of dwellings rented (7%), coupled with higher proportions of dwellings that are owned outright (46.5%) or owned with a mortgage (38%). Kandos and Rylstone also presented higher proportions of dwellings that were owned outright (47.6% and 48.1% respectively) (refer to **Figure 5.48**).

Figure 5.48 Property Ownership Types



Source: ABS, 2016

The proportion of private houses currently occupied as of the 2016 ABS census was generally lower than in the State as a whole (90%). Proportions in Lue and Rylstone appear to be lowest at 82% occupancy, with Kandos, Gulgong and Mudgee approaching State levels (87%, 89% and 88% respectively).

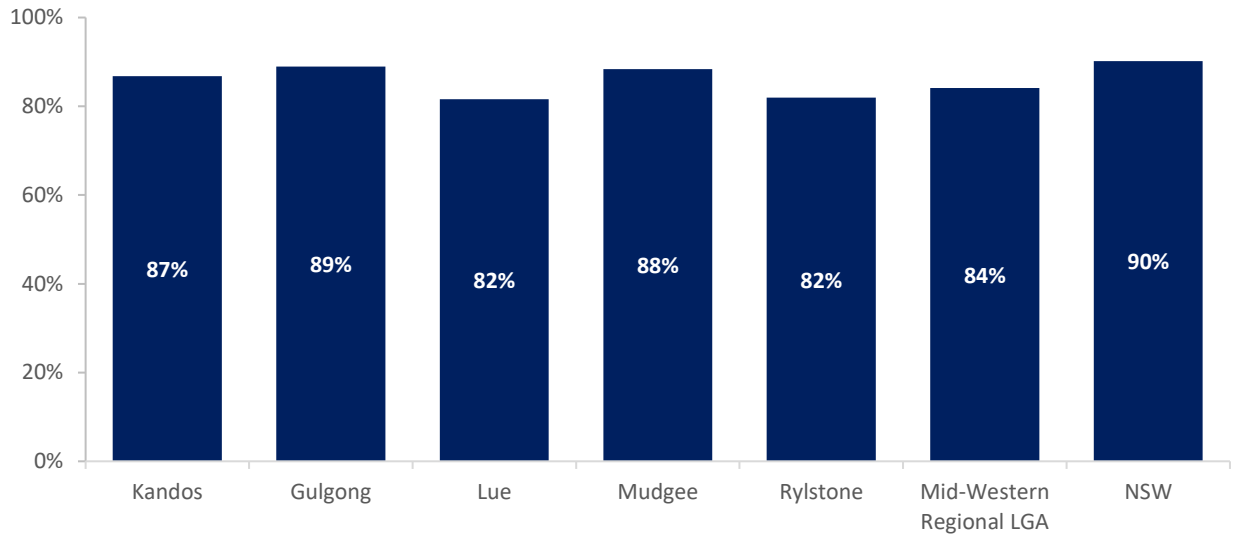
The lower levels of home occupancy in Lue may be partially explained by the high proportion of landowners in the area using their properties as weekenders whilst living permanently in Sydney or other urban areas. During engagement with impacted landholders in proximity to the Mine Site, some owners indicated that they currently live elsewhere and use the area as a means to escape the busyness of the city. Many of these landholders indicated intention to settle in the area more permanently, often as part of their retirement plans.

> *For me, it's a lifestyle I'll be interested in. It's away from the city. If I can, I'll use the property for retirement. I've been going up there for years, it's a getaway. It's 3 hrs from Sydney but a hundred years behind. The power came to Rylstone in 1969, and Lue had power a bit before. It's a nice and relaxing place. The pub's not too bad.*

> *Don't live there fulltime yet, bought 3 years ago with the view to move their full time. Bought the property mainly because of the community, beautiful, close-knit community where we wanted to raise our daughter. Don't want this to change.*

Across the Mid-Western Regional LGA as a whole the proportion of private houses currently occupied was 84% (refer to **Figure 5.49**).

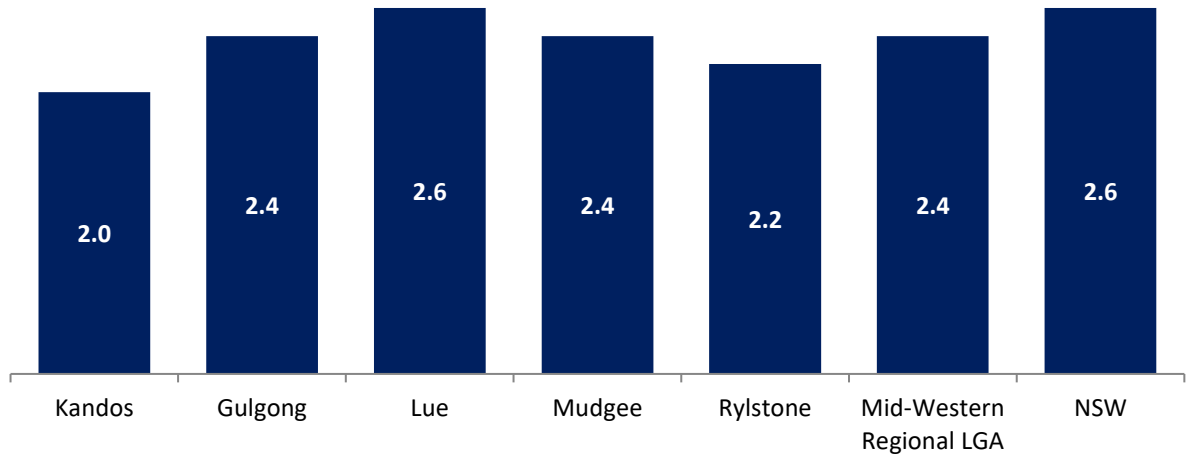
Figure 5.49 Proportion of Private Dwellings Occupied



Source: ABS, 2016

The 2016 census indicates that most of the study communities have a lower average household size than the NSW State average of 2.6 persons, except for Lue (equal at 2.6 persons). Kandos displayed the lowest household size at an average of 2 persons, followed by Rylstone (2.2 persons). Gulgong, Mudgee and the Mid-Western Regional LGA overall were slightly lower than the NSW State average at 2.4 persons per household (refer to **Figure 5.50**).

Figure 5.50 Average Number of People per Household

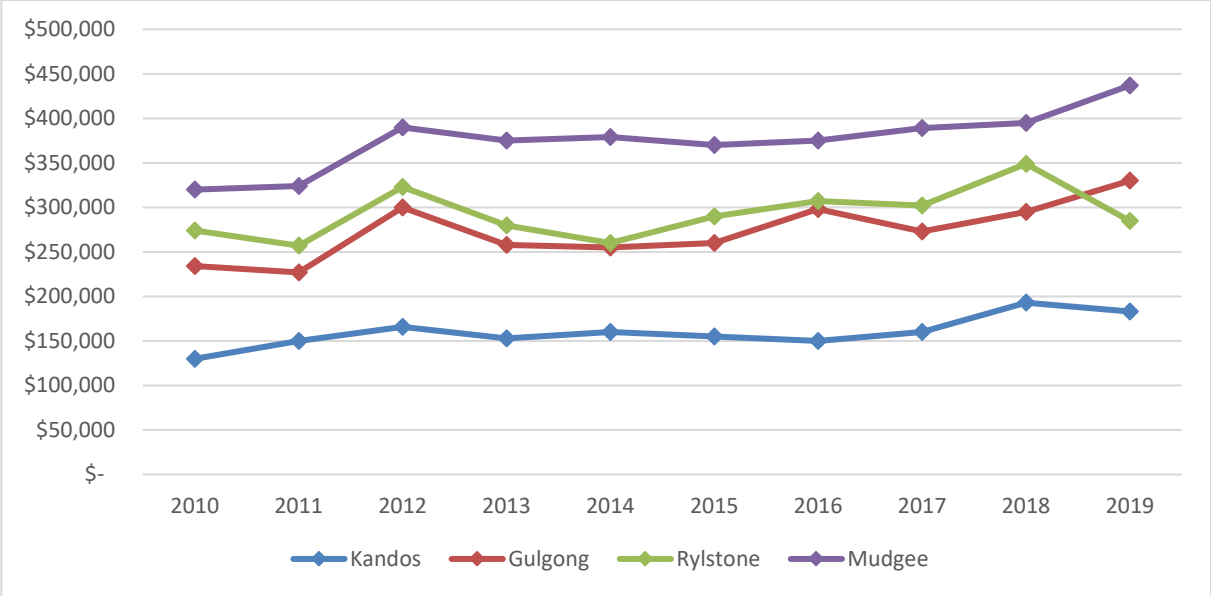


Source: ABS, 2016

Available data suggests that there is low demand for rental properties within the communities of Lue, Kandos, Rylstone and Mudgee, whilst there is average demand in the Gulgong SSC (Realestate.com, 2019).

Since 2010, data from Realestate.com.au, as shown in **Figure 5.51,** indicates that prices for 3-bedroom homes has risen gradually, with notable increases observable between 2011-2012 and 2017-2018 across the communities of Kandos, Gulgong, Rylstone and Mudgee. From 2018 to 2019 prices continued to increase for Mudgee and Gulgong but began to decrease in Rylstone and Kandos. Prices are highest in Mudgee, where they have risen from an average of $320,000 in 2010 to $427,000 in 2019. Average prices in Gulgong and Rylstone increased rapidly between 2011 and 2012, increasing by $73,000 and $66,000 respectively. In 2019, Kandos and Mudgee average prices again rose sharply, with gains of $35,000, and $42,000, respectively, while Rylstone and Gulgong saw decreases of $64,000 and $10,000 respectively..

Figure 5.51 Average House Sales Prices

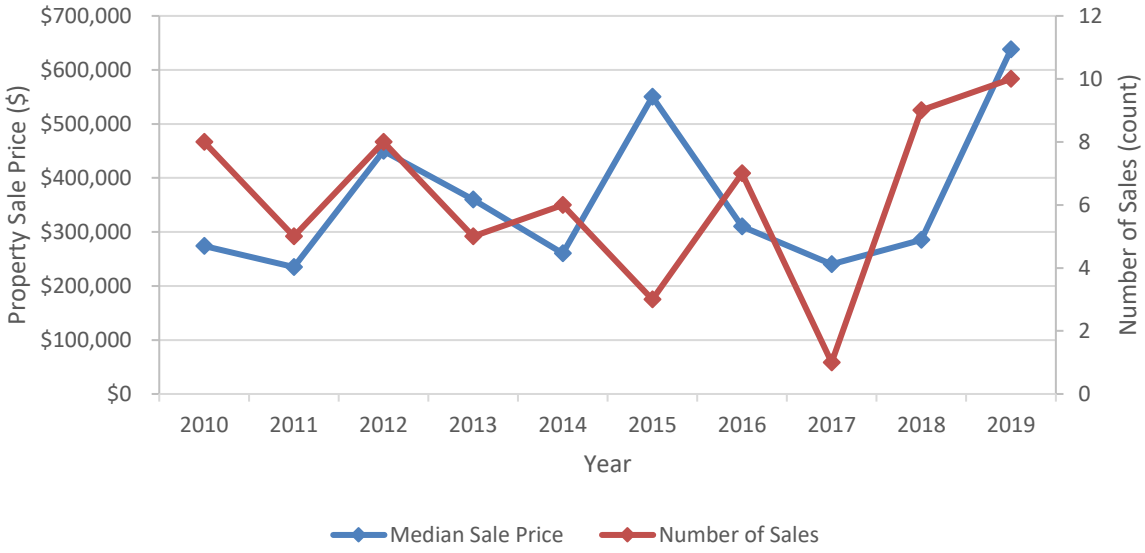


Source: Realestate.com.au, 2020

Due to low numbers, no data on Lue house prices was available on Realestate.com.au Using property sales data obtained from the NSW Valuer General's Office (2020), median sales data and number of sales was charted (refer to **Figure 5.52**). Due to low sales, data varied significantly, with annual median property sale prices ranging from $235,000 in 2011 to $638,000 in 2019. A total of 62 properties sold since 2010[40] with 2017 recording the lower number of sales (1), and 2019 recording the highest number of sales (10). .

[40] includes all property sales above $50,000. Due to low sales each year, data varies significantly.

Figure 5.52 Median Property Sales Price Lue SSC



Data sourced from the NSW Valuer Generals Office, 2020

Media articles (April 2019) outline that property values in the Mid-Western Regional LGA, excluding the value of land used for coal mines, has seen a recent increase (refer to **Annexure 3, Article 19**).

A review of properties for sale on realestate.com.au on 9 August 2019 revealed that there were 260 properties for sale within postcode 2850 (which includes Mudgee and over half the land area of the Mid-Western Regional LGA including Lue), of which 242 were in Mudgee. There were 19 properties in the Kandos postcode 2848 (16 in Kandos SSC); 33 in the Rylstone postcode 2849 (29 in Rylstone SSC); and 80 in the Gulgong postcode 2852 (78 in Gulgong SSC). Together the boundaries of these postcodes encompass all the main population areas and most of the geographic area within the Mid-Western Regional LGA as well as a few low-population suburbs just outside the LGA. Similarly, a review of properties for rent in the study community postcodes found that there were 62 properties for rent within 2850 (60 in Mudgee), six in Kandos; seven in 2849 (six in Rylstone SSC); and six in Gulgong.

In **Table 5.31**, properties for sale are broken down into *houses available for purchase* and *vacant plots for purchase*. Note that calculation of vacant plots includes all lots within listed housing developments. As such, the number of listings outlined in the paragraph above does not align to the sum of *houses available for purchase* and *vacant plots for purchase*.

Overall, there were 492 listings of properties for sale in the postcodes mentioned above, with 93% of these located within the major population centres of the postcode. Of these, 330 had built infrastructure as at 9 August 2019. Furthermore, there were 81 properties for rent, 77% of which were in Mudgee and 96% within the main townships of the LGA (including Mudgee). This equates to a total of 411 properties with built infrastructure that are available to buy or rent in these postcodes, with a further 162 vacant lots available for residential development.

Table 5.31
Summary of Housing Availability by Postcode (August 2019)

	Available for Rent	Houses available for Purchase	Vacant plots for Purchase*	Total Available lots for Purchase or Rent
Mudgee	61	206	154	421
Kandos	6	19	0	25
Rylstone	7	32	1	40
Gulgong	6	73	7	86
Lue**	1	0	0	1
Total	81	330	162	573

*Vacant lots include individual plots in housing estates

**Lue lies within the Mudgee postcode – the property for rent in Lue has been removed from the count of properties in Mudgee (2850).

Source: Realestate.com.au, 2019; Domain.com, 2019.
Data collected: March to June 2019.

Whilst the current rental market demand is low, the market is reasonably tight in terms of stock, particularly in terms of one and two-bedroom homes. As such, large changes in rental market demand could put pressure on the market and stretch existing capacity. Based on these figures, it appears that the property market is better equipped to absorb an influx of employees in the sales market than in the rental market.

Given the nature of employment in the mining sector, there are several factors that can influence whether employees choose to purchase or rent. Given the high salaries associated with the mining industry, workers are typically well-positioned to invest in property and are often able to access mortgage and rent packaging opportunities through their employer (e.g. Maxxia, 2019).

A report prepared by the National Centre for Vocational Education Research (NCVER) on labour force mobility in mining and construction found that the mining industry experiences a high level of employee turnover (Atkinson & Hargreaves, 2014). Common reasons for changing jobs related to work dissatisfaction. more specifically: workplace culture, roster length, career opportunities, and impacts on external lifestyle and relationships were cited as the main factors influencing decisions to move on. However, as discussed further in Section 7.1, the Mid-Western Regional LGA is unique in comparison to many other mining communities, in the level of community capital afforded to residents, the type of mining work undertaken (relatively little FIFO/DIDO), and typical working hours for mine workers. As such, the increased turnover identified in the Atkinson and Hargreaves (2014) report is considered less likely to occur.

Therefore, based on these factors, employees living locally may be more likely to choose to purchase property than rent in the general population. As such and given the relatively low levels of rental availability within the study communities, planning around workforce housing should consider ways to utilise properties in the sales market. Potential strategies are further explored in Section 8.

Tourist Accommodation

The construction workforce for the Project is estimated to be up to 246 on site employees over 18 months. Given the nature of the work being completed and the timeframe of the site establishment and construction stage, it is not expected that any proportion of the workforce

coming in from outside the Mid-Western Regional LGA would choose to permanently relocate. It is also expected that, where possible, Bowdens Silver would use contractors who already reside in the LGA. More detail on estimates of population change can be found in Section 7.1. Due to the temporary nature of the construction workforce, it is likely they would access temporary accommodation within the region.

Table 5.31 highlights a number of options for temporary accommodation throughout the Mid-Western Region including the Lue Hotel, various hotels and motels in Kandos and Rylstone with the bulk of accommodation options in Mudgee (including town based and rural retreats). Furthermore, a search of Airbnb reveals that there are a large number of houses, apartments and rooms listed in Mudgee and across the LGA (approximately 300 as of 12 September 2019).

The ABS Tourist Accommodation, Australia's latest report (2015-2016) uses data collected from eight establishments with approximately 293 rooms. Occupancy rates from the September 2015 quarter through to June 2016 fluctuate from 60.8% to 67.3% respectively. Across the Central NSW Tourism Region which spans across the major towns of Bathurst, Coonabarabran, Cowra, Dubbo, Mudgee, Narromine, Orange and Parks there are 132 establishments with 4,048 available rooms as of June 2016. Occupancy rates range from 55.6% in the September 2015 quarter to 56.5% in June 2016.

More recent data from the Australian Accommodation Monitor (AAM) report (2018) showed occupancy rates in the Central NSW Tourism Region for the periods of 2016-2017 and 2017-2018 growing from 60.6% to 63.5% respectively. It is important to note that the AAM uses a different methodology to the Australian Bureau of Statistics Survey of Tourist Accommodation (STA) and relies on voluntary participation – therefore data from these two collections are not comparable. However, both reports highlight that on average there is more than 35% room availability within the region.

Whilst a more detailed audit of the number of beds that are viable for the Project would need to be undertaken to determine the exact capacity, the review of data indicates there is existing capacity to provide temporary accommodation for non-resident workforce required for the Project. This however would need monitoring based on the specific requirements of the Project.

Land Availability

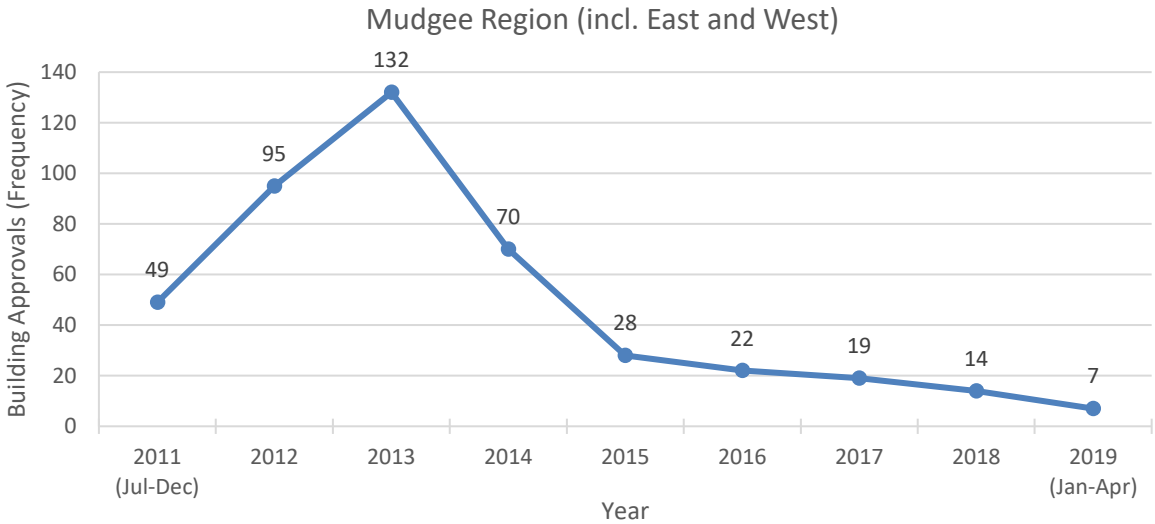
In 2012, land availability was identified as a key shortfall, with a predicted lot deficit of 3,896 by 2021 based on estimated resident Projections (Manidis Roberts, 2012). Whilst the report indicated some land was available, it had not been brought to market at that time (Manidis Roberts, 2012). Given that the population Projections were largely not realised for the Mid-Western Regional LGA (refer to Section 5.8.1.1), this outcome requires further evaluation.

According to ABS (ABS.Stat, 2019) in the Mudgee Region (using SA2 data collating Mudgee, Mudgee East and Mudgee West) there have only been 19 building approvals in the 12 months from April 2018 to April 2019 (refer to **Figure 5.53**). This is inclusive of both residential and non-residential showing that little expansion has occurred regarding building approvals during this time period. However, there are numerous estates in the process of being developed in the Mudgee region which received approval prior to April 2018. These include Logan Estate, Bombira Estate and Caerleon Estate (refer to **Table 5.32**). This is reflected in **Figure 5.53**, where building approvals peaked in 2013 with 132 Projects being approved that year. So, while the number of building approvals has declined in recent years, development of pre-existing

approvals from previous years is underway. The Mudgee and Gulgong Urban Release Strategy (Mid-Western Regional Council, 2014) states the strong demand that was seen in 2011/2012 and 2012/2013 saw the average number of lots released increase to 105 per annum. The report also records for this time period:

- 33 approved development applications for single dwellings.
- 37 approved development applications for dual occupancies.
- a further 13 development applications approved between 2009/10 and 2013/14 for multi-unit housing (i.e. villas, townhouses and residential flat buildings).

Figure 5.53 Building Approvals in the Mudgee Region from July 2011 – April 2019



Source: Created by Umwelt (2020), data sourced from ABS.Stat (2019)

As of August 2019 (refer to Table 5.31), in Mudgee SSC and surrounding suburbs there were approximately 154 plots of land for sale (Domain, 2019). The size of this land ranges from 770m^2 to 54,700m^2 with an average of 2480m^2. Gulgong had seven available plots of land for sale, ranging from 543m^2 to 80,900m^2 (Domain, 2019). There was no available vacant land for sale in Lue, Kandos, or Rylstone according to Domain.com.au (2019).

Mudgee is currently developing up to nine different estates. These estates range in size from five lots in the Mudgee Heights Estate to much larger estates like Bombira Estate, which is much further into development, currently in its 3rd stage with 30 of its 146 lots either sold or available for purchase. Caerleon Estate is one of the newer, larger scale Projects. Currently only in its first stage with 56 lots, Caerleon Estate would incorporate hundreds more lots, a variety of retail shops, cafes and restaurants, recreational space, a supermarket and a childcare centre (Caerleon, 2019). The Mid-Western Regional Council has committed millions of dollars to several new infrastructure Projects to accommodate the influx of people who would be accommodated in these new estates. These infrastructure Projects include the Glen Willow Regional Sporting Complex, medical centres and facilities, new and upgraded public swimming pools and water and roads projects (Caerleon, 2019).

Table 5.32 shows each of the estates in Mudgee SSC and surrounding suburb of Bombira, their current stage and the number of lots available.

Table 5.32
Mudgee Estates

Estate	Stage/ Number of Available Lots
Bombira Estate	Stage 1: 18 Lots (Sold) Stage 2: 8 Lots (1 available) Stage 3: 14 Lots (5 available) Stage 4: 15 Lots (Future Development) Stage 5+: 91 Lots (Future Development)
Caerleon Estate	Stage 1A: 56 Lots (21 available)
Highlands Estate	Stage 1: 27 Lots (all available)
Broadview Estate	Stage 1: 36 Lots (3 available) Stage 2: 32 (27 available)
Wilkins Crescent	5 Lots (in development)
Yalambee Estate	Stage 1: 32 Lots (6 available)
Mudgee Heights Estate	Stage 1: 5 Lots (Sold)
The Ridge Estate	Stage 1: Sold in 2013 Stage 3: No number available yet
Valley Grove Estate	Stage 1: 32 Lots (3 available) Stage 2: 18 Lots (All available)
Logan Estate	Stage 1: 15 Lots (All available)
Total Lots Available	237 available lots (126 current and 111 in development)
Data collected June 2019 from Realestate.com.au; www.thepropertyshop.com.au; www.maasgroupproperties.com.au; www.carleon.com.au; www.realestateview.com.au, www.mcgrath.com.au	

Based on the available data, it appears that there may be some deficits in land availability for development across the study communities. However, given low development approvals in recent years, and the presence of a number of large housing developments with vacant lots in the LGA, there does not appear to be a high level of need for new development land. As such, whilst the predicted shortfall in development land identified in the Manidis Roberts report appears to be evident, the accompanying impact on housing needs no longer applies under current population trends. Based on lessons learnt from past property booms in communities where mine workers reside, Council preferences favour the uptake of available housing stock for purchase or rent, before new land is released for development (Parliament of the Commonwealth of Australia, 2018).

5.11.4 Transport

Connecting the Region is one of the five (5) key goals of the Mid-Western Regional Council's 'Towards 2030' Community Plan. In relation to connecting the region, the key areas of focus include:

- A Quality Road Network
- Traffic Management
- Airport Services

- Transport Services
- Communication Networks
- Bike Paths & Walkways
- Parking

The goal behind these focus areas is to promote safe and efficient road use with minimal congestion, connect the region to major cities and towns which service the needs of residents and businesses, and to develop an active travel network within the region which facilitates healthy living, public transport alternatives and community participation (MWRC, 2017). In addition, during engagement with the regional community for the SIA, participants raised road upgrades and maintenance as a key need for the community throughout the LGA.

In general, the Mid-Western Regional LGA is well connected to the State via two main routes, including:

- The Castlereagh Highway - which connects the region to Sydney; and
- The Golden Highway – which connects the region to the Hunter Valley / Newcastle.

Mudgee, the main town in the LGA, is reasonably well serviced by public transport, with a daily coach service from Gulgong to Lithgow travelling through Mudgee and all study communities, departing in the morning and returning in the evening. A train service, introduced in late 2017, runs from Lithgow to Sydney. At the time of implementation of this train service, residents of the Mid-Western Regional LGA were reported to have felt left out, with a poll conducted by the Mudgee Guardian finding that of the 988 people who voted, 97% of respondents would use a train service operating between Mudgee and Sydney (**Annexure 3, Article 47**).

Mudgee also has a local bus service, which operates on four different sections relating to the East, West, North and South of Mudgee, and Gulgong (Ogden Coaches, 2019). Limited services are also offered between Mudgee, Rylstone and Kandos. The area is also serviced by two major bus charter companies and several smaller operators who run winery and historical tours, tourist services, school services and other chartered tours.

Lue is connected to Mudgee by Lue Road, but does not have public transport since the closure of the railway in 1986.

In addition to the public bus service, a non-profit service called Mudgee Community Transport provides an alternative option for frail aged and disabled community members and their carers, as well as all community members disadvantaged due to limited public transport services. This service is part of the Mid-Western Regional Council's Community Services Department, auspiced by Council and funded by Transport for New South Wales (including funding under the Commonwealth Home Support Program and funds for health relate transport) (MWRC, 2015a) and operates within all study areas.

Mudgee has an airport, with daily flights between Mudgee and Sydney operated by FlyPelican Airlines.

5.11.5 Physical Capital Summary

Physical Capital within the Mid-Western Regional LGA is generally at a high level for a rural regional centre of its size, particularly in terms of public infrastructure, as well as in relation to the provision of facilities and services primarily operated by the Mid-Western Regional Council. The exception to this is the sewer system within parts of Mudgee and Gulgong, which has been flagged for urgent upgrade, a process which has been initiated in some locations.

The Mid-Western Regional LGA is reasonably well serviced by educational facilities, with seven primary schools and four high schools. This equates to approximately one primary school for every 1,490 private dwellings and one high school per 2610 dwellings, well within the benchmark standards set out by the NSW Growth Centres Commission and the NSW Department of Planning for the provision of social infrastructure (2016; as quoted in Arup, 2017). Therefore, it is likely that the low levels of school completion rates in the study communities discussed in Section 5.8.2.1 are due to other factors, such as distance to schools and predominance of trades-based employment opportunities in the LGA (refer to Section 5.10.1.2).

The LGA hosts a range of food, arts and cultural activities, with plans for further expansion and diversification. Given the popularity of the area as a tourist destination, Council has identified expansion and facilitation of this industry as a key objective in their 2030 vision for the region.

Access to health care services is relatively high for a regional centre, with the Mudgee Hospital currently undergoing a major redevelopment to expand and improve services. In addition to the hospital, there are various public and private clinics, practices and services within the surrounding communities. However, the average number of GPs per 100,000 of the population within the LGA is relatively low, suggesting some patients may have difficulty accessing general medical care.

There are five small-to-medium sized aged care facilities in the Mid-Western Regional LGA, with a combined total of 263 beds. This equates to an above average number of aged care places per 100,000 population.

In terms of housing, there are large proportions of housing stock which are separate dwellings, and higher than State average levels of unoccupied dwellings. Overall, house prices appear to be relatively stable, with an increase in the average sale price in the study communities in 2018 suggestive of an up-turn in the housing market within the Mid-Western Regional LGA. As of 9 August 2019, there were approximately 392 properties listed for sale within the Mid-Western Regional LGA, with a further 81 listed for rent. There is a shortage of land available for development in Lue, Kandos, Rylstone and Gulgong and a limited supply of properties available for rental leases. Increasing opportunities for development is a priority area for the Mid-Western Regional Council (refer to Section 5.11.3).

Public transport is adequate within Mudgee, but the smaller townships and villages have limited public transport, with a single coach service operating daily between Gulgong and Lithgow connecting the study communities to the NSW train network. This limitation is somewhat relieved by non-profit community transport services operating within the LGA.

As part of the SIA, service providers were consulted to gauge the available capacity of each service division in regard to potential population increases in the local and surrounding communities. Transport and housing remain key issues for the area, along with the need to

increase capacity of aged care residences and services. Service provider characteristics, for those service providers consulted, are provided in **Table 5.33**. The majority of providers do not have plans to expand their premises or service reach, and most suggest they have capacity to accommodate a population influx (22). Of those services surveyed, 13 perceived their current capacity to accommodate a population influx as limited or non-existent. This perceived limit on capacity was most evident within the early childcare and real estate service industries.

The Manidis Roberts assessment of local services in the Mid-Western Regional LGA identified physical capital constraints as a key issue for consideration in future developments. Although the actual population increase that has been experienced within the LGA was far lower than the predictions outline in the 2012 report, the concerns around limited capacity in housing and childcare appear to remain relevant, albeit to a lesser extent than was predicted. The need for upgrades to health services identified by Council in the Manidis Roberts report has since been resolved, with construction of the upgraded Mudgee Hospital currently underway; however GP access remains constricted as is the case in most regional centres.

5.12 REGIONAL AND LOCAL ISSUES AND ASPIRATIONS

This section utilises several data sources to build a picture of community issues, values and aspirations at the Mid-Western Regional LGA level and at a local State suburb level. Data used in this section has been sourced from:

- NSW State Government and Council strategic plans
- Local, regional and State media (refer to **Annexure 3**)
- Outcomes of the Community Capitals Analysis

5.12.1 Regional Issues and Opportunities

Table 5.34 summarises the outcomes of a review of relevant Regional strategic plans and documents to highlight central challenges and opportunities for the Central West and Orana Region and the Mid-Western Regional LGA into the future. Due to the geographic extent of the Central West and Orana Region, some of the issues and opportunities outlined below are not directly relevant to the Project. However, given the shared planning context from a State Government perspective, these impacts form part of the broader development scope for the Project, provide insight into current planning directions for the Region, and illustrate potential influences on future funding and planning decisions at the Mid-Western Regional LGA level.

Table 5.33
Service Provider Demographics and Available Capacity

Service Provider Sector	Service Provider	Number of Employees / Volunteers	Length of Time Operating in Area (Years)	Geographical Area of Service	Plans to expand (Yes/No)	Available Capacity
Childcare	Carmel Croan Community Centre	19	20	Within Mid-Western Regional Outside Mid-Western Regional	No	Yes
	Family Day Care Scheme	4	23	-	No	No
	Gowrie NSW Mudgee Early Education & Care	10	3	-	No	Yes
	Gulgong Preschool	13	48	-	No	No
	Happy Days @ Gulgong Child Care Centre and Preschool	8	13	-	-	No
	Imagination Early Learning Centre	12	12	-	No	No
	Mudgee Little Learners	12	0.1	-	No	Yes
	Mudgee Preschool Kindergarten Co-Operative	24	30	-	Yes	No
	Squeakers Long Day Care Centre	22	25	Mudgee Within Mid-Western Regional	No	Yes
	NET	124	19	-	-	-
Education	All Hallows Primary School (K-6) (Gulgong)	9	100	Gulgong Within Mid-Western Regional Outside Mid-Western Regional	No	Yes
	Kandos High School (7-12)	34	63	Kandos Rylstone Lue Outside Mid-Western Regional	No	Yes
	Lue Public school (K-6)	7	107	Mudgee Kandos Rylstone Lue	No	Yes

Table 5.33 (Cont'd)
Service Provider Demographics and Available Capacity

Service Provider Sector	Service Provider	Number of Employees / Volunteers	Length of Time Operating in Area (Years)	Geographical Area of Service	Plans to expand (Yes/No)	Available Capacity
Education (Cont'd)	Mudgee High School (7-12)	84	103	Mudgee Lue Within Mid-Western Regional	No	Yes
	Rylstone Public School (K-6)	10	160	Rylstone	No	Yes
	St Matthew's Catholic School (K-12) (Mudgee)	100	108	Mudgee Rylstone Out Mid-Western Regional	Yes	Yes
	NET	244	107	-	-	
Emergency Services	Lue Rural Fire Service	Volunteers, 15	-	Mudgee Lue Within Mid-Western Regional	Yes	Yes
	Mudgee Fire Station	18	-	Mudgee Lue	No	Yes
	Mudgee Police Station	100	-	Mudgee Lue	No	No
	Rylstone Kandos Volunteer Rescue Association	Volunteers, 12	-	Kandos Rylstone	No	Yes
	NET	118 Volunteers, 27	-	-	-	-

Table 5.33 (Cont'd)
Service Provider Demographics and Available Capacity

Service Provider Sector	Service Provider	Number of Employees / Volunteers	Length of Time Operating in Area (Years)	Geographical Area of Service	Plans to expand (Yes/No)	Available Capacity
Employment Services	Aboriginal Resource Group; Goanna Services	28	5	Mudgee Outside Mid-Western Regional	Yes	Yes
	Octec trading as Mudgee Employment Services	3	15	Mudgee Kandos Gulgong Lue	Yes	Yes
	NET	31	10	-	-	-
Health	Gulgong Multi-Purpose Service	200	50	Mudgee Gulgong Lue Within Mid-Western Regional	-	No
	Kandos Advanced Medical Centre (General Practitioner)	3	16	Kandos	No	No
	Kandos Family Medical Practice (General Practitioner)	6	12	Mudgee Kandos Rylstone Lue Within Mid-Western Regional Outside Mid-Western Regional	Yes	Yes
	Mudgee Medical Centre	20	60	-	No	No
	Rylstone Hospital - Rylstone Multi-Purpose Service	50	100	Kandos Rylstone Lue	No	Yes
	NET	279	48	-	-	-

Table 5.33 (Cont'd)
Service Provider Demographics and Available Capacity

Service Provider Sector	Service Provider	Number of Employees / Volunteers	Length of Time Operating in Area (Years)	Geographical Area of Service	Plans to expand (Yes/No)	Available Capacity
Housing	Housing Plus	5	25	Mudgee Rylstone Gulgong Within Mid-Western Regional	No	No
	Landmark Harcourts Adlington	5	30	Mudgee Within Mid-Western Regional	No	No
	Shipman's Real Estate	2	7	Kandos Rylstone Within Mid-Western Regional Outside Mid-Western Regional	No	No
	The Property Shop	19	46	Within Mid-Western Regional	Yes	Yes
	NET	31	27	-	-	-
Sports and Recreation	Mudgee Arts Council - No longer operating	-	10	Mudgee Rylstone Outside Mid-Western Regional	-	No
	The Glen Willow Regional Sporting Complex	2	7	Within Mid-Western Regional	Yes	Yes
	NET	2	9	-	-	-
Transport	Carmel Croan Community Centre	Volunteers, 160	20	Mudgee	No	Yes
	NET	Volunteers, 160	20	-	-	-

Table 5.33 (Cont'd)
Service Provider Demographics and Available Capacity

Service Provider Sector	Service Provider	Number of Employees / Volunteers	Length of Time Operating in Area (Years)	Geographical Area of Service	Plans to expand (Yes/No)	Available Capacity
Youth	Carmel Croan Community Centre	12	2	Mudgee	No	No
	PCYC Mudgee	5	30	Within Mid-Western Regional	No	Yes
	Scouts Mudgee	Volunteers, 15	60	Mudgee Kandos Rylstone Lue	No	Yes
	NET	17	31	-	-	-
Tourism	Mudgee Region Tourism	10	18	Within Mid-Western Regional Outside Mid-Western Regional	Yes	Yes
	NET	10	18	-	-	

Table 5.34
Summary of Issues and Opportunities – Central West and Orana

Theme	Issues/Barriers /Restraining Factors	Opportunities
Human Capital	Ageing population Additional housing stock required to accommodate additional population Health services to come under increasing pressures as population ages Shortage of skilled workers which would impact on ability to meet future workforce demands Additional education and training services required	By 2036, the region's population is expected to increase to more than 300,000 people Charles Sturt University at Bathurst, offering additional courses including more online options Plans to increase housing stock diversity, especially for seniors
Social Capital	Areas of high growth can have a cumulative impact on Aboriginal cultural heritage values and historic place Transient population relating to industries such as mining and agriculture (during harvesting periods)	Region home to a number of key tourist attractions and events e.g. Western Plains Zoo and Bathurst 1000 Areas of important cultural heritage
Natural Capital	Use of water by key industries Risks associated with climate change - drier and warmer climate, resulting in increased evaporation, more heat waves, extreme winds and fire risk Water supply deficiencies are expected to increase Highly productive agriculture requires ready access to water, high quality soils and suitable climates. While the total area of land available for agriculture is large, comparatively few locations have access to all these characteristics	Rich mineral resources and agricultural land Significant and internationally recognised landscapes, including the Blue Mountains, the western plains and expansive river systems and wetlands

Table 5.34 (Cont'd)
Summary of Issues and Opportunities – Central West and Orana

Theme	Issues/Barriers /Restraining Factors	Opportunities
Economic Capital	Industry reliant on road and rail infrastructure to transport goods and access markets Agricultural industry threatened by bio security issues and other incompatible land uses which fragment productive land use Specific operational needs associated with mining activities Regional communities would need support to diversify and transition their economy as mineral extraction diminishes.	One of NSW's most diverse regional economies Mudgee identified as a strategic centre Strong mining industry accounting for $2.5 billion and 5% of jobs in the region. Strong agricultural, forestry and fishing industry accounting for $1.3 billion and 11% of jobs in the region Alternative energy Projects emerging across the region Growing tourism industry
Physical Capital	Highway upgrades required to improve efficiency Growth in export industries would increase pressure on road and rail networks. Parts of these networks are already failing under pressure from freight movements due to their condition or alignment Limited public transport options Waste management systems predicted to come under increasing pressures as population and waste increases Unreliable telecommunications in some areas including phone blackout areas and delays in NBN rollout	Increased capacity of freight and logistics infrastructure – making the region a nationally significant freight hub Road, rail and telecommunications investments Increased road and rail connectivity to major cities including Sydney, Canberra and Newcastle
Source: NSW Government, Central West and Orana Regional Plan 2036		

Relevant strategic planning documents that have been sourced for this review at a Council level include:

- Central West and Orana Regional Plan 2036 - a 20-year blueprint for the future of the Central West and Orana region.

The vision of the Plan is to:

> *Create a leading diverse regional economy in NSW, with a vibrant network of centres leveraging the opportunities of being at the heart of NSW.*

The key goals for the Plan are:

- To develop the most diverse regional economy in NSW
- A stronger, healthier environment and diverse heritage
- Quality freight, transport and infrastructure networks
- Dynamic, vibrant and healthy communities.

The Central West and Orana region is home to 300,000 people and includes the regional cities of Bathurst, Orange and Dubbo and the strategic centres of Lithgow, Mudgee, Cowra, Parkes and Forbes.

Mid-Western Regional LGA in the Orana Region had an estimated population of 24,191 in 2015. The strategic centre of Mudgee has grown in recent years and services other towns including Rylstone, Kandos, Ilford, Bylong and the historic town of Gulgong. The LGA is well known for its built heritage, food and wine tourism, and mining. The Castlereagh and Great Western highways connect Mudgee with Sydney, and the Golden Highway connects to Dubbo and Newcastle. These connections provide opportunities to move agricultural and mining products to domestic and export markets.

The LGA contributed $1.67 billion to Gross Regional Product (GRP) in 2011, driven by mining (coal), manufacturing, agriculture, forestry and fishing. Mining accounts for 15% of employment, followed by retail services at 11.9% and agriculture at 10%.

Priorities outlined in the Plan include:

- Support appropriately located and serviced land for residential development.
- Support the mining and resources sector and associated businesses.
- Leverage opportunities from the LGA's location and rural character to support the established food and tourism market.
- Protect agricultural land from encroachment from residential development.
- Support the provision and continued development of major regional sports, recreation and cultural facilities.

5.12.2 Local Issues and Opportunities – Mid-Western Regional LGA

Table 5.35 summarises the outcomes of a review of relevant Council strategic plans and documents to highlight the challenges and opportunities relevant to the Mid-Western Regional LGA as identified by Council.

Table 5.35
Summary of Issues and Opportunities – Mid-Western Regional LGA

Theme	Issues /Barriers /Restraining Factors	Opportunities
Human Capital	• Limited health services • Difficulties in attracting and retaining General Practitioners (GPs) • Limited tertiary education options • Aging population	• Mudgee hospital redevelopment • Population increasing
Social Capital	• Isolation, substance abuse, family breakdown, lack of youth awareness of existing support services and facilities, under-utilisation of existing facilities, lack of regular recreational events especially in outlying areas, Youth access to existing recreational/cultural activities • Shortage of short and long-term accommodation, seen to be connected to increase in mining industry • Temporary workers accommodation facilities are available, however can have unintended detrimental social consequences, such as segregation from the existing community	• Support arts and cultural development across the Region • Council's plan to increase housing options in the region • Thriving tourism, arts and cultural sectors • A new Art Gallery facility being developed • Tight-knit community
Natural Capital	• Water supply • Impacts of mining on natural environment require management and regulation	• Area has quality agricultural land • Community values the beautiful natural environment • Area has rich mining resources
Economic Capital	• Potential for labour force competition due to mining activity • Increasing retirement age population leading to decrease in skilled employee base	• Region has strong and diverse industries including mining, tourism and agricultural • Council to support Projects that create new jobs in the Region and help to build a diverse and multi-skilled workforce • Council supports the expansion of essential infrastructure and services to match business and industry • Strong business services sector

Table 5.35 (Cont'd)
Summary of Issues and Opportunities – Mid-Western Regional LGA

Theme	Issues /Barriers /Restraining Factors	Opportunities
Physical Capital	• Traffic congestion • Road infrastructure and road surfaces requires upgrades • Lack of public transport options • Waste and sewer systems require upgrade e.g. Kandos • Broadband and mobile coverages need upgrading • Expansion of the mining industry - potential strain on infrastructure • Limited commercial flights per week • Waste services (including kerb side pickup) are reaching capacity	• Continued investment in road upgrades including Wollar Road • Historic character of region • Upgrades and development of recreational infrastructure for our youth including a water park, skate park upgrades and district adventure playground • Stormwater drainage improvements e.g. Mudgee • Improvement in footpaths and shared cycleways • Food and Garden Waste collection service being implemented
Source: Compiled by Umwelt from the following; MWRC Community Plan Towards 2030, 2017; MWRC Delivery Program 2017/18 – 2020/21 Operational Plan 2018/19; MWRC Workforce Strategy 2017/2021; MWRC Asset Management Strategy 2017/2021; MWRC Community Engagement Summary of Findings, 2017		

Relevant strategic planning documents that have been sourced for this review at a Council level include:

- Community Plan Towards 2030, 2017
- Delivery Program 2017/18 – 2020/21 Operational Plan 2018/19
- Workforce Strategy 2017/2021
- Asset Management Strategy 2017/2021
- Community Engagement Summary of Findings, 2017

The Community Plan is the highest-level plan prepared by Council on behalf of the community. In 2013, Council adopted the first Towards 2030 Community Plan where the future vision for the Mid-Western Regional LGA was developed collaboratively with the community. A review of the Community Plan was undertaken in 2017. The Community Plan outlines the strategic directions of the Council and the community's vision for the future.

The Council's vision is:

A prosperous and progressive community that we are proud to call home

The Community Plan is planned and executed under five key themes:

- A safe and healthy community
  - Vibrant towns and villages
  - Effective and efficient delivery of infrastructure
- Meet the needs of the diverse community and create a sense of belonging.
- Protecting our Natural Environment Goals
  - Protect and enhance our natural environment
  - Provide total water cycle management
  - Live in a clean and environmentally sustainable way
- Build a Strong Local Economy Goals
  - A prosperous and diverse economy
  - An attractive business and economic environment
  - A range of rewarding and fulfilling career opportunities to attract and retain residents
- Connecting our Region Goals
  - High quality road network that is safe and efficient
  - Efficient connection of the region to major towns and cities
  - An active travel network within the region
- Good Government Goals
  - Strong civic leadership
  - Good communications and engagement
  - An effective and efficient organisation

5.13 SUMMARY OF CAPITALS ANALYSIS

Inherent within a SIA process is the need to identify and empower vulnerable groups. The World Health Organisation (WHO) defines vulnerability as:

> *the degree to which a population, individual or organization is unable to anticipate, cope with, resist and recover from the impacts of disasters (significant change) (WHO, 2002)*

Both the WHO and more recently, Vanclay Esteves, Aucamp, & Franks(2015), has outlined characteristics of vulnerable individuals/groups as:

> *Children, pregnant women, elderly people, malnourished people, and people who are ill or immunocompromised, that are particularly vulnerable when a disaster strikes, and take a relatively high share of the disease burden associated with emergencies' (WHO, 2002)*
>
> *And;*
>
> *Although vulnerability is context-dependent and can include a very wide range of groups, typically the concept includes: Indigenous peoples, ethnic minorities, migrants, disabled people, the homeless, the poor, those struggling with substance abuse, and isolated elderly people (Vanclay, Esteves, Aucamp, & Franks,2015).*

The information contained in the profile section above has been gathered from a range of secondary data sources including the ABS and PHIDU, local government strategic and action plans and State government department plans. This data is used to provide a well-informed understanding of the social context in which the Project is located, including the Mid-Western Regional LGA, and the townships of Lue, Mudgee, Rylstone, Kandos and Gulgong in particular. **Table 5.36** summarises key strengths and vulnerabilities arising from the capital's assessment.

Table 5.36
Key Regional Strengths and Vulnerabilities

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Capital Area	Strengths	Vulnerabilities
Natural	• The region is rich in minerals including coal, gold and silver • Rich agricultural land including fertile land for viticulture • Natural environment formally protected in several reserves.	• Area affected by flood and drought • Potential for land-use conflicts • Key industries are putting stress on water supply
Economic	• Diverse and growing economy • Lower costs of living, including rental and mortgage rates compared with the State average • The mining and agricultural industries are strong economic contributors and significant employers in the LGA • Growing tourism industry	• High unemployment across some towns and villages • Increasing unemployment in Lue, Gulgong, Mudgee, Rylstone and the LGA • Increasing retirement age population leading to decrease in skilled employee base
Human	• Increasing population • Mudgee's Aboriginal population of 6%, compared with the State average of 3%	• Aging population - the median ages for Kandos, Gulgong, Rylstone and Lue were all significantly above the State mean age of 38.

Table 5.36 (Cont'd)
Key Regional Strengths and Vulnerabilities

Page 2 of 2

Capital Area	Strengths	Vulnerabilities
Human (Cont'd)	• The field of study in engineering and related technologies was the most common chosen for all areas except Lue, where it followed in second place to study in management and commerce.	• A decreasing proportion of working age population expected by 2026 • Consistently low levels of bachelor degree levels of study for all surrounding areas compared with NSW • Rates of obesity, excessive consumption of alcohol and smoking during pregnancy are all higher in the LGA than the State average. • High rates of respiratory disease hospitalisations • Health services under pressure from increasing population
Physical	• The current redevelopment of Mudgee hospital to provide better and more diverse services. • Higher than State average home ownership in Lue, Kandos, Gulgong and Rylstone	• The smaller surrounding towns are lacking in public transportation access • Transport infrastructure identified as requiring upgrade • Limited public transport across the region • Higher than State average levels of unoccupied dwellings
Social	• Higher proportion of volunteering for all areas compared with NSW • Lower rates of mobility (proportion of persons living at a different address 5 years prior)	• Cultural diversity across the LGA is much lower with 8% of people being born overseas compared with the State average of 30%

The strengths and vulnerability for the individual study communities are further outlined in **Table 5.37**.

Table 5.37
Key Community Strengths and Vulnerabilities for Study Community

Page 1 of 4

Strengths	Vulnerabilities
Lue	
• Diversity of natural capital (e.g. agricultural land, mining and mineral resources, parks and reserves) • Natural capital valued by community • Agriculture a key industry for employment	• Competing land uses
• Higher than State average proportion of the population holding tertiary education Certificates • Management and Commerce the top field of study, followed by Engineering and Related Technologies and Architecture and Building	• Educational attainment is lower than the State average

Table 5.37 (Cont'd)
Key Community Strengths and Vulnerabilities for Study Community

Strengths	Vulnerabilities
Lue (Cont'd)	
• Identified as having a cohesive and close-knit community • Strong sense of community	• Small population • Aging population, increasing proportion of the population reaching retirement age • Low proportion of families with children (compared with NSW)
• 5% of the population are Indigenous (above the State average)	• Less diverse community (lower than State average proportions of population born overseas)
• Lue Hotel and Lue Hall seen as important community assets • Historic buildings and structures	• Limited access to public transport and health services • No health services • Community identify need for additional services e.g. retail and food services
• Lue Public School seen as an important community asset • Low student to teacher ratio (10 students per teacher)	• No secondary or tertiary education options • Continuation of Lue Public School (given low population numbers and low proportion of families with no children)
• Unemployment currently below State average	• Increasing unemployment • Higher than State average proportion of the population only working 1-15 hours per week
• Cost of living expenses (e.g. rent and mortgage repayments) below State averages	• Median household income below State average
• High levels of home ownership	• Limited availability of rental properties
Kandos	
• Engineering and related Technologies the top field of study • Higher than State average proportion of the population holding Tertiary education Certificates	• Educational attainment is lower than the State average • High proportion (38.4%) of the population attaining Year 10 or below as highest level of education
• Low mobility and higher than State averages rates of volunteering	• Aging population (with median age well above the State average) • Low proportion of families with children (compared with NSW) • Higher proportion of single (or lone) person households (42%)
• One primary and one secondary school • Low teacher to student ratio	• Limited secondary and tertiary education options

Table 5.37 (Cont'd)
Key Community Strengths and Vulnerabilities for Study Community

Strengths	Vulnerabilities
Kandos (Cont'd)	
• Cost of living expenses (e.g. rent and mortgage repayments) below State averages • 47.6% of homes owned outright	• Median household income below State average • Higher proportion of households with a gross income of less than $650 per week
• A number of key industries of employment (including health care and social assistances, retail trade and accommodation and food services) suggesting a diverse economy	• Very high unemployment (16.5%) • Higher than State average proportion of the population only working 1-15 hours per week • High proportion of couple families where both parents are not working (48%)
• Access to recreational spaces / facilities, emergency services and accommodation and tourism facilities • Two small GP services	• Limited public transport options and health services
Rylstone	
• Engineering and related Technologies the top field of study • Higher than State average proportion of the population holding Tertiary education Certificates	• Educational attainment is lower than the State average
• One Public School	• Limited secondary and tertiary education options
• Low mobility and higher than State averages rates of volunteering	• Aging population (with median age above the State average) • Low proportion of families with children (compared to NSW)
• Cost of living expenses (e.g. rent and mortgage repayments) below State averages • 48.1% of homes owned outright	• Median household income below State average
• Numerous key industries of employment (including health care and social assistance, retail trade, education and employment, agriculture, forestry and fishing, and mining) suggesting a diverse economy	• High unemployment (8.5%) • Higher than State average proportion of the population only working 1-15 hours per week • High proportion of couple families where both parents are not working (33%)
• Access to recreational spaces / facilities, emergency services and accommodation and tourism facilities	• Limited public transport options • Lower than State average proportion of households with internet access

Table 5.37 (Cont'd)
Key Community Strengths and Vulnerabilities for Study Community

Strengths	Vulnerabilities
Gulgong	
• Engineering and related Technologies the top field of study • Higher than State average proportion of the population holding Tertiary education Certificates	• Educational attainment is lower than the State average • Limited secondary and tertiary education options
• 8% of the population are Indigenous (above the State average) • Rich Indigenous history and heritage	• Limited cultural diversity
• Low mobility and higher than State averages rates of volunteering	• Aging population (with median age above the State average)
• Cost of living expenses (e.g. rent and mortgage repayments) below State averages	• Median household income below State average
• Mining a key industry for employment • Technicians and trades workers the top occupation	• High unemployment (8.6%) • Higher than State average proportion of the population only working 1-15 hours per week
• Range of recreational spaces and facilities, accommodation and tourism services	• Limited public transport options
Mudgee	
• Engineering and related Technologies the top field of study • Higher than State average proportion of the population holding Tertiary education Certificates	• Limited tertiary education options
• 6% of the population are Indigenous (above the State average) • Rich Aboriginal history and heritage	• Low cultural diversity
• Younger median age than surrounding areas (37 years compared with 38 years across NSW) • Higher proportion of families with children (compared with the other study communities)	• Lower proportion of the population aged between 15-24 years (comparted with other age groups)
• Popular tourist destination due to its connections to vineyards, parks and reserves, etc.	• Land use conflicts
• Unemployment currently below State average	• Unemployment increasing
• Identified as a strategic centre for the region	• Limited public transport

From this review, it is possible to identify key issues and opportunities for the Mid-Western Regional LGA, as listed below.

- Balancing the impacts and economic benefits of mining for the region in the long-term
- Supporting the balance of agricultural, tourism and mining industries
- Protection of strategic land uses e.g. viticulture, agricultural land and rural residential settlements
- Infrastructure, housing and service provision and improved planning for a growing region (e.g. roads / transport; housing accessibility, affordability and mix; health service provision)
- Development of diverse housing options
- Addressing mining-related health concerns (e.g. air quality and dust, health research and assessments) and impacts on sense of community (e.g. mobility, property acquisition, mining workforce, social amenity)
- Support for an aging population, including housing, access to health care services and aged care
- Protecting key community values: rural lifestyle; social / community and recreation facilities and events; traditional community and family values
- Access to education (especially tertiary education)
- Social and community service provision
- Infrastructure development (including health and transport)
- Social inequality and inclusion
- Conservation of heritage and environment

As has been highlighted above, the issues identified within the Mid-Western LGA span the breadth of community capitals – natural, social, human, physical and economic – with development in certain capital areas e.g. physical capital, providing the opportunity to further build and develop other capital assets e.g. economic, social, human. Consequently, discussions regarding investment and community development within the LGA should be focused on those strategies that produce the greatest return across the community's collective capital assets, while enhancing local community values and aspirations.

At a local level, community residents have articulated a desire to see their community, their rural and social amenity protected, and physical capital developed to allow better access to health, education and retail services. These communities have strong social capital and sense of community, but also perceive that this may be impacted by further development in the Mid-Western Regional LGA.

At a regional level, issues relating to physical capital development appeared more salient e.g. addressing stress on existing infrastructure and services, addressing safety and capacity of transport/road networks, improving access to health care and aged care facilities, developing more education and training services/opportunities, and developing more diverse housing options.

The Mid-Western Regional LGA is fortunate to be relatively economically diverse, with mining, tourism and agriculture identified as key industries of economic contribution and employment. However, there is potential for land use conflict and cumulative impacts e.g. workforce mix, community participation, workforce competition associated with the presence of a number of prominent industry sectors (e.g. mining, agriculture and viticulture) within the locality.

As part of the NSW planning process, DPIE utilises the Voluntary Planning Agreement mechanism (referred to as Planning Agreements) to ensure that benefits of industry activity are shared and impacts of development are identified and appropriately managed at local and more regional levels. Through targeted social investment, administered through such agreements, impact management and further community enhancement can be undertaken to facilitate development across a community's key capital areas, whether that is at a localised level or at the broader LGA level.

The profile section has highlighted issues of relevance across the locality through a review of a range of sources, including engagement with key stakeholders at local and more regional levels. In order to address the impacts and needs identified, the following listed areas are considered to be the most salient.

- Maintaining Mudgee's role as a strategic centre
- Managing competing land uses of agriculture, mining and tourism
- Planning to improve road, infrastructure and transport systems
- Improving access to health services
- Improving access to diverse housing options
- Providing of aged care facilities
- Improving accessed to education and training services
- Managing impacts of water intensive industries including agriculture and mining
- Supporting a growing tourism industry.

At a local community level, needs identified for Lue specifically included:

- Support for local employment and local businesses
- Support for local housing options
- Further development of community events, sport/recreational and cultural facilities
- Planning to improve road, infrastructure and transport systems
- Improved access to health and education services
- Preservation of European and Aboriginal heritage of the area
- Maintaining the character of Lue

6. KEY STAKEHOLDER GROUPS - PERCEIVED POSITIVE AND NEGATIVE SOCIAL IMPACTS

6.1 OVERVIEW

A key component of the SIA is the process of understanding, from a community perspective, community issues, values and uses associated with the assessment area, and specifically the perceived impacts and opportunities associated with the Bowdens Silver Project (the Project). These impacts are then further assessed to predict any significant social impacts in relation to the Project and which may require mitigation or enhancement (refer to Sections 8 and 9).

The aim of this section is to provide a more complete description of community perceptions of the Project from the perspectives of those involved, in a personal, community, social and cultural sense (Ross, 2012).

This phase of the SIA program has three main objectives:

- To ensure that key stakeholders have an opportunity to participate in the SIA program and are aware as to how the information they have provided has informed Project planning and decision making;
- To identify perceived issues/impacts associated with the Project;
- To identify strategies for management and opportunities for enhancement of perceived social impacts.

These objectives have been achieved through engagement activities, as outlined in Section 3.1 which have included engagement with:

- **Residents and Landholders** in the locality – landholders and residents residing in or owning property in localities surrounding the Mine Site in the state suburbs (SSC) of Lue, Pyangle, Monivae, Havilah and Bara; and residents/landholders located along the potential water pipeline route.
- **Regional community** – landholders and residents in the wider Mid-Western Regional LGA.
- **Aboriginal stakeholders** - including Registered Aboriginal Parties (RAP), Native Title and Aboriginal Land Council claimants and Aboriginal service providers and groups.
- **Special interest groups** – including community, environmental and heritage groups within the region.
- **Local businesses** located within the Mid-Western region.
- **Community Service providers** – including education, childcare, health, recreation, youth, employment, housing and social services
- **Bowdens Silver employees** – employees of Bowdens Silver working on the Project team.

Participants were identified through a review of:

- Maps of the locality;
- Bowdens Silver's existing databases;
- Chamber of Commerce membership directory;
- Local community service directories;
- Media analysis;
- Snowball sampling i.e. contacts made from initial sources providing contact details of additional stakeholders to be consulted.

Engagement to inform the SIA has been undertaken over two main rounds. As outlined in Section 3, the first round of engagement occurred during the issue identification and scoping phase of the SIA, largely with residents and landholders in the locality surrounding the Mine Site and residents of Lue. The second round which has occurred during the assessment phase, has once again involved residents and landholders, but also a range of other stakeholder groups with an interest in the Project, such as service providers, Aboriginal stakeholders, local businesses and suppliers, community, environmental and special interest groups, existing employees of Bowdens Silver and more regional residents.

As outlined in Section 3.7, engagement mechanisms have been varied and have been designed to maximise engagement and participation in the assessment program. Mechanisms have included personal interviews, Project forums and briefings, surveys, community information sessions and open days.

Interview guides and surveys have been utilised to collect social data to inform the SIA. Stakeholders have been permitted to provide multiple responses in the identification of perceived positive and/or negative social impacts of the Bowdens Silver Project, important local community values, engagement preferences, management and potential enhancement strategies and community needs and aspirations. Proportions or counts provided during analysis refer to the total sample size of respondents, with frequencies for each perceived impact identified and recorded (only once per respondent).

In preparation of the wider EIS, representatives from the Bowdens Silver Project have also met with local government representatives, State and Commonwealth Government agencies, local business and industry groups, community, cultural and heritage groups (associated with the area) and infrastructure providers since the commencement of the Project in mid-2016. Key outcomes from this consultation and engagement have also been considered and integrated as part of the SIA where relevant.

Through the engagement process outlined above, a range of perceived social impacts, both positive and negative, have been identified relating to the Bowdens Silver Project. Outcomes of the assessment are presented in the following sections and have been classified according to the relevant social impact categories identified in the SIA guideline (DPE, 2017). Within these categories, impacts are further defined by theme and issue to afford a more detailed description of the perceived social impacts of the Project from the perspectives of the stakeholder groups consulted. It should be noted that when asked to identify issues in relation to a proposed Project, stakeholders will naturally tend to focus on negative issues/impacts associated with a Project.

However, such issues are important to understand, to ensure that those impacts of most concern to the community are fully assessed and addressed in the Project assessment, planning and design phases.

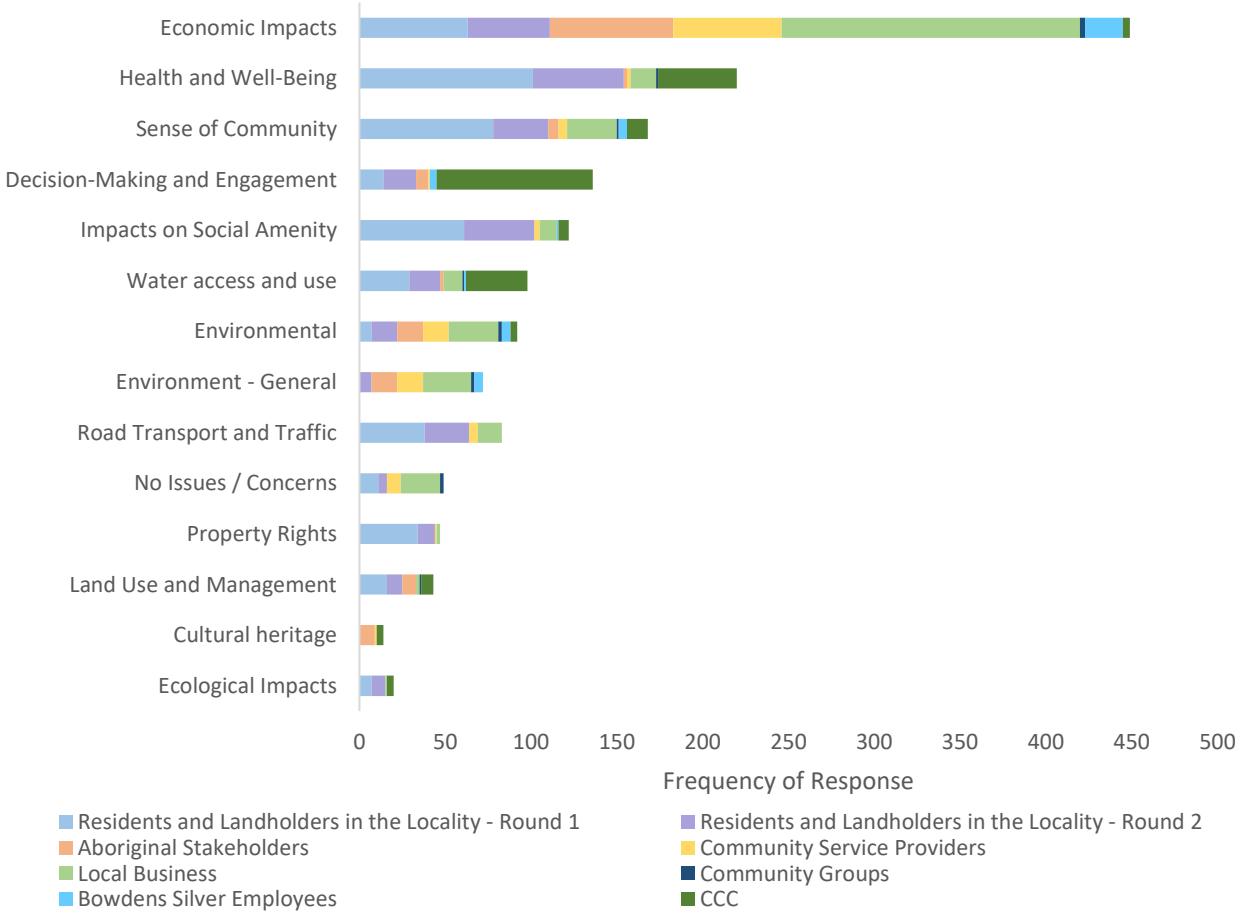
Stakeholders have also identified a range of mitigation and enhancement strategies that they believe would serve to mitigate and/or enhance Project impacts, these are considered in Sections 8 and 9.

The following sections provide a summary of all perceived impacts identified in relation to the Project across the consulted stakeholder groups with further detail of these perceived social impacts (positive and negative) subsequent described in further detail.

6.2 PERCEIVED SOCIAL IMPACT SUMMARY – KEY STAKEHOLDERS

Figure 6.1 provides a multiple response frequency of the potential issues and opportunities associated with the Bowdens Silver Project, as identified by stakeholders across each of the stakeholder groups engaged, providing an indication of the importance of each potential impact theme to the stakeholders consulted.

Figure 6.1 Perceived Positive and negative Impacts - All Stakeholders



Residents and landholders Round 1 n=69; Residents and landholders Round 2 n=60; Aboriginal stakeholders n=8; Community service providers n=37; Local business n=87; Community groups n=4; Bowdens Silver employees n=16; CCC n=13. Note: Multiple responses

A number of consistent themes were identified across each of the stakeholder groups, with certain themes more prominent for particular stakeholder groups than others. It is important to note that the frequencies for each impact theme are based on the sum of impact sub-categories related to that theme, with multiple response allowed, and therefore the frequency of issues raised exceed the number of respondents within each stakeholder group.

As illustrated in **Figure 6.1**, when considering all stakeholder categories together, the most commonly identified impacts were those related to the economy and economic aspects of the Project. This was followed by health and well-being, changes to existing sense of community, concerns relating to decision making processes and engagement, impacts on social amenity, impacts associated with access to, and use of, water resources, general environmental issues, and impacts relating to transport of product and increased traffic. It is worth noting that a proportion of those consulted identified that they did not have any issues or concerns. This view was largely held by local businesses.

A further breakdown of the identified social impacts by stakeholder category is provided in **Figure 6.2**.

Figure 6.2 Summary of Social Impacts across all Stakeholder Groups

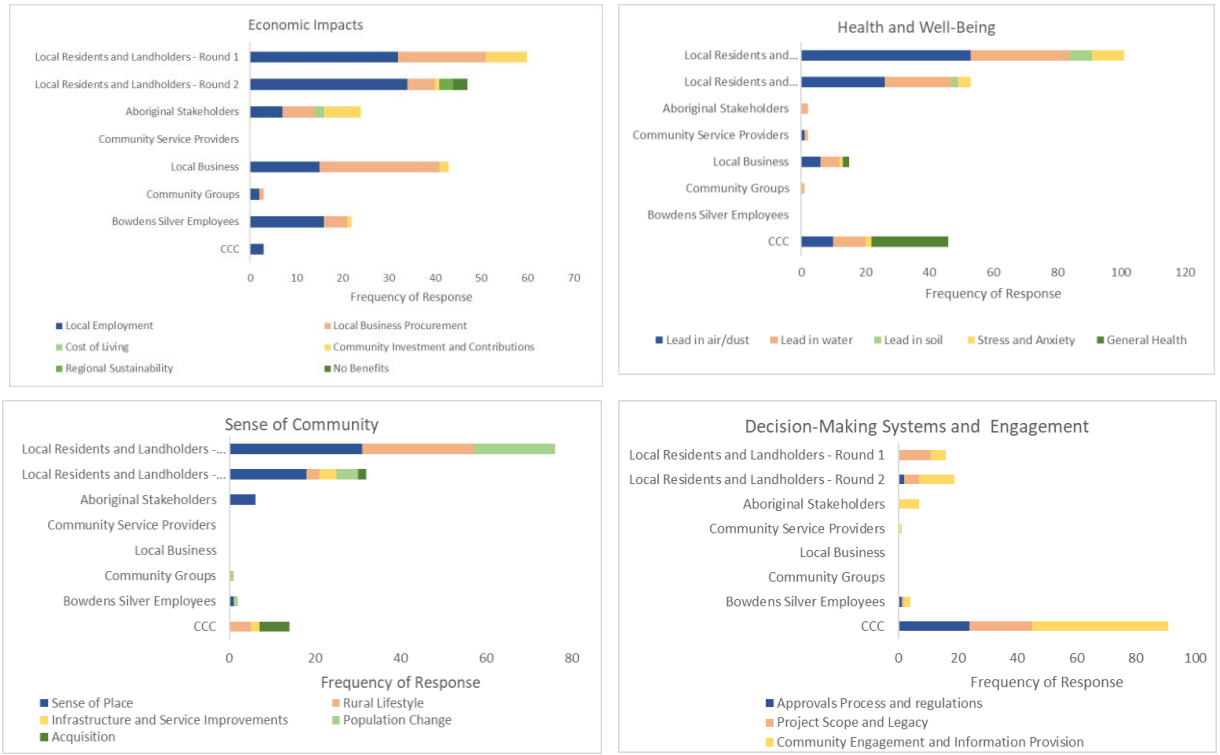
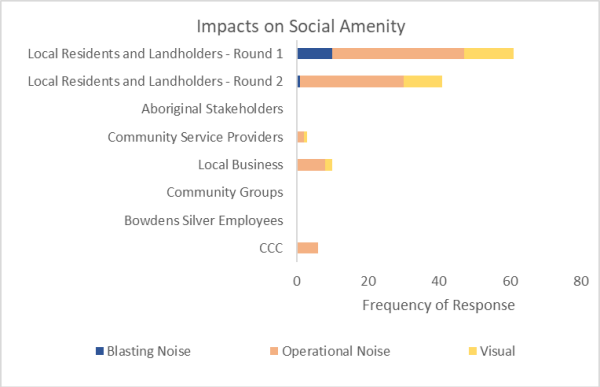
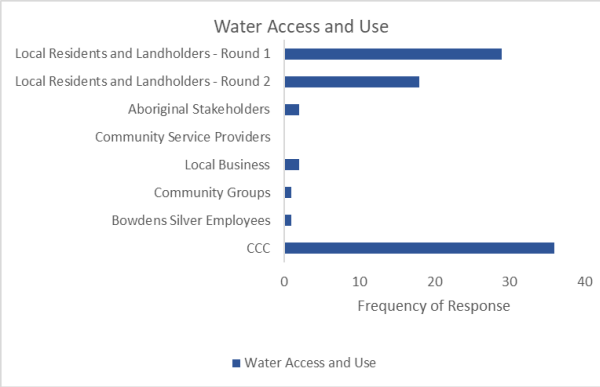
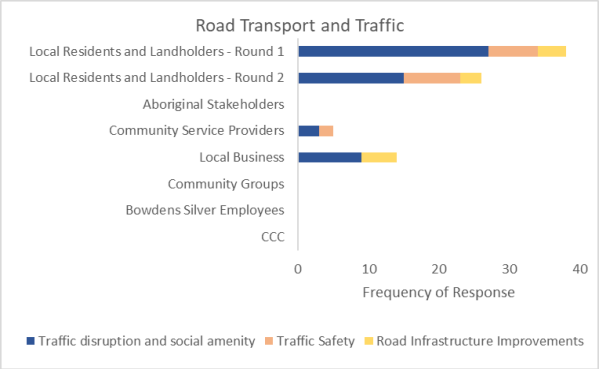
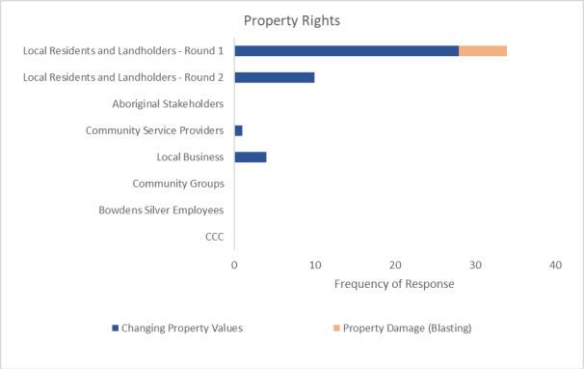


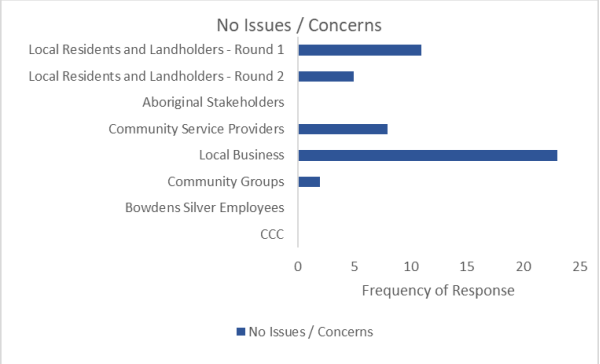
Figure 6.2 (Cont'd) Summary of Social Impacts across all Stakeholder Groups

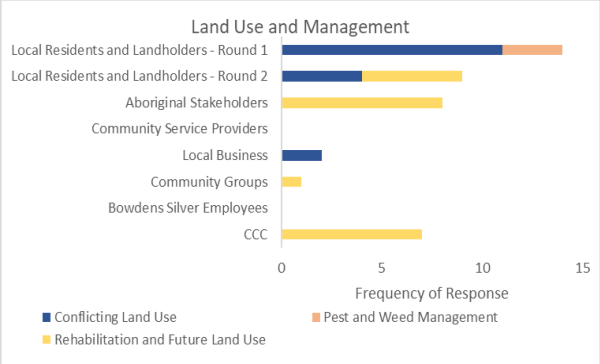


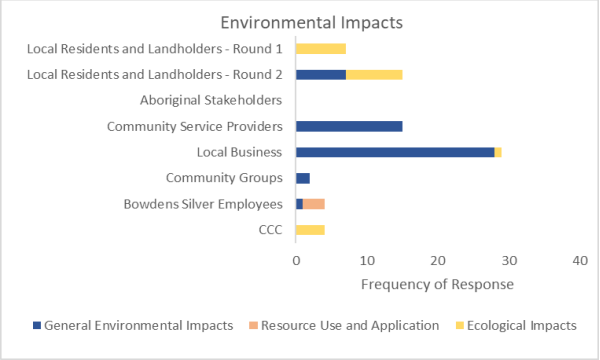


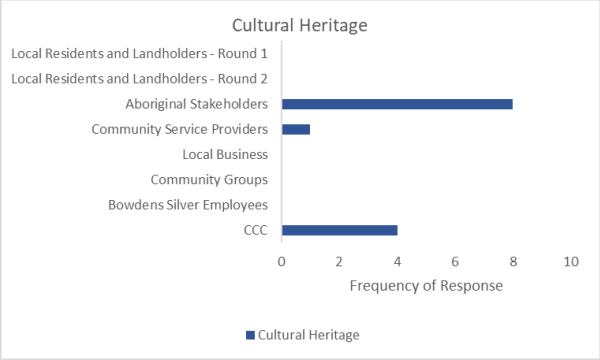












Whilst stakeholders will naturally tend to focus on negative issues/impacts associated with the Project, all stakeholder groups surveyed acknowledged the positive impacts of the Project associated with **employment** and **opportunities for local and regional businesses** and **community contribution and investment** by the Company within the LGA to varying degrees; although such issues were less frequently identified by local residents and landholders in the Lue locality. In this regard, some residents/landholders were particularly sceptical as to whether local employment opportunities would be forthcoming to maximise economic benefits locally.

Community service providers, local businesses, current employees of Bowdens Silver and Aboriginal stakeholders, expressed a desire to see the Company contribute strongly to the local and regional economy, through Planning Agreement (PA) contributions, community sponsorships and in ensuring employment and business opportunities at a local and regional level. With regards to Aboriginal employment, there were mixed views with some Aboriginal stakeholders querying as to whether employment in the mining industry was appropriate for Aboriginal people, given a conflict with their traditional cultural values; with others of the view that more employment opportunities should be offered to Aboriginal people, particularly Aboriginal youth, in the form of traineeships or apprenticeships or direct construction and operational appointments.

The potential negative impact of most concern across all the stakeholder groups consulted related to human **health and well-being,** including perceived health impacts associated with exposure to lead, particularly in dust/air and water. Health and well-being concerns were heavily discussed among CCC members at scheduled meetings, with the potential for lead contamination of specific concern to residents and landholders in the locality and those residing in proximity to the proposed Project.

Within this theme, a key sub issue of concern was the potential for the contamination of local creeks, waterways and storage dams due to the leaching of contaminants into groundwater and surface water. This concern was noted by local business representatives, members of the Lue Action Group and neighbouring residents of the proposed Project. The impacts on local farming and domestic livelihoods were also noted in this regard, due to the potential for contamination of crops and food grown in the locality.

Sense of Community was the third most frequently raised issue across all stakeholder groups, with a central focus on the rural amenity and sense of community associated with living in the Lue area. Once again, those living in closest proximity to the Project, were more concerned that should the Project be approved the sense of community in the locality would be in jeopardy as a result of local residents exiting the area and due to new residents with differing values relocating into the area. However, for other groups, there was a view that sense of community could be strengthened by the influx of a new population to the area as a result of employment and business opportunities generated by the Project, and through infrastructure improvements related to the Project e.g. roads, company investment in the community.

In relation to **engagement**, Aboriginal stakeholders and proximal residents/landholders indicated a preference to see the Company **engage actively** with the community and to build and maintain respectful relationships. There was also a desire to receive regular Project updates, details around Project planning and assessment and Project milestones.

Local business and service providers generally indicated a level of trust in the Company and industry more broadly to address environmental concerns appropriately, through the provision of appropriate impact management approaches.

As expected, CCC members strongly expressed a desire for clear, open and transparent **information provision and engagement** opportunities. Further conversations centred around the assessment and approvals process for state significant developments; with additional questioning of the Project's scope and design. Legacy issues, given the history of the Project in the community, and the historical 'stop-start' nature of the Project to date were also noted.

Social amenity impacts were of most concern to those residing in and around Lue, with residents and landholders in the locality concerned that the Project would create significant change to the area. This was particularly heightened, given that Lue has historically had a more agricultural focus. These concerns were intricately linked to the perceived impacts on sense of community, with stakeholders suggesting that operational noise, noise from blasting, dust and visual impacts, would ultimately affect local residents' rural lifestyle and sense of place.

Considering the prevailing drought conditions within the Mid-Western Regional LGA, **water access and use** was an impact frequently raised across multiple stakeholder groups in the SIA. Consequently, Bowdens Silver has attempted to address this issue through the proposal to develop a water pipeline from mine(s) in the Ulan coal fields to provide water to the Project. The proposed pipeline has elicited mixed sentiment across stakeholders consulted, with some perceiving the pipeline as a positive strategy, in utilising excess water from coal mines operational in the area, and leaving current water supply untouched; with others questioning water quality and remaining firm that obtaining water from one catchment to support another, would still result in an impact on water resources in the region.

While specific **environmental impacts** were more likely to be noted by residents and landholders residing in closer proximity to the Project, other stakeholders such as community service providers and local businesses were more likely to raise environmental issues more generally in relation to the Project.

Traffic related impacts were also of greater concern to those living in proximity to the Project, with safety and access to private property contributing to negative perceptions. There was an acknowledgement that increased traffic movements by employees, contractors and trucks transporting equipment and concentrate product could potentially impact on existing traffic movements within the LGA. Community service providers and businesses however, suggested that road infrastructure improvements and economic contributions of the Project would benefit the LGA.

Concerns **regarding property rights** were largely raised by landholders proximal to the Mine Site. However local businesses and service providers from the real estate sector also perceived that property impacts may occur as a result of the Project. Expressed stakeholder views were largely based on perceptions of the impacts associated with the development of other industries in the region, namely the cement works and solar farm, such as fluctuations in property values during influx and outflux of industry workforces. A minority of stakeholders within each group were of the view that property values could potentially increase in response to increased demand for housing, however the majority of stakeholders across each group, felt that property values could decline due to the Project's proximity.

Land use and management issues attracted a number of responses from multiple stakeholder groups, although differences were noted within the sub-themes discussed by each group. Rehabilitation was most frequently noted by Aboriginal stakeholders, who expressed a desire to be included in the progressive rehabilitation of the operation and in the consideration of post mining land uses. There was also a desire to ensure that cultural heritage should be protected and that any removed artefacts should be replaced in due course. CCC members also expressed land use and management concerns and questioned the Company's ability to ensure adequate and secured funding for rehabilitation during and post mining.

The potential **conflict in land use** in the Lue locality was noted by residents and landholders, given Lue's historical agricultural focus and regional tourism capacity. There was a view, among these stakeholders, that the Project would impact on these important values and inhibit further development of these industry sectors. It is this issue that has driven the mobilisation of some local residents, resulting in the formation of the Lue Action Group.

The **cultural heritage** of Aboriginal people was seen to be intrinsically linked with the protection of the environment and the preservation of the natural and spiritual landscape. Aboriginal stakeholders held concerns for their cultural heritage and required assurance that protocols for cultural site integrity be followed and maintained. Overall, Aboriginal stakeholders were appreciative of the Company's engagement efforts and respect for cultural issues.

6.2.1 Interconnectivity of Perceived Social Impacts

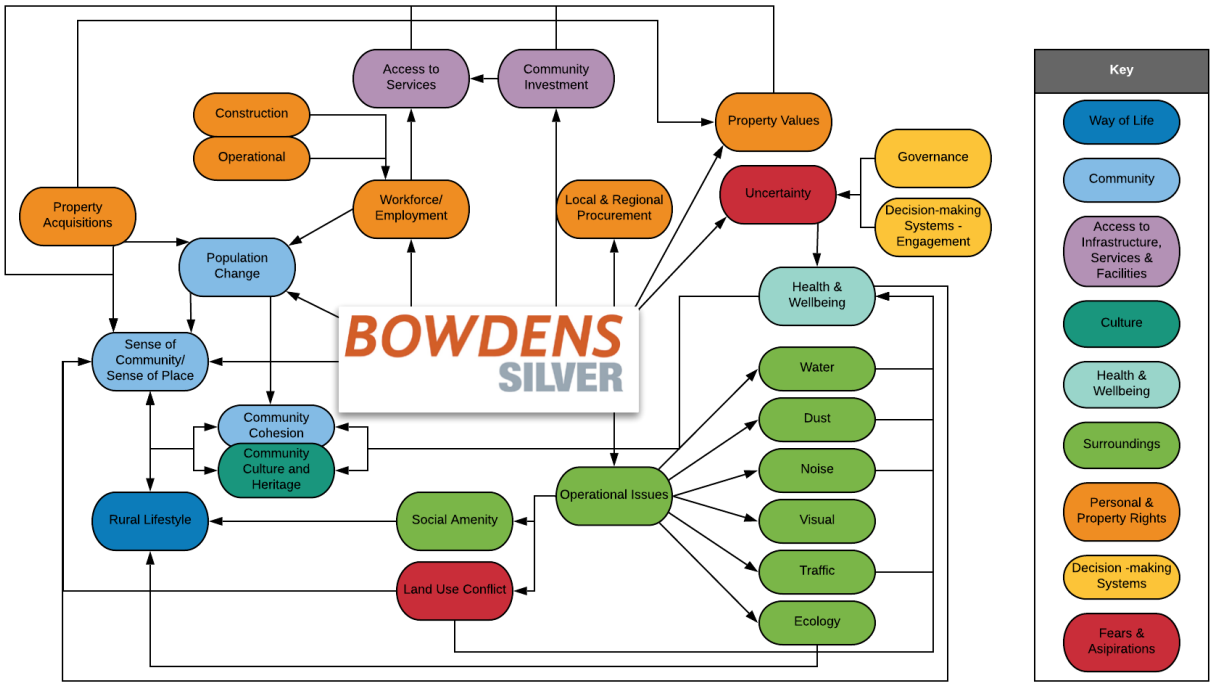
It should be noted that social impacts are not mutually exclusive, with interrelationships existing between social impact categories, themes and issues. The following graphic attempts to illustrate the linkages and interconnections that exist between the potential social impact variables/factors noted by stakeholders in relation to the Bowdens Silver Project (refer to **Figure 6.3**).

The following sections outline the perspectives of stakeholders consulted in relation to the Bowdens Silver Project. Outcomes in these sections are the views of the individuals and groups consulted and reflect their fears and aspirations in relation to the Project.

The following provide further detail with regards to stakeholders' perceived issues, prediction of the likely social impacts that may occur as a result of the Project, and documentation of the strategies that may be implemented to mitigate negative impacts and, where possible, enhance positive impacts to achieve improved Project outcomes.

The impacts identified within each of the social impact categories outlined above are also assessed in further detail in relation to each stakeholder group as part of the overarching risk-based framework in Section 7.

Figure 6.3 Perceived positive and negative social impact interconnectivity

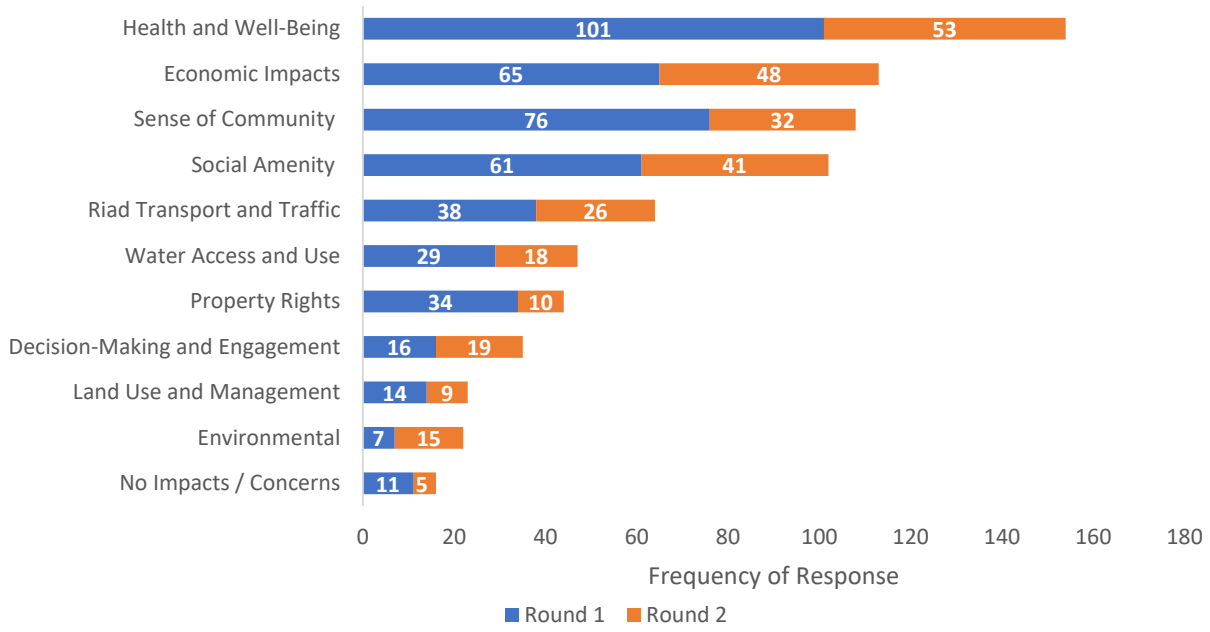


6.3 RESIDENTS AND LANDHOLDERS IN THE LOCALITY

A total of 69 residents and landholders of Lue, Pyangle, Bara and Monivae localities participated in a first round of engagement (May/June 2017) which occurred in the scoping phase of the SIA program. Early identification of perceived social issues and impacts is important to further define and focus the impact assessment program and to ensure that the program is focused on issues of relevance and concern to key stakeholders. These landholders were again contacted in Round 2 to further validate these issues, to provide feedback on the outcomes of the environmental and social impact studies and to capture perceptions regarding a number of mine design changes relevant to the Project. As part of this second round of engagement a total of 60 residents participated, 36 of which had been previously engaged during Round 1.

Landholders who had declined a personal interview in the first round were recontacted in Round 2 to offer a further opportunity to present their views on the Project. Landholders who had declined an interview in the first round of engagement had either been unable to make a time to meet or had indicated that they had no issues in relation to the Project (n=11). A further five respondents during Round 2 indicated they had no issues with the Project. A total of 58 residents and landholders participated via telephone interviews in the second round of engagement with a further two interview guides completed online. The results of both rounds of engagement are reported in **Figure 6.4**.

Figure 6.4 Perceived impact - residents and landholders in the locality (Engagement Rounds 1 and 2)



Note: Multiple responses allowed; Graph excludes issues that have a frequency of one; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously consulted in Round 1.
Source: Umwelt (2020)

Perceived social impacts across a range of social impact categories, as defined in the SIA guideline (DPE, 2017), were identified during engagement Rounds 1 and 2 by residents and landholders in localities proximal to the Mine Site. These perceived impacts generally reflect the fears and aspirations of the stakeholders consulted (refer to **Figure 6.5**). Overall, similar concerns were raised across both engagement rounds, with ratings indicating similar levels of concern in relation to the issues raised. To provide further context, qualitative comments obtained during the interview processes have been utilised where appropriate to illustrate the impact theme.

Figure 6.5 further defines the social impact themes that fall within each of the social impact categories above and demonstrates the interrelationships that exist between the social impacts raised. As is illustrated in the matrix, the social impacts identified are often relevant to more than one social impact category, given that social impacts are not mutually exclusive and are often highly interrelated. For example, potential impacts to water quality as a result of lead, are perceived by stakeholders to impact on their way of life, their health and well-being, and their access to and use of surroundings.

As indicated in **Figure 6.5**, the social impacts identified are further defined by a number of social impact themes as described in the following sections. As previously noted, where relevant, qualitative quotes obtained through the engagement process are used to highlight stakeholder sentiment and provide further context to the impacts noted.

The following data relates to the residents and landholders consulted who did choose to participate in the SIA program (n=129). Frequencies related to each impact are a count of the number of responses obtained for each impact theme or sub theme, with multiple response allowed.

Figure 6.5 Impact Matrix

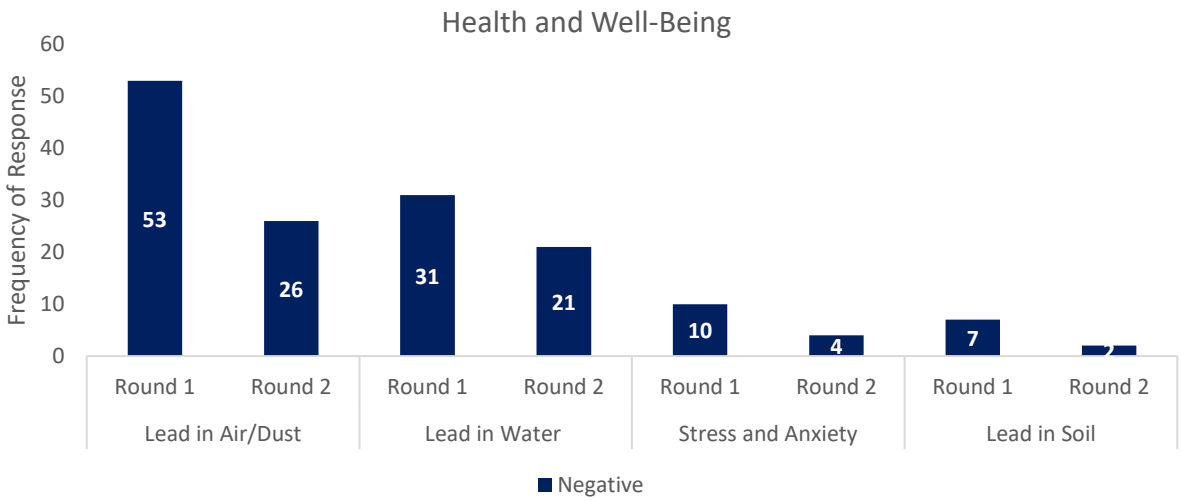
THEME / Positive and Negative Impacts	Way of Life	Community	Access to & use of infrastructure, services & facilities	Culture	Health and Wellbeing	Surroundings	Personal and Property Rights	Decision-Making Systems	Fears and Aspirations
Economic Impacts									
Local employment	●	●	●				●		●
Local Business Procurement	●	●	●				●		●
Community Service Provision and Investment	●	●	●						●
No Benefits							●		●
Environmental Impacts									
Ecological Impacts					●	●			●
Environmental - General	●	●		●		●			●
Decision-Making and Engagement									
Community Engagement								●	●
Information Transparency								●	●
Approvals Process and Regulations								●	●
Project Scope and Legacy						●		●	●
Health and Well-Being									
Stress and Anxiety	●	●			●			●	●
Lead in water	●	●			●	●			●
Lead in air/dust	●	●			●	●			●
Lead in soil	●	●			●	●	●		●
Land Use and Management									
Conflicting Land Use	●	●		●		●	●		●
Rehabilitation				●		●			●
Pest and Weed Management						●			●
Property Rights									
Property Damage (blasting)							●		●
Changing Property Values							●		●
Social Amenity									
Rural Lifestyle	●	●		●					●
Acquisition	●	●		●	●		●	●	●
Infrastructure and Service Improvements			●			●			●
Population Change	●	●		●					●
Sense of Place	●	●		●		●			●
Impacts on Social Amenity									
Blasting Noise	●					●			●
Visual	●					●			●
Operational Noise	●					●			●
Road Transport and Traffic									
Traffic Disruption and Social Amenity	●		●			●			●
Traffic Safety	●				●	●			●
Road infrastructure improvements	●					●			●
Water Access and Use									
Water Access and Use	●					●			●

Respondents during Round 2 of engagement were also asked 'do you think that the disadvantages of the Project would outweigh the advantages?'. Of the 52 respondents that provided an answer, 24 (46%) agreed with the statement, 18 (35%) disagreed and 10 (19%) were unsure. This is reflected below with a majority of the impacts that were raised by respondents in Round 2 being negative (79%) as opposed to positive (21%).

6.3.1 Health and Well-Being

The most frequently identified perceived social impacts in relation to the Project in Round 1 centred around potential contamination of air (53), water (31), and soil (7) from lead exposure, and the subsequent impacts on human health and well-being (**Figure 6.5**). Potential impacts in this regard were reiterated in Round 2 of the engagement program (26, 21 and 2 respectively). Other well-being impacts identified by residents and landholders (14) included the stress and anxiety associated with the assessment process and the uncertainty around whether the Project would proceed.

Figure 6.6 Perceived health and well-being impacts - residents and landholders in the locality



Note: Multiple responses allowed; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1
Source: Umwelt (2020)

The most frequently related health and well-being concerns in Round 1 (53) and Round 2 (26), related to the potential exposure to airborne lead particles in the air/dust and the subsequent long-term impacts on human health.

> *Dust after you blast is my only concern from a health point of view.*
>
> *The wind blows from the west which is right across us.*
>
> *Potentially with the open cut, there may be lead poisoning or at least that's the community perception. We're susceptible due to our location and height.*
>
> *Pollution in the air carrying lead, arsenic and mercury. I'm worried it will get into the land.*

> *Pollution, particularly the lead, it's very windy here and knowing the winds we get here and being 1.5km away from the mine, I don't understand how it can be contained?*

There was also concern that potential lead contamination in dust could also impact on the quality of water in domestic water tanks, and in turn human health, due to run-off from rooftops.

> *We're concerned about prevailing winds and potential for lead contamination in soil and tank water supplies.*
>
> *It will also settle on my roof and we drink rainwater, so we and our children could be exposed to toxic drinking water.*
>
> *We grow our own veggies and we kill/eat our own sheep and we have rainwater tanks, so there is possible contamination if we eat/drink contaminated food and water.*
>
> *Will affect grapes and cows, wine; olive oil has zero tolerance for lead.*
>
> *We know the effects of lead on developing bodies and seeing what happens in other silver mining towns and those residents are a lot further away than we are here. We came here to raise a healthy family, not be worried about lead poisoning.*
>
> *I've suffered lead poisoning and I had kidney failure, so how could I bring my grandchildren up in that?*
>
> *We haven't put our veggies in this season due to the drought, but say we get the water back, would the lead affect our homegrown produce?*

Water quality was also identified as an issue, particularly the potential for contamination to both ground water e.g. domestic bores, and surface water e.g. local creeks and waterways. Residents were concerned that local water supplies and waterways could become contaminated, through spills from the tailings storage facility and lead contamination affecting local pastures and farming livelihoods.

> *We are dependent on our bore.*
>
> *We are worried about impacts to the creek.*
>
> *They say that they won't allow toxic contamination to enter the water, but there could be leakage of toxic substances into the aquatic systems downstream through aquifers in the Pit.*
>
> *The Project might last 20-30 years. Subsurface water supplies will be irrevocably disturbed. Agricultural land which has sustained life for 60,000 years will be out of production. A contaminated TSF will sit perched above Lawsons Creek for millennia. Any breach would cause massive damage to Lawson Creek and its users and irrigators, as well as the town of Mudgee and beyond.*
>
> *Potential lead [contamination] could affect our grazing pasture.*
>
> *Impact on water quality would probably be the main one, but I have to accept some of the things they are saying (e.g. about minimising any negative impacts on the environment). I have to take their word on that. I want to see the Project go ahead.*
>
> *I think it's OK, unless lead becomes a problem - then it's all over for us, we wouldn't be able to sell cattle anymore; but they should be all over that.*

> *Any detectable lead will ruin our business.*
>
> *The lead blows into the air, then it settles on Lawson Creek. That lead sinks to the bottom (as it is a heavy metal), you can't get rid of that, it stays in that catchment and it can flow into the Cudgegong River and pollutes the water.*

Given a level of concern around lead, many consulted residents questioned whether it would be safe to live in proximity to the proposed Project, with the local Lue school highlighted as potentially at risk.

> *Any slight amount of risk is far too much.*
>
> *There is no safe level of exposure to lead.*
>
> *The health and welfare of the entire community surrounding the proposed Mine Site will be irrevocably affected by long term exposure to lead particles released into the atmosphere by the mining process.*

There was also a perception and fear that, as a result of the above concerns, parents may withdraw students from Lue Primary School, which may in turn cause the school to close.

> *If I had a child at a school with a mine 2.5km away I would have serious concerns.*
>
> *We have little kids and we know the effects of lead on developing bodies.*
>
> *People won't enrol their children in the school, no school equals no village.*
>
> *I'm worried about the future of the school.*

Cumulative dust concerns were raised in relation to vehicle movements contributing to dust concerns and potentially increasing exposure to contaminants settling on agricultural areas.

> *Vehicles will be moving through the site creating most of the dust and that is carried by the winds and then settle on pasture.*
>
> *The proposed access road on Maloneys Road may actually increase the dust, as wind comes from the west. There is potential for the dust to travel east with the prevailing winds.*

Although concerned with increasing dust, one stakeholder consulted in Round 2, acknowledged the proposal to enclose the processing plant may ameliorate dust concerns.

> *Pollution and dust but If they can keep the dust down, it won't worry me. According to Tony McClure they will be doing any grinding in a building within a building. If they do that and stick with all the environmental regulations, there won't be any problem.*

Participants also raised issues relating to psychological health and outlined how they had experienced both stress and anxiety as a result of the Project. Participants noted that there was a level of uncertainty around the future of the Project, given its history in the community, resulting in heightened levels of stress and anxiety in relation to the potential impacts on quality of life and social amenity. Sleep disruption was also raised as a potential impact of the Project due to noise from operations. Participants specifically identified impacts of stress and anxiety more frequently in Round 1 (10) than in Round 2 (4).

> *It's been going on for so long with so many companies, it takes a toll on people.*
>
> *Fear - people are just frightened about what they don't know.*

There is an emotional cost caused by anxiety [related to the Project].

I like to pretend it's not happening, it's just so depressing. Every time I get a letter from them, it makes me sick to my stomach.

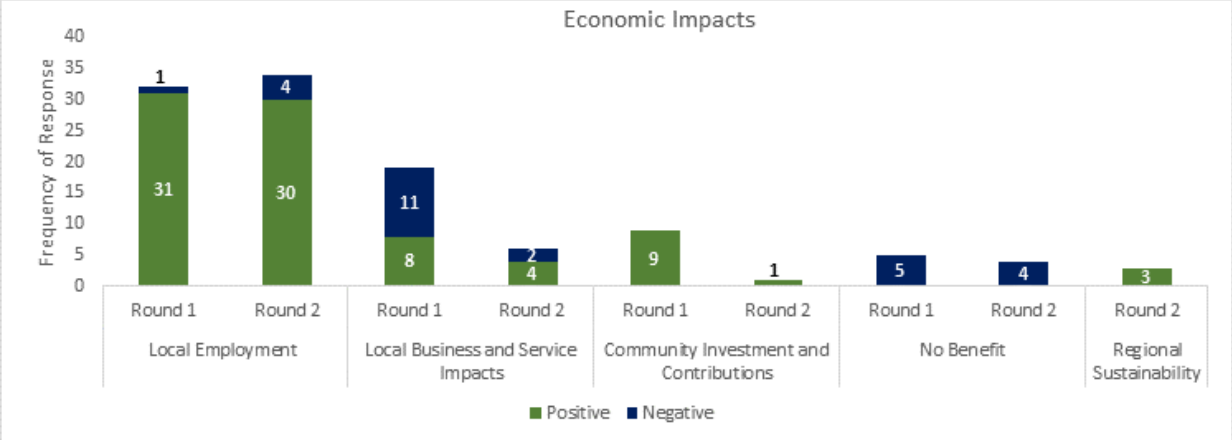
Anxiety level is also huge, and its anxiety not just for yourself but also for your neighbours and community.

Increased anxiety levels as it has been going on for such a long time.

6.3.2 Economic Impacts

Figure 6.7 highlights the potential economic impacts raised by residents and landholders in the locality in relation to the Project, which from a social impact perspective largely related to the opportunities for local employment and procurement of local business; and a greater use of community services, impacting local and regional livelihoods in a positive way.

Figure 6.7 Perceived Economic Impacts - Residents and Landholders in the Locality



Note: Multiple responses allowed; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1.

Source: Umwelt (2020)

The opportunity for local employment was the most frequently identified positive social impact, with respondents in Round 1 (31) and Round 2 (30) identifying that the Project would provide jobs locally and regionally; would facilitate training of young people in the area; and would provide a much needed boost to Lue and the broader region, given the current economic climate.

To ensure that these benefits are maximised and enhanced, residents requested that there be 'no workers camps' developed, and that the workforce be encouraged to live locally. Training opportunities for local people was reported as a prerequisite to secure local employment with Bowdens Silver. Common responses included:

Employment for locals - keep doing it.

Employment, not much work going on here, especially use locals for the [Project].

Employment for locals, especially younger people.

Employment for locals and provide opportunity to get skilled up.

> *If there was a lot of local work, but I'm just unsure. The impact of it will certainly impact some people more than others.*
>
> *I've lived here since 1982. It was a dreary little place with tiny houses, where people had forgotten about it, but they were torn down and now more houses are being built and there are no half acre blocks are left. I hope it goes ahead.*
>
> *If we had a little shop in Lue, it would be really handy - I'd like to see Lue village boosted up a bit more with shops. Only the pub is used (mostly at night-time) It would be nice to see some cafes and more people.*
>
> *They have to employ locals and give training to them. My son has been unemployed for about 6 months and if he had training, he could be employed in the mine and he could stay local.*
>
> *They will have to get training I imagine, but Tony seems to be going out of his way to offer employment to locals.*

Residents acknowledged that while the Project would generate employment, this was not enough to outweigh other impacts of the Project, and that employment would only be for the short-term. It should be noted that the proposed Project has a Mine life of at least 16.5 years. A view was also expressed that *'most people in Lue are retired'* and therefore would not benefit from the Project, through employment or otherwise, with the economic benefits of the Project thought to be largely in the surrounding localities of Mudgee, Rylstone and Kandos, and not in Lue itself. These potential negative impacts of employment were raised by one respondent in Round 1 and four respondents in Round 2.

> *Employment, but short term and that doesn't outweigh the costs.*
>
> *Jobs, but not enough.*
>
> *There'll be an injection into Kandos, Rylstone, Mudgee. Royalties will go the government. You're an Australian company so at least profits/taxes stay in the country.*
>
> *Some younger blokes might get jobs out of it and good luck to them, but the village won't be helped.*
>
> *Jobs and business - but won't be in Lue.*
>
> *Some employment for some people.*
>
> *There are no benefits for us, only the mine.*
>
> *[The negatives of the Project outweigh the costs], only because of where we're located and at our age, we're not looking for jobs.*
>
> *Easily the money being made by the company will not help the Lue area, it may help Rylstone and Kandos, but the majority will live near Mudgee. Short-term accommodation will be at a premium.*
>
> *I guess the main one is employment for local people, but I'm retired so won't affect me. Other jobs have been lost in Rylstone/Kandos due to closed businesses/industry), so I am sure they would appreciate jobs.*
>
> *Overall, it's not a great thing for such a small village.*

During the Round 2 engagement activities, one respondent reported that the recruitment process for local employment was not transparent and that attaining employment was difficult, despite industry knowledge and experience.

> *Although their policy (another company) was to recruit locally, it was very selective and in house. I didn't even get a consideration. It all went to people in Rylstone. All of these policies say that they recruit within 1hr of the location first. They start in the centre of the circle and work out to try and find the best person for the job. We didn't even get an opportunity.*

The potential of the Project to have an economic impact on local businesses was also frequently cited by residents and landholders in the locality as both a positive and negative impact. This issue was raised more frequently in Round 1, with 11 respondents believing that the Project will have a negative impact on local businesses and services with another eight noting that it would have a positive impact. This remained an issue for respondents in Round 2 with four respondents raising it as a positive impact and two raising it as a negative impact.

On a positive note, residents suggested that the Project would provide additional economic benefits to local businesses within Lue, with the Lue Hotel frequently noted as a key business that may benefit. In addition, residents and landholders in the locality acknowledged that the Project would create economic flow on benefits to local businesses in the region and greater use of community services, contributing to the region's overall economy and sustainability.

> *Business for the hotel.*
>
> *Work and employment, more money for the pub.*
>
> *Providing jobs for locals, keeping the pub and school going.*
>
> *I think there will be flow on benefits for towns like Rylstone.*

Some residents spoke of the economic benefits that the Project could bring to the community through further local community investment and contributions for roads, sporting and community groups and service providers.

> *More money for the town with accommodation for the construction workers. The farm stay/accommodation people might see some benefits.*
>
> *Sponsoring different groups around the place.*
>
> *Sponsorships and community Projects, like the bore they (Bowdens Silver) drilled yesterday at the school.*

In contrast, others felt that local business may suffer should people choose to relocate away from the area as a result of the Project. There were concerns that the Project was not compatible with tourism activities in the area and that the presence of the Project could result in a loss of tourist trade.

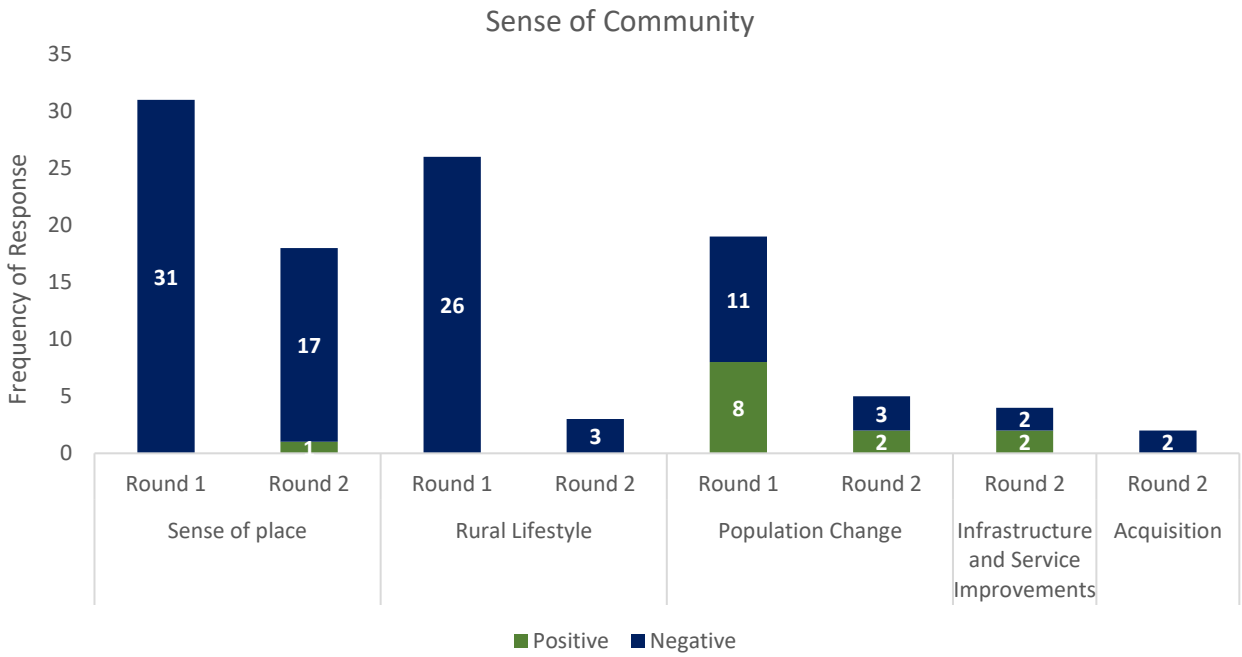
> *The area is developing as a food/wine destination - another mine could contradict what tourists may think and affect us if we choose to run an accommodation business.*
>
> *My clientele come here for the peace and quiet, they want to relax. It's the same for the wineries, they don't want to be staring at a mine.*

> *By running our Airbnb business … we bring in Sydney people spending money locally each weekend and we also employ a lot of local people, such as cleaners, gardeners, handymen, plumbers, electricians etc*

6.3.3 Sense of Community

The second most frequently identified negative social impact, perceived by residents and landholders in the locality across both rounds of engagement (and third most common impact theme overall) related to impacts on rural lifestyle and sense of place should the Project proceed (**Figure 6.8**) (raised 68 times by respondents in Round 1 and 27 in Round 2). Potential positive impacts to sense of community was identified by eight respondents in Round 1 and five respondents in Round 2, regarding the potential influx of population to the area and possible infrastructure and service improvements that may occur from such population change.

Figure 6.8 Perceived sense of community impacts - residents and landholders in the locality



Note: Multiple responses allowed; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1.

Source: Umwelt (2020)

A number of residents described Lue as a small town with a diverse population, where people trusted and supported one another. In this regard, local residents of Lue and its surrounds raised concerns that the Project may potentially change the nature of Lue – its character, culture, cohesion, sense of place and community.

> *We like it [Lue] the way it is.*
>
> *A mine will change the village whether we like it or not.*
>
> *We are a diverse and prosperous community without the mine.*

The presence of several state listed heritage buildings in Lue has facilitated a strong sense of place for residents and landholders in the locality. Interviews with stakeholders with an interest in heritage outlined the need for Lue's European heritage to be restored and conserved. Buildings of importance, as outlined by community stakeholders, included the Lue Station (which remains an active sheep station), the railway station and cottage and the Lue Hotel, all of which are registered on the NSW State Heritage Register (refer to Section 5.4).

Some residents and landholders interviewed expressed the sentiment that the presence of the Project could irrevocably change the character and rural way of life in Lue, impacting the lifestyle currently afforded to Lue residents. Some residents indicated that they had chosen to move to the area for this lifestyle and that the locality was an excellent place to raise a family or retire.

> *More people in town isn't necessarily what we want.*
>
> *It's good being able to bring the kids to the property to enjoy.*
>
> *This Project could divide the community.*

Emotive phrases such as '*destruction of the village*' and '*it will be an environmental disaster*' were used by a number of residents with strong opposition to the Project. Others felt that the Project was simply '*too close*', and that the risks to Lue were just too great.

> *Not for Lue, not compatible.*
>
> *It will be in our backyard and we don't want it there.*
>
> *Not enough buffer around it without encroaching on folks.*
>
> *It's too close and just shouldn't be here.*
>
> *If it was 8km away, no-one would care.*
>
> *This mine will be the closest silver mine to a village.*

There was a concern that Lue may follow a similar direction as Wollar, located approximately 50km north east of Mudgee. Wollar is the geographic location of the Wilpinjong mine, owned by coal mining company Peabody Energy Inc. As a result of its development approval, Peabody Energy has purchased the majority of properties in Wollar with only a few blocks remaining privately-owned.

> *We don't want another Wollar – it has been totally buggered.*
>
> *You only have to look at what happened at Wollar, that town was destroyed. It will happen to Lue too.*
>
> *The village becomes unliveable. This is evident from other local Projects at Bylong, Ulan, Wollar and further afield at Bulga and Camberwell.*

Lue's existing sense of community was also perceived to be in danger as a result of either people choosing to relocate out of the area, due to the presence of the Project, or as a result of the changing nature of the population that may ensue as a result of new people moving to Lue to take up employment (11 in Round 1 and three in Round 2). Some residents outlined that this had already started to occur with neighbours leaving, as Bowdens Silver proactively purchased properties in the area.

There was also a perception that some people may have to move as a result of acquisition of their properties. As has been noted previously, the school was also cited as being very important to Lue and the community, and it was considered that any population loss could impact the Lue Public School negatively.

> *Not convinced on the value, who would move or live there?*
>
> *Some of our beloved friends have already been bought and left so the community has already changed and will continue to do so*
>
> *Some people may have to move out.*
>
> *Some people are selling in the village, there are more for sale signs. People are leaving the town.*
>
> *People will withdraw children [from the school] if the mine goes ahead.*
>
> *I live close to it, if it goes a head I won't stay there, which means I would have to leave everything I've worked hard at creating.*

The potential influx of a new Project workforce, moving to the community and/or the area, to take up employment, was not perceived as a positive impact on Lue by some residents. For others, this was perceived as a key benefit of the Project. These residents saw population change as a positive impact of the Project, with 8 respondents in Round 1 and 2 respondents in Round 2 suggesting that the Project had the potential to increase the population in Lue and the surrounding area, by attracting 'more people to Lue'. Local employment was also seen to benefit local businesses and community service providers.

> *They are hoping it will create jobs for their children but that doesn't happen in other mines. People are leaving the town.*
>
> *We will lose some of the community, people will move, people like the quiet older people, but someone is going to mine it, I knew full well [about the Project] before I bought my house, it doesn't bother me.*
>
> *Put Lue on the maps.*

The purchase of the Lue Hotel by parties with an interest in but separate to the Bowdens Silver Project, occurred during Round 2 of engagement (October 2019). Local residents and landholders in the locality, commented both favourably and in opposition of the change in ownership. Favourable comments related to the opportunity for the business to extend its existing offerings to include a coffee shop, much anticipated by the Lue community. Opposing residents perceived the purchase as the acquisition of a primary social facility that would further divide the community.

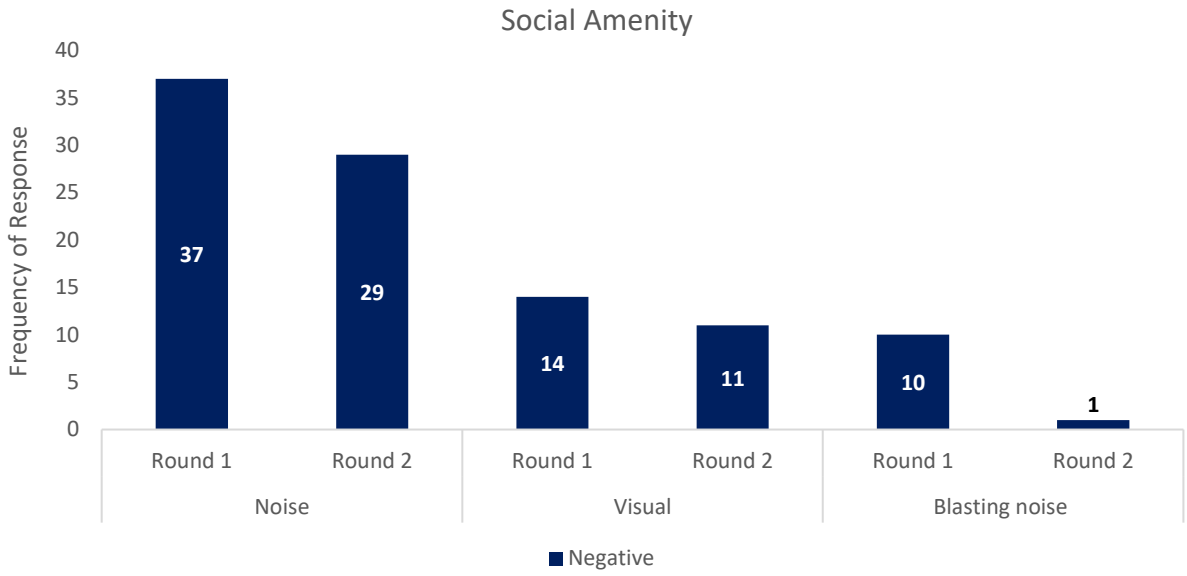
> *They also bought the pub. They said they will put a coffee shop, it's a smart move if you ask me, I think it's great.*
>
> *I can see the 50% of the town thinks it's a good idea. Kids get a job through the pub, it's all income for Lue.*
>
> *If we had a little shop in Lue, it would be really handy - I'd like to see Lue village boosted up a bit more with shops. Only the pub is used (mostly at night-time). It would be nice to see some cafes and more people.*

6.3.4 Social Amenity

Social amenity impacts identified by respondents (61 and 41 in Rounds 1 and 2 respectively) largely related to potential noise impacts from the proposed operation, with concerns focusing on the potential for operational noise (37 in Round 1 and 29 in Round 2) and visual impacts (14 in Round 1 and 11 in Round 2). Eleven respondents overall also raised noise from blasting activities as a potential impact should the Project be approved (**Figure 6.9**).

While dust impacts were noted, these were largely mentioned in relation to lead and impacts on health and discussed in Section 6.3.1. Amenity issues were also raised in relation to proximity of the proposed operation to Lue and surrounding properties, as has been noted in Section 6.3.3 detailing Sense of Community.

Figure 6.9 Perceived Social Amenity Impacts - Residents and Landholders in the Locality



Note: Multiple responses allowed; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1.

Source: Umwelt (2020)

Concerns regarding the potential for noise from the operations appeared to be heightened given the rural nature of Lue and the existing peace and tranquillity highly valued by local residents:

> *Noise would drown out the silence.*
>
> *Noise is what drives people out of communities.*
>
> *It's so quiet at Lue, and it [increased noise] will impact on my life outside and I will have to sacrifice my lifestyle for a company of shareholders.*
>
> *It's very quiet out here, especially at night.*
>
> *You can hear a cow sneeze at night it's so quiet.*
>
> *The quiet pleasure of walking alone in the silent bush along the sandstone escarpments will be replaced by constant industrial noise of a 24 hours a day mining operation.*
>
> *It's going to be tucked in pretty well to reduce noise and dust.*

> *I came here for the peace and quiet and won't know until it starts up, but I will be devastated if I hear noise.*
>
> *I didn't want to listen to back up alarms.*
>
> *Noise - Amenity, quiet lifestyle will be ruined.*

During Round 2 engagement activities the impact of noise on health was also noted in this round (as outlined in Section 6.3.1) as well as concerns that the 24 hour operation of the proposed Project may contribute to sustained noise impacts.

> *Noise, supposed to be 24 hrs operation and it shouldn't be, people have got to sleep.*
>
> *At night-time would be worse I imagine, but even during the day, you don't want to live next to a factory running 24/7.*

Cumulative noise impacts were also raised during Round 2 related to a combination of potential sources such as the proposed Project, traffic from neighbouring business, the local motor cross track and the waste disposal area.

> *I can hear the bike track now and it's about 4km away. Murdoch's run their trucks too, concern for noise of the exhaust breaks. It's going to be echoing around this little valley. I can hear people at the tip at night 500m away.*
>
> *Mining trucks and machinery making noise, depending on climatic conditions you can hear people talking quietly on their veranda a kilometre away, sound travels a lot here at night, it's annoying.*

Some landowners who owned accommodation services in the area were concerned that operational noise would impact the social amenity for guests during their stay, suggesting the 'country retreat' they are providing would be adversely affected.

> *Noise, a massive problem for our Airbnb business. Who wants to be woken up by the noise? If they go ahead, it will be an absolute disaster.*
>
> *Noise for my B & B, it's going to be a lot.*

In relation to visual impacts, participants in proximity to the Mine Site commented that they currently have 'great views' from their properties and that the Project had the potential to impact on these. General aesthetic concerns should the landscape change as a result of mining and the potential for light spill from the Project also appeared to be of concern as noted in the following comments:

> *At some point there'll be a loss of visual amenity and lifestyle choices for us.*
>
> *We don't want a glow of light over the sky at night like other places.*
>
> *We'll see it lit up for miles around.*
>
> *My house looks into their Project area, I will get the noise, light and dust. When Kingsgate owned it, they told me that I live in a natural amphitheatre, so I will cop it all.*
>
> *I won't have my nice outlook; their stockpiles will block my views. I have ceiling to floor windows in my house and they are meant to view the land.*
>
> *I'm sitting on the hill facing that way for the view and I am concerned.*

> *I have million dollar views out the back of my place.*
>
> *Constant glow, the lights.*
>
> *I'm assuming it won't look that great. We travel through the Hunter Valley and the country there is just disgusting and ugly.*
>
> *We currently enjoy a beautiful view from our place towards the hills, they will disappear*

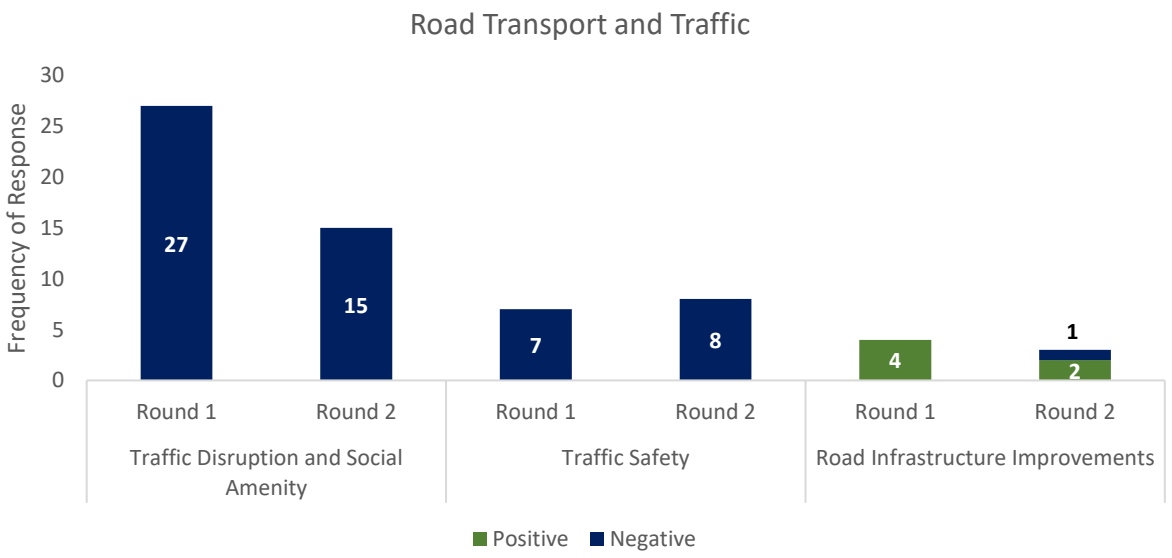
Concerns around the noise and vibrations caused by blasting were largely associated with the impact on amenity from rattling windows, shaking and the overall noise that is generated as a result.

> *…when they get to their blasting, we might feel it through the ground, the windows rattle.*
>
> *The quarry has their runs and it just shakes, like a little earthquake.*

6.3.5 Road Transport and Traffic

Across Rounds 1 and 2 of engagement, respondents raised a range of concerns relating to traffic and transport, particularly the potential impact of Project related traffic on local roads and subsequent amenity issues (38 and 26 respondents respectively). Road safety was consistently noted as a potential negative impact across both rounds of engagement, particularly given the presence of the Lue Public School in Lue (refer to **Figure 6.10**), with seven and eight respondents who raised the issue respectively.

Figure 6.10 Perceived Transport and Traffic Impacts - Residents and Landholders in the Locality



Note: Multiple responses allowed; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1.

Source: Umwelt (2020)

The potential for increased traffic through Lue and surrounds was identified as a concern during both rounds of engagement, with many residents outlining that this would cause major disruption to those living within Lue and its surrounds, impacting the existing social and rural amenity of the area. Other residents suggested that given the current condition of roads in the locality, the Project presented an opportunity to improve road conditions in the locality (4 and 2 in respective rounds).

> *The Project will result in better roads.*
>
> *Roads would be improved; they have got to improve.*
>
> *The roads need to be improved and approved for B-double access.*
>
> *There are many blind corners and sections on that road that would not allow wide loads through.*
>
> *There will still be much increased traffic along the Lue to Mudgee road. Already a dangerous road which has seen many accidents, the greater traffic movements must lead to surface damage and increased accident rates.*
>
> *Road safety is a concern. Road has had a few fatalities, Passed for B double use a few years ago, by Council. Road is too narrow for those trucks, lots of stock being moved and if a school bus needs to pass a truck, then one of them will have to get off the road.*

Products (silver, lead and zinc concentrates) from the Project are expected to be initially transported from the Mine Site via road to transport hubs and ports in Parkes, Sydney or Newcastle. Given the feedback obtained from residents during Round 1 of engagement, it is currently proposed that product would be transported on B-Double trucks via the relocated Maloneys Road, which is proposed to connect with Lue Road, 1.8 km west of Lue. This would minimise movement of Project-related trucks through Lue.

Social amenity (15) and safety concerns (8) were again raised by residents and landholders as concerns during the second round of engagement activities. Questions at this time raised by landholders located adjacent to the proposed access road, centred around the road's proposed location, the need to ensure alleviation of congestion, and minimising risks associated with private property access.

> *The road is already busy now with workers from Ulan and Wilpinjong also on the road, so the traffic could bank up/bottle neck. May need to put in a turning lane?*
>
> *Concerned with where they will create the new access road to the West of Lue?*
>
> *The new road will intersect with Lue Rd, it will be in a bad position.*
>
> *So, more trucks equal more noise coming past us.*
>
> *Safety is my main concern. Trucks come flying up the hill, they are only meant to be going 80km/hr, but they do more like 100 km/hr.*
>
> *Pyangle Road is a dirt road, bad enough as it is without more traffic.*
>
> *There will be an increase in traffic of mine workers because they won't be living there, they will be living somewhere else.*
>
> *Lots of workers in the area do long shifts then drive home, and fall asleep, that's a danger.*

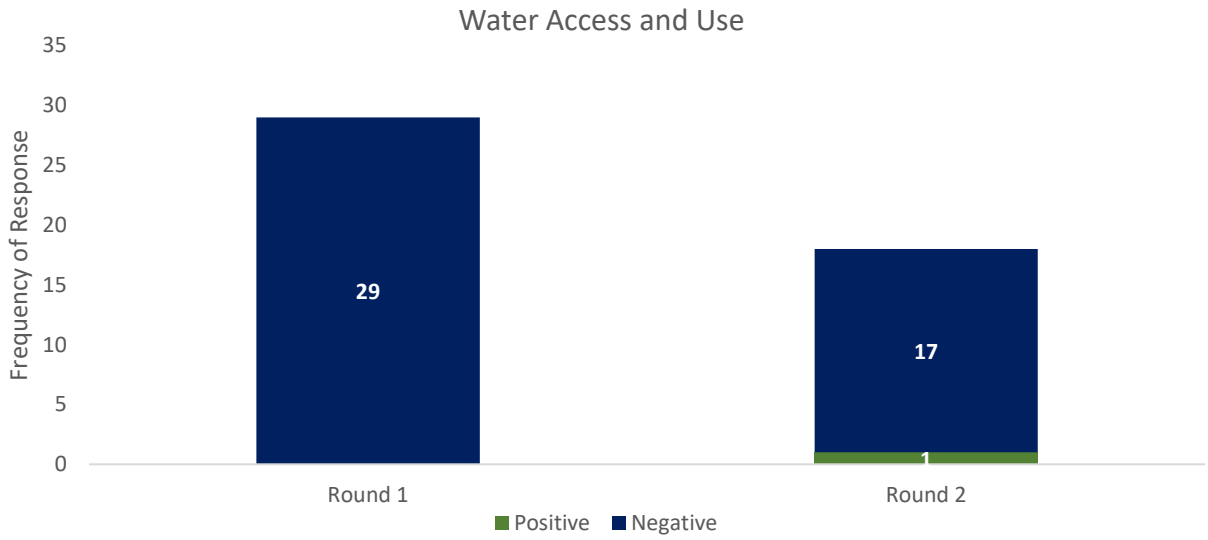
A small number of landholders also identified concerns associated with a potential increase in cumulative noise and access concerns associated with mine traffic going past their property.

> *Noise from road traffic; worried about increasing noise.*
>
> *Traffic, trucks going in and out, just past our place access.*
>
> *Our road is a dirt road and there's barely any traffic, so I'm concerned more traffic on our road by mine traffic, more truck noise and workers going up the road blowing dust up our road. There's no rain, so it's very dusty.*

6.3.6 Water Access and Use

Water was raised as a potential concern by residents and landholders in the locality during Round 1, with concerns largely relating to water supply and access to water (29). These concerns were reinforced during discussions with landholders during Round 2 (18 landholders). Additional concerns were raised in relation to water quality and potential health issues as previously documented in Section 6.3.1.

Figure 6.11 Perceived Water Access and Use Impacts - Residents and Landholders in the Locality



Note: Multiple responses allowed; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1.
Source: Umwelt (2020)

Given the rural setting of Lue, in the first round of engagement, there was a heightened level of concern amongst community members that the Project would use an excessive amount of water, with residents unsure as to where and how this water would be accessed. There was a view that this may affect individual landholders' access to water and subsequently impact local rural livelihoods.

> *Where will the water [for the Project] be sourced from?*
>
> *There is no water in our Creek, and I'm concerned that the options they have put forward [for water supply] won't be enough.*

> *What will happen to the underground aquifer? Loss of water would mean the end of my livelihood.*
>
> *Where are they getting the water?*
>
> *I rely on good ground water for my business.*
>
> *We don't need it, it's going to ruin the underground water. If they dig dirty big holes, they will dig through the ground aquifers.*

As a result of concerns identified by the community during consultation and engagement activities in 2017, the Project has been adapted and is now proposing the construction of a pipeline from the Ulan Coal Mine and/or Moolarben Coal Mine to supply water to the Bowdens Silver Mine Site. The proposed pipeline would be approximately 0.37m wide and approximately 58.5 kilometres long and follow public road easements and traverse private land where required. The vast majority of its length would be underground.

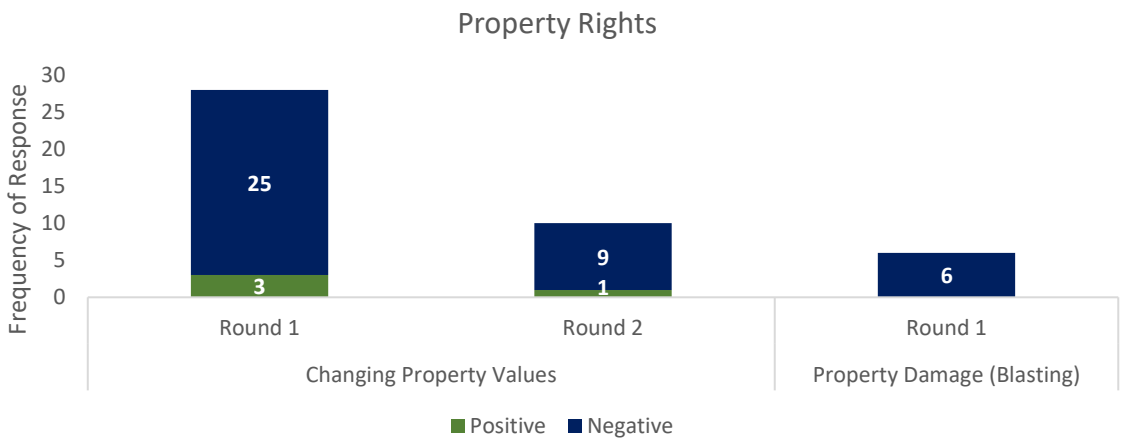
> *It's 45 km away, over rugged terrain, logistically it would be a fairly big process to undertake that.*
>
> *Definitely in favour of them not using local water.*
>
> *They were never going to be able to capture enough on that site anyway.*
>
> *Hopefully things will work well with the pipeline and it's not using too much water from anywhere else.*
>
> *Water is an issue out here, so a pipeline is good.*
>
> *There is still a large amount of water being taken out of a small catchment. It sounds proportional to the quantities of ore being processed/extracted, so makes sense, but we're in a bad drought and its tough enough as it is with creeks drying up. I'd prefer no water being used for the mine.*
>
> *No water as it is now, would be better providing water to farmers first with the pipeline.*
>
> *We rely on the creek to water stock and I know they are piping water in, but I believe they will be depleting the water table and we don't have enough water as it is.*

One resident saw Bowdens Silver's utilisation of a pipeline as a potential positive impact and suggested that given the proposed pipeline development, that the Project could potentially provide water supply to Lue and local landholders in times of drought.

6.3.7 Property Rights

A further potential impact of the Project, identified by residents during both Round 1 and 2, related to the potential for property values to decline in the area (25 and 9 respectively), with some residents and landholders during Round 1 (6) also perceiving that blasting activities related to the Project may cause property damage (**Figure 6.12**).

Figure 6.12 Perceived Property Related Impacts - Residents and Landholders in the Locality



Note: Multiple responses allowed; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1.
Source: Umwelt (2020)

Some community members were concerned that the value of their properties would be reduced as a result of the presence of the Project, making their homes more difficult to sell, with residents highlighting experiences in other communities in NSW such as Wollar.

> *Concerned the value of our property will drop.*
>
> *Stranded assets where everyone wants to leave, and no one wants to buy.*
>
> *Keep the village and not end up like Wollar, where some people are stuck and can't sell.*
>
> *Property values could decrease.*
>
> *Concerned about our resale value if we want to sell.*
>
> *Not doing any improvements because we feel like we're in limbo.*
>
> *Risk of land value devaluation, who wants to buy land next to a mine?*
>
> *We've gone out there to retire we didn't expect this to happen, we don't know if the value of our land will go down.*

During Round 2 engagement, one landholder was in the final stages of selling their property but admitted having difficulties in doing so for a number of years. Other landholders held the belief that their ability to sell, should they wish to, would be low or that value decreases would result in a substantial financial loss. Delays to planned property improvements were also noted, until Project approval or otherwise were confirmed.

> *We've been trying to sell for 5 years and it's taken us all this time. The lost value in the property, the person who has bought it is a miner, we weren't able to sell it to a farmer, they weren't interested in it due to the mine going in there.*
>
> *This is very serious, if we wanted to sell it, which we don't, what we get for it? We couldn't sell it, we would be stuck with it.*
>
> *We had options of building a bigger house, but this has now slowed down our investment into the property, now that's on hold.*

Conversely, a small number of engagement participants (three in Round 1 and one during Round 2) felt that property prices in the area may increase as a direct result of the Project, due to a greater demand for houses in the area.

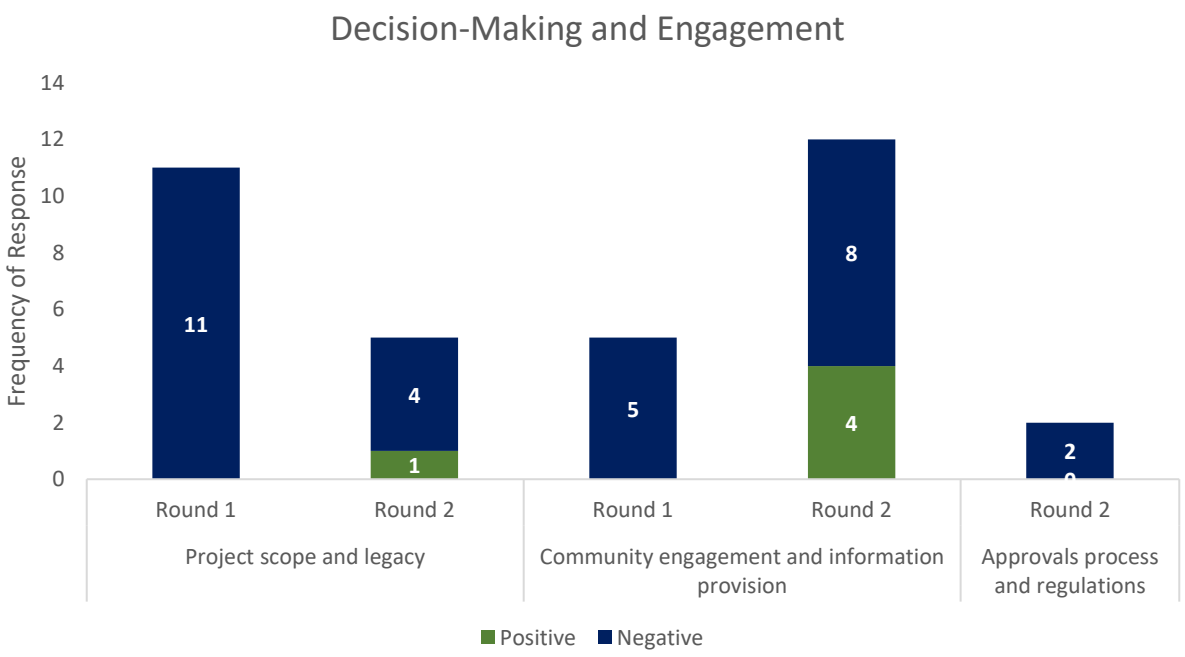
> *An influx of people might drive up real estate prices.*
>
> *Increased property prices are good for some but not others.*
>
> *Property prices could rise.*

6.3.8 Decision Making and Engagement

The community also raised concerns about the decision-making and engagement processes related to the Project. As has been previously noted, the potential for a silver mine in the area has been considered for some time by other proponents, with little progress. Consequently, some residents questioned the economic viability of the Project and the Company, particularly given historic changes in Project scope and ownership. This issue was particularly salient in Round 1 of the engagement program (11) (refer to **Figure 6.13**).

> *How will Bowdens Silver make the Project work when others haven't?*
>
> *There is a long history of silver mines failing.*
>
> *I've heard they are raising money to keep the lights on.*
>
> *For years it's been looking like it's going ahead, it is, its not, it is, it's not. I'm at the stage that I don't care.*

Figure 6.13 Perceptions of Decision Making and Engagement Practice - Residents and Landholders in the Locality



Note: Multiple responses allowed; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1.

Source: Umwelt (2020)

Community engagement was a consistent impact raised across both rounds of engagement, with five respondents in Round 1 and 7 in Round 2 being concerned about Bowdens Silver's engagement efficacy. One respondent in Round 2 specifically noted concern with the transparency of the information being provided by the company with respondents generally expressing a desire to see the company continue to engage and communicate with the wider community and provide accurate and consistent information, particularly in relation to the provision of results of the technical studies.

> *They are not worried about us at all. Fed up with not getting the right information. Answer a question with a question. Avoid the answers.*
>
> *It's been under different names for years, they build it up, then they sell it and we have to go through all this again. They just keep drilling these holes to keep their licences. It's all shonky.*
>
> *They don't have a good reputation for telling you the truth and if you do get told, its after it has happened.*

In addition, two respondents in Round 2 were distrustful of the approvals and regulatory process.

> *The whole approvals system is broken and needs to be fixed.*
>
> *Everyone knows how mines just go and do anything they please. They get people to agree to it, but when levels go above, they don't tell you and there's no ramifications.*

In Round 1 of the SIA engagement program, residents were asked to identify their preferences for engagement and communication in relation to the Project. In this regard there was a request for open and honest communication, with the majority of those consulted outlining that the newsletters were an effective means of information provision. This was reiterated in Round 2 of engagement, however aside from the newsletter, phone and emails were also identified as preferred methods of engagement. Data collected, relating to preferences for engagement and communication in the scoping phase, has consequently been drawn upon in designing the engagement for the SIA and broader EIS and in the development of appropriate impact management measures and is addressed further at Section 8.

> *We like the general information, but more detailed environmental information will stop people guessing.*
>
> *Receiving the information brochure was good, I think keeping people informed regarding the Project timings and operations etc is a good thing.*
>
> *I've been receiving the information brochure. The last one was probably the most comprehensive of all the documents been put out, which was good.*
>
> *We knew nothing about the open day, and we were told that it was for homeowners only. Because were not a house owner we don't get any information, but I don't see why we shouldn't - we live here.*
>
> *Rather than having a big community meeting, Bowdens wants to meet one on one (feeling like they are trying to hide something).*

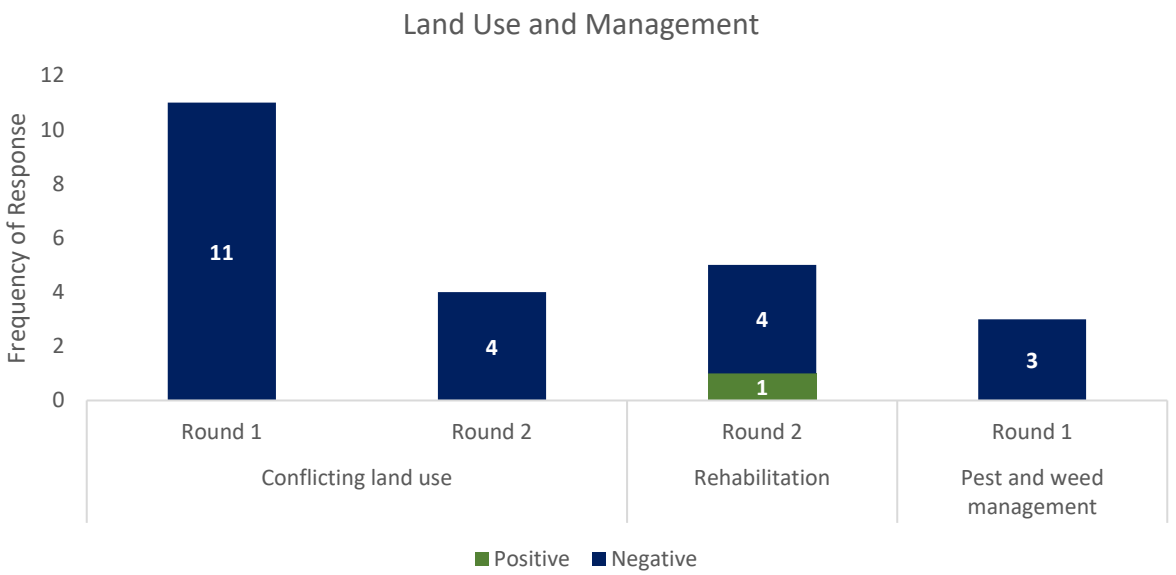
In contrast, a number of positive comments were recorded during Round 2 engagement activities with regards to the Company's community liaison and information provision (3), and the transparency of the information being provided (1):

> *He's a decent fella and he explained the noise, they have informed people.*
>
> *Level of engagement, communication and commitment to community by Bowdens.*
>
> *No one's ever come to my place, they have been to other peoples' places.*

6.3.9 Land Use and Management

Issues relating to land use and management differed across the two rounds of engagement, with the first round dominated by conflicting land use (noted by 11 landholders compared to 4 in Round 2) and pest and weed management (3). Respondents in Round 2 also held concerns in relation to rehabilitation (5) (**Figure 6.14**).

Figure 6.14 Perceived Land Use and Management Impacts - Residents and Landholders in the Locality



Note: Multiple responses allowed; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1.

Source: Umwelt (2020)

Concerns with regards to conflicting land uses were largely associated with the belief that mining was not a suitable or sustainable land use and was incompatible with the existing agricultural, tourism and rural residential land uses.

Stakeholders suggested that the Project had the potential to impact on agricultural land use and rural livelihoods, resulting in a decline in the rural way of life and loss of agricultural land uses and the associated industry which had been a key player in the area for 100 to 150 years, while mining has only been present in the region for the past two or three decades.

> *The gully, where the pit will be, use to be a lovely spot before all the tracks/holes went in.*

> *I did not move to an isolated rural block which backs onto a very large reserve of almost untouched natural bushland, because I wanted to be near an industrial development.*
>
> *We agist cattle there and have 70 acres of productive land.*

Concerns were also raised by residents and landholders in the locality, that several local agricultural buisnesses such as vineyards, olive groves and farm stays could also be directly impacted.

> *Vineyards and olive groves promoting themselves as clean and green will be severely affected by lead dust contamination. Farm stay buisnsesses trading on a quiet and pristine environment to attract visitors will also suffer significant economic loss.*
>
> *Grazing of sheep, cattle, horses, goats, pigs are a major source of income for landholders in the area. What will happen when animals that graze on lead contaminated pastures are condemned as unfit for human consumption?*
>
> *The level of impact is too high for the area, it's not a compatible or sustainable land use.*

In opposition to the Project, a number of local community members have formed the Lue Action Group (LAG) with the group questioning the proposed land use for mining and outlining their concerns for the social, environmental and economic future of Lue and the wider Mudgee district should the Project proceed (refer to Section 6.8.3).

Residents also raised concerns about the potential for the Project to increase pests and weeds in the area, again detrimentally impacting on agricultural land and the natural environment, with property access issues largely related to issues around the proposed pipeline route.

> *Weeds and vermin on a large footprint.*

When asked about post-mining land use, most residents felt that if the Project was to proceed, the site should be returned to its natural state post mining.

> *Regenerate the area - trees, topsoil and seed it.*
>
> *Rehab has to happen. Make a national park or reserve out of it.*
>
> *Rehabilitate better than it was; no footprint.*
>
> *Progressive rehabilitation, if it's all restored in 20 years' time like they say it will be, then it's ok.*
>
> *The land will be ruined and won't be restored back to its original state. They will have made their millions and left all their rubbish behind.*
>
> *They have to rectify it after they are done. It would have to be remediated.*
>
> *They rehabilitate it and it's better when they leave it. It's the Greenies that don't know how much they are actually doing. Its green as, when they finish.*
>
> *Vegetated with the hope of being useful again.*

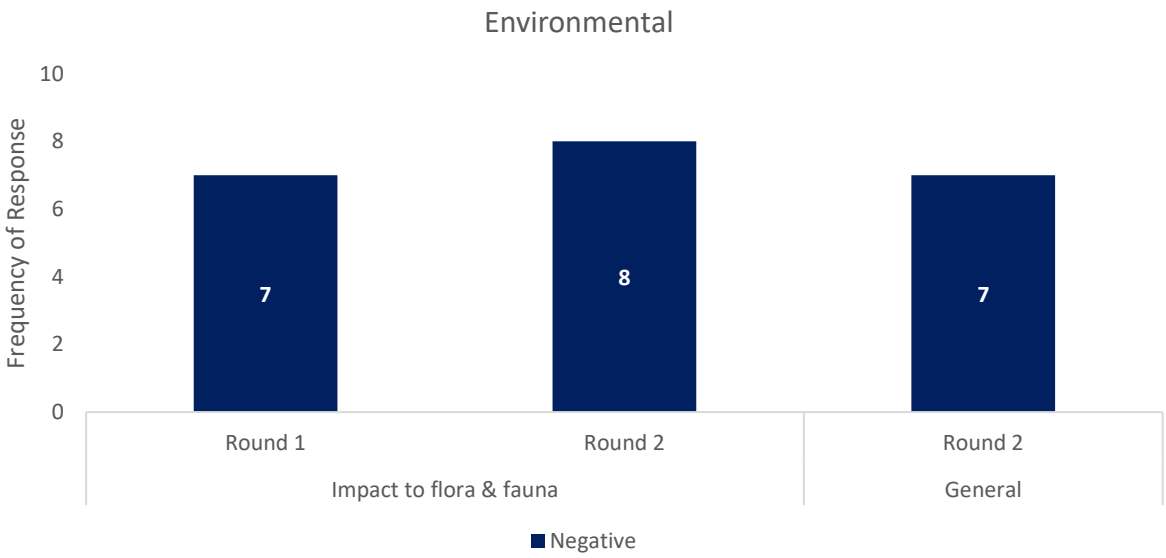
Other suggestions for post mining land uses included the development of a public recreation area or an area for fishing and/or water sports, pastoral grazing, or the use of the area for mine tourism, e.g., an interactive visitor centre demonstrating the silver extraction process.

6.3.10 Environmental

A number of residents in both rounds of engagement (7 and 8 respectively) also commented on the need for the Project to consider the impacts on local flora and fauna in the area, particularly with regards to the potential impacts of water contamination on native wildlife (**Figure 6.15**).

> *Potential impact to flora and fauna from contaminated tailings dams.*
>
> *Water course 3-4 small creek affected with the changes of the land affecting carnivorous plants and surrounding animals.*
>
> *We have centipedes here a foot long and scorpions. My kids didn't know what they were. Getting around there and having a look, you see something different every time you come.*
>
> *At the front of the house we have a pond and all the birds (honey eaters, eastern spine bill, finches) all flutter around the place and they're not scared about you.*
>
> *Koalas live out there, what's it going to do to them? It will wreck their habit.*
>
> *We have eagles live up in the hills and they live on that property and where they want to put the tailings dam, what will happen to them? No one gives a shit.*
>
> *Need to plant trees for koala trees, because Koalas can't eat all types of leaves.*

Figure 6.15 Perceived Environmental Impacts - Residents and Landholders in the Locality



Note: Multiple responses allowed; Round 1 included meetings with 69 residents and landholders in the locality; Round 2 involved meetings with 60 residents, including 36 who had been previously been consulted in Round 1.
Source: Umwelt (2020)

In addition, there were seven respondents during Round 2 that were concerned about the potential general environmental impacts that would occur if the Project were to go ahead.

> *Digging a hole in the ground is a negative*
>
> *Tailings storage facility: It just sits there and it's really destroying the whole place.*
>
> *We currently have a permanent water source and a rich and fertile valley in our region, 100% that will be affected by the mine.*

6.4 RESIDENTS ALONG THE PROPOSED PIPELINE ROUTE

As highlighted at Section 6.3.6 above, access and use of water were extensively raised by residents and landholders in the locality during the first round of the Project's engagement activities and has also been identified by a range of other stakeholder groups through the engagement phases of the SIA.

To ameliorate water access and use concerns, Bowdens Silver has proposed the construction of a buried water supply pipeline, approximately 58.5 km long, to carry in excess of 300ML per year of surplus mine water from coal mines in the Ulan area to the Project (discussed further in the EIS).

Consultation with landholders and residents located along the pipeline route and relevant local and State government representatives has been conducted by Bowdens Silver engagement personnel since December 2018 and continues at the time of preparation of this report. Mechanisms utilised and the issues raised during these engagements' activities are summarised in **Table 6.1**.

Table 6.1
Engagements Landholders and Residents situated along the Proposed Pipeline Route

Page 1 of 2

Stakeholder Groups	Engagement Record
Mid- Western Regional Council (MWRC)	Multiple discussions regarding: • General pipeline overview • Proposed route • Ecological and heritage survey approach • Use of road reserves where possible • Firefighting points along route
Department of Planning, Industry and Environment (DPIE)	Meetings relating to: • General pipeline overview and updates • Advice on preferred survey approach • Scoping report

Table 6.1 (Cont'd)
Engagements Landholders and Residents situated along the Proposed Pipeline Route

Stakeholder Groups	Engagement Record
Landholders located along proposed route	• Introductory/initial mail sent via registered post to 30 landholders (including private landholders, managers of Crown Land and local industry e.g. Moolarben Coal, Orica along the proposed route to outline the Project and the proposed pipeline to facilitate water supply to the Project; and to seek permission to conduct initial ecological and heritage surveys. • Subsequent telephone calls and email correspondence with 25 private landholders regarding the Project and the proposed pipeline route. Discussions related to property access, pipeline location, easement development and potential compensation. These discussions have resulted in some amendment to the pipeline route to follow road reserves at some locations where landholders refused access • Eight landholders were sent further information following initial discussions. • Thank You letters sent to 15 landholders/residents for providing property access for survey work and to provide opportunity for further engagement if required. • Face to face meetings held with landholders along the proposed pipeline route to discuss the project in general, potential routes, construction process and access, easement creation, compensation and rehabilitation requirements.
Registered Aboriginal Parties	Due to the pipeline being an addition to the original SEARs, an advertisement was placed in the Mudgee Guardian seeking registration of any interested Aboriginal parties. • Three parties registered in addition to the original six registered groups.

During the Community Information Sessions held in Mudgee and Kandos in May 2019, residents along the pipeline raised concerns and questions relating to the impact of the pipeline on their economic livelihood and their existing access to water.

Key concerns raised by residents along the pipeline related to the economic impacts of the pipeline, with residents raising concerns about compensation that would be received and the impact of the pipeline on property values. Residents stated that the pipeline would be a liability for them, both in terms of safety if it broke, and in an economic sense, so compensation would be required.

> *What type of compensation are you offering for the pipeline being on someone's property? There is a 12m easement – that has to be worth something?*
>
> *Compensation is needed as the pipelines could break and cause problems.*
>
> *Concern that if residents sell the farm and the pipeline is on their land then it will be a liability.*
>
> *Assume that the company will need access to the land to install and manage the pipeline so compensation should be offered.*
>
> *How do you reasonably expect for all the work and the possibility for the pipeline to break that there isn't any compensation offered?*

Impacts to access and use of water were also raised as a concern. One resident noticed they have several creeks on their property and questioned whether the pipeline would travel under the creeks and if this would impact on the creek flow. A number of community members also suggested that a positive impact of the pipeline would be that residents could be given access to the water.

> *Will you use all of the water that is going through the pipeline?*
>
> *At the end of the mine, will you turn the water off?*

Other concerns related to community engagement and the approvals process.

> *As it is a SSD, can't you just push your way through people's property, do you need to consult with people?*

6.5 ABORIGINAL STAKEHOLDERS

To further inform the SIA, interviews were undertaken with representative Aboriginal parties and local Aboriginal groups and services providers. A total of eight Aboriginal stakeholders were consulted in May 2019, including representatives from the Wellington Valley Wiradjuri Aboriginal Corporation, Wiradjuri Council of Elders, Murong Gialinga Aboriginal and Torres Strait Islander Corporation, Warrabinga Native Title Claimants Aboriginal Corporation and the Mingaan Wiradjuri Aboriginal Corporation. These groups were also consulted as part of the Aboriginal Cultural Heritage Assessment Report undertaken for the EIS.

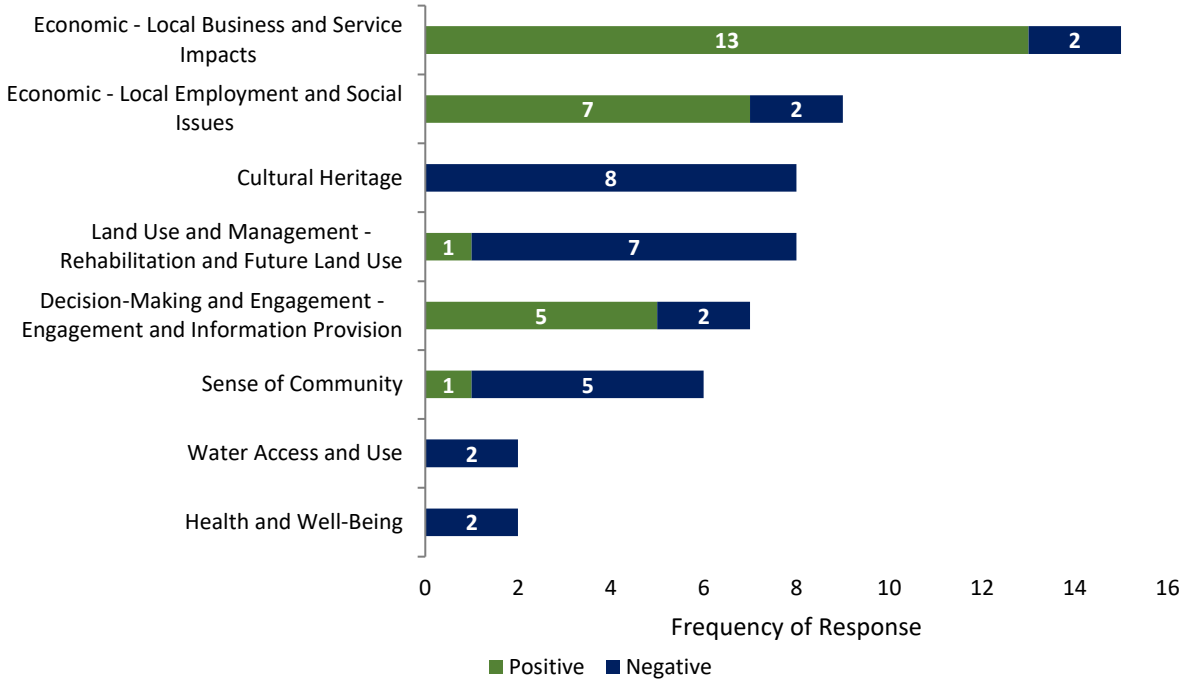
To inform the SIA program, Aboriginal stakeholders were asked questions relating to the perceived social and economic impacts of the Project, cumulative impacts of mining in the region more generally, and key issues and needs of their communities.

As illustrated in **Figure 6.16,** key themes emerging from the analysis related to:

- Economic impacts;
- Cultural heritage;
- Environment/surroundings;
- Community engagement;
- Sense of community.

Each of these themes is further described below.

Figure 6.16 Perceived Positive and Negative Impacts of the Project - Aboriginal Stakeholders



Umwelt (2020)
Note: n=8, multiple responses allowed

6.5.1 Economic Impacts

Economic concerns raised by Aboriginal stakeholders centred on the positive impacts that the Project may have in relation to support for local businesses and potential employment in the region.

6.5.1.1 Local Business and Service Impacts

When asked to identify the key areas requiring attention at the community level, all of the eight stakeholders consulted held concerns for the lack of services to support the community in areas such as business, education, and specifically health services, particularly for those residents suffering with dependency issues or those requiring specialist care.

Service provision in rural communities was seen to be lacking, due to small population sizes, and this was particularly seen to be the case in relation to services for Aboriginal community members.

> *There are a lot of health issues for Aboriginal people - Mudgee doesn't have an Aboriginal health service.*
>
> *Better health services are required. The upgrade to the hospital is ok, but specialists are in Bathurst, Orange and Dubbo i.e. Occupational Therapists Psychologists/Psychiatrists, behavioural specialists – a lot of kids have various mental health disorders and diagnoses that are not getting the care and attention*

> *they need. There's one paediatrician but he only sees 10-15 people a week and he doesn't bulk bill. Orange is a 2.5 hr drive away, Dubbo and Bathurst are both a 2 hr drive away.*
>
> *Not many services in town – we have to go to Dubbo, Orange, Sydney to see specialists.*
>
> *Improved investment into hospitals and provision of specialists in rural areas.*
>
> *We are not metropolitan – we are country and that's where a lot of the issues are. People from Nepean try and run the place, but they don't know what we want/need. The Aboriginal people are not thought of.*
>
> *We're a small community compared to Dubbo and Bathurst, so we are less of a priority than the larger towns for Aboriginal housing due to our low population. Mudgee doesn't have an Aboriginal Liaison officer in the Police service, health or education and they're not here due to our lower population.*
>
> *These towns are dying for the want of services.*
>
> *There's a lot of pubs and a few restaurants but no real retail shopping, you must travel to Dubbo, Orange or Bathurst for that.*
>
> *Grants – give out grants for education, health, and support the NAIDOC weeks we have in Mudgee.*
>
> *The Lue School, I know the silver mine have donated funds to keep the kids going and the money they provide helps with excursions and stuff like that. I know it's greatly appreciated by the parents.*

The potential for Bowdens Silver to procure local business and further use community services was also identified by Aboriginal stakeholders as a positive impact of the Project (13). The level of community investment provided by mining companies was acknowledged, with stakeholders noting that without the economic and social support of the mining industry, local businesses and services in localities such as Mudgee, Lue and Lithgow would cease to exist.

> *People forget that the money (from the mines) is spent in the area on machinery, employment, local procurement. They support charities and things – whatever they spend the money on, it needs to benefit the community.*
>
> *The little stores are not surviving due to the rent increases. When the coal mines go, Mudgee will be a ghost town.*
>
> *The prices here are going to drop and there won't be any work here when the mines leave. It's creating problems now and will continue when they leave.*
>
> *A lot of the mines have closed; people are out of work and a lot of shops are closing in the town.*
>
> *Any Projects that help our community would be greatly appreciated.*
>
> *Like Bowdens with Lue, can they do something for that community that will also benefit, apart from employment? Like more shops, an upgrade to the pub? (As long there was strict rules of no drink driving or they would lose their job), they need to support the local community.*

6.5.1.2 Local Employment and Social Issues

Employment of Aboriginal people was frequently raised as a positive impact of the Project by Aboriginal stakeholders (7). However, views were divided in this regard, with some stakeholders believing that employment of Aboriginal people should be limited to involvement in cultural heritage assessments only.

> *Aboriginal people working in mines goes against Aboriginal culture, as you are destroying the earth and that goes against the culture.*
>
> *Give work. I suppose employment for non-Indigenous community, but not for us, I think of our culture.*
>
> *We have a different value system, money and jobs is not our priority, we see it as destruction of our culture.*
>
> *I am 100% behind you (Bowdens Silver). We need employment in the area.*

Others outlined that any employment in the mining industry would be beneficial to the Aboriginal community.

> *Give people a go – show that they're willing to give people a go irrespective of race or colour. If they're keen, give them a go.*
>
> *I think it's going to create employment for black and white and it is a positive and it is progress.*
>
> *[Employment] - that's going to have a positive impact, so more people in the population during that time. By the time Bowdens is in full operation, some other coal mines will be scaling down, so it might help future Projections out here.*
>
> *I personally don't have a problem with an Aboriginal person working in an open cut, washery or wherever. They have a job and that's better than them sitting at home doing nothing.*

Four stakeholders felt that opportunities for traineeships or apprenticeships and employment in trades such as electrical, mechanical or automotive trades, and in local contracting businesses, would be preferred by Aboriginal people rather than direct mining positions. It was also outlined that employment should be locally based, rather than drive-in-drive-out (DIDO) or fly-in-fly-out (FIFO). One stakeholder would like to develop a training centre for troubled youth (both Indigenous and non-Indigenous) to foster support and encourage practical tradesperson skills.

> *(Bowdens Silver could offer) apprenticeships / traineeships, for male and females in automotive and electrical trades or anything, if they are keen enough, they deserve a go.*
>
> *Those that want to help themselves or anyone who shows the initiative to get into dump trucks, dozers, mechanical traineeships, auto electricians, they deserve to be given a go.*
>
> *With FIFO blokes, where does that leave the locals? They're not even getting a look in.*
>
> *We could start troubled kids that are not attending school at all, we could start them off with a few hours of school work, some hours of carpentry or trades skills – you just have to find something they click to and that can turn their whole life around.*

Two stakeholders also suggested that the region required greater economic diversification, with further employment opportunities created outside of mining e.g. reinstatement of the local abattoir and rail system, or further development of the tourism sector.

> *When Ulan and the other mines leave, there will be nothing here and the town will die. Local council and chamber of commerce and the mines have a responsibility to continue to grow the winery and tourism industries and to keep people around and bring people in.*
>
> *Bring the trains back, bring the abattoir back – trains have stopped running when the abattoir closed.*

Although employment was mentioned as a positive impact of the Project by the Aboriginal stakeholders consulted, further commentary suggested that the economic benefits to the community from the Project may not be afforded equally to Aboriginal community members, with high unemployment rates for the Aboriginal community highlighted.

> *Jobs - they always say that, but you can literally count on one hand the number of Aboriginal people working in the mines.*
>
> *Not enough apprenticeships or traineeships in local businesses – not a lot of young Aboriginal people are following their dreams – it's a cycle of unemployment.*

Anti-social behaviours, such as car theft, vandalism and substance abuse, were also mentioned as current concerns in the community with such behaviours attributed to youth turning to anti-social measures in the absence of employment. It was also expressed that high mining wages have the potential to contribute to the increased level of substance use in rural localities generally.

> *We have young people turning up trying to get employment and when they can't they turn to drugs and alcohol.*
>
> *There are cars being knocked off and being burnt out for what – a small amount of money to shoot up in their arm.*
>
> *You used to know your neighbours, leave your house and car unlocked, but now we have a cattle dog (for protection).*
>
> *Most of what I see is mine workers on various shifts and they all have the typical mining mentality – 'It's time for me to drink' – it's across everyone, guys in their 20s and 30s.*

It was also outlined (2) that mining has contributed to higher costs of living in Mudgee, such as increased rental and mortgage costs and rising fuel prices. This was seen to have forced some long-term residents to leave the area, whilst simultaneously, the possibility of higher wages was seen to be attracting a younger male population to the area seeking employment in mining.

> *The mines have driven up the price of living in Mudgee – housing, food, not everyone is on mining wages. There's a shortage of rentals due to increased prices and influx of people.*
>
> *[As a mining town] they expect people to be on a high wage.*
>
> *Bought house for $50,000 and can sell it tomorrow for $300,000. Prices have gone up due to the coal mine and in 10 years-time when the mine finishes there's nothing to keep it (the community/town) going.*

> *There's a lot of homeless people in Mudgee due to rental prices - they can't afford to rent. There is no help. That's not all Aboriginal community, it's white people as well.*

6.5.2 Cultural Heritage

Cultural heritage was the most frequently raised negative social impact identified by Aboriginal community representatives, with all stakeholders expressing a desire, and a cultural responsibility, to preserve and promote their Aboriginal cultural heritage.

> *We need to try and save our culture – we need to save what we can.*
>
> *In my view all the traditional owners have passed and gone, it's up to us to teach the culture and language to the young and try and save what we've got.*
>
> *If I can teach even one Wiradjuri word – it will stick – no language, equals no culture – language is culture.*
>
> *Cultural revitalisation – we need to be reconnecting people with culture.*
>
> *Our whole focus is to improve relationships, close the gap and save our culture.*

Aboriginal stakeholders suggested that, should the Project be approved, extreme care must be taken during the construction phase of the Project to minimise impacts on Aboriginal sites of significance. It was outlined by stakeholders (8) that should artefacts require removal, a keeping place should be erected on site, to enable artefacts to be kept safely and securely during mining operations and returned to their original location once operations cease. One Aboriginal stakeholder noted that Aboriginal groups have different ceremonial beliefs relating to the removal of artefacts and that all groups should be given the opportunity to perform a ceremony for the removal of any artefacts as part of the Project.

> *Our main thing is protecting our sites and looking after the country– there's a lot of sites that haven't been registered. This is a very central one for us – there's a lot of training done out there at Maiyingu Marragu. It's a special site to us, it is not only Aboriginal history, its Australian history.*
>
> *They're doing the right thing – they're doing their cultural surveys.*
>
> *If a keeping place is required, cultural protocols need to be put in place as there are some differences in beliefs of ceremony. If one group need to perform a ceremony for the artefacts, then they should have the opportunity to do it.*
>
> *Relocate them to a secure, numbered spot on site and then when it's done, the artefacts are put back when they are finished. As an Aboriginal group, we could take the younger generation and show them – Ulan is the only one doing this that I know of.*

6.5.3 Land Use and Management

Stakeholders also expressed a desire to see both effective and progressive rehabilitation of areas disturbed by mining. Aboriginal stakeholders recommended that Bowdens Silver consider backfilling areas progressively as operations move from one location to the next, in combination

with the planting of trees to stabilise rehabilitated areas. Another stakeholder acknowledged rehabilitation efforts in the mining industry and felt confident practices were being adhered to. Overall, there was also a strong desire to see Aboriginal people more involved in progressive rehabilitation on the site.

> *Try and get the Aboriginal people on board to be a part of rehabilitation.*
>
> *If topsoil is stripped off, it needs to be filled back in, instead of overburden.*
>
> *They need to be progressively rehabbing the areas that they mine, when they are no longer needed.*
>
> *Want everything put back the way it is - look after the country – plant it back to the way it is.*
>
> *We want the waste rock to be used to back fill the open cut mine as much as possible.*
>
> *A lot of rehabilitation on site needs to happen because there will be lead contamination out there somewhere.*
>
> *(Needs to be) planted out with as many endemic species as possible and maybe parts turned into some sort of wildlife reserve or something like that.*
>
> *The rehabilitation is great by the mines and these greenies don't even believe what they see first-hand.*

In relation to future land uses of the site, there was a perception that once mining operations cease, land should be sufficiently rehabilitated and returned to a state that is fit for purpose, and consistent with pre-mining conditions, such as agriculture or grazing. One stakeholder would like to see the land returned to Aboriginal groups so they may, as a community, erect a training centre for underprivileged youth of any culture. Attendance would provide youth with an opportunity to learn trades skills, culture and heritage and to ready them for a trajectory towards a successful life.

> *If it was grazing land, bring it back to that land for grazing use.*
>
> *We can go back to farming like it should be.*
>
> *If the local Aboriginal groups are given the land, then we can start getting that land ready for a training program.*

Several stakeholders did however outline their concerns regarding the destruction of land and country from mining activities and broader cumulative impacts of climate change.

> *They do rehabilitate but it takes a long while. The ozone layer is already wrecked – It's nearly winter now, and we are out here sweating.*
>
> *Environmentally it's going to be a disaster, in the way we, as Aboriginal People, look at it.*
>
> *The mines themselves – destruction of land and Country and general pollution from that.*

6.5.4 Decision-Making and Engagement

Aboriginal stakeholders also raised concerns in relation to community engagement, with a desire to see more reporting of operational information and technical assessments, including outcomes of key environmental studies relating to dust, noise, water. There was also a request for further provision of information regarding proposed mitigation measures. At the time of writing, five of the eight Aboriginal stakeholders consulted were confident that engagement would continue as part of the Project.

All stakeholders consulted reported that the current mechanisms for engagement afforded to Aboriginal representatives were adequate (8), with email correspondence, newsletters and phone calls the preferred methods of communication. One stakeholder expressed the need for more support when applying for and submitting applications for funding grants, suggesting a revision of these processes may be necessary to support Aboriginal stakeholders.

Another stakeholder urged Bowdens Silver to be mindful of Aboriginal cultural differences during communications, treating all groups as equals, respecting cultural beliefs regarding men and women's business and ensuring professional conduct at all times.

> *I've got more info from the CCC about what is happening with the mine, but Aboriginal Cultural Heritage info hasn't been forthcoming. For example, normally we go and do a survey, the draft report is written and given to the RAPs for comment and then the final report is completed.*
>
> *When reporting, we are not just interested in Aboriginal cultural heritage, we want to receive reporting on environmental impacts such as dust, noise, water quality and quantity assessments and any other impacts regarding the Project.*
>
> *They need to listen to the views and the cultural beliefs, as it's important. Men going to a women's spot is not on – you get a feeling that some spots are just men's spots or just women's spots – I went to one area and straight away I felt sick and I didn't want to be there, I had birds chirping at me and these signs told me I wasn't meant to be there.*
>
> *I believe there should be a man and woman representative, as men shouldn't talk on behalf of women's business and vice versa. Each representative reflects different beliefs.*

6.5.5 Sense of Community

Potential impacts on sense of community and cohesion were also noted as a result of conflicts within and between groups at a community level. Two stakeholders consulted were concerned with the level of racial divide experienced in their rural communities (between Aboriginal and non-Aboriginal community members), especially within the younger population in Mudgee, and within the Aboriginal community itself. In this regard, it was expressed that opportunities for employment in the mining sector may create a platform to reconcile and unite cultures. One stakeholder held concerns that should the population increase, as a result of employment opportunities, this may further divide the community, due to mixed beliefs about mining between people from rural and urban backgrounds.

> *Mudgee has a split in the Aboriginal Community – if they stopped fighting amongst themselves there would be a benefit for everybody.*

> *Reconciliation needs to happen on their own doorstep – black and white working hand in hand, it would be harmonious wouldn't it.*
>
> *There's a lot of racism in schools – it has all been learnt and is coming out in the younger kids. Some Aboriginal kids are being racially vilified and that goes from Kindy to Year 12 – there is a lot of negative racism in Mudgee. The only negative I can see is that it brings some people from Sydney, Wollongong, Newcastle and they are all greenies who try to run our area, even though they can't look after their own areas. Some people move into the area and they have different ideas and were brought up differently. I've seen both sides and our livelihoods are built on mining.*

6.5.6 Water Access and Use

Concerns were raised in relation to potential reductions to the water table, affecting access and use of water for agricultural purposes, and impacting the integrity of river systems and surrounding waterways (2). In this regard, it was suggested that water levels require careful monitoring and that Bowdens Silver should consider providing water to farmers in times of low water availability.

> *Farming concerns with water table depletion. Usually water that falls on the Bowdens Silver site would naturally flow to creeks offsite, but once mining starts that water will not be allowed to flow offsite which will significantly reduce runoff. Farmers have concerns over bores that the mine might use, also affecting their access to water and impacting the water table.*
>
> *We've got the Goulburn river which flows to the east and the Cudgegong River that flows to the west. That's really important to us, and you don't do that (disturb the flow), we don't even move rocks from a river, changing the course of the water effects our culture by moving the place of flow, which affects the cultural integrity of those places.*

6.5.7 Health and Well-Being

Additionally, two Aboriginal stakeholders were concerned that the Bowdens Silver Project may contribute to lead contamination in water should the TSF walls fail, significantly impacting surrounding ground and surface water courses and resulting in potential health issues. This was raised in relation to a wall failure that occurred at the Cadia Gold Mine near Orange; further detail of the Cadia TSF wall failure is provided in Section 7.

To mitigate against potential contamination, it was proposed that regular integrity checks of the dam walls be conducted. However, concerns remained that if the dam was subject to a large influx of water, resulting in flooding, then impacts could still be experienced.

> *If there's a break in the dam wall it will flow into Lawsons Creek, which flows into Mudgee and contaminate the whole water course into Cudgegong and then into Burrendong Dam and Macquarie River, then onto the Macquarie Marshes.*
>
> *The sedimentary dam for Bowdens is said to be bigger than Cadia's – so there's big concern there.*

6.6 COMMUNITY SERVICE PROVIDERS

A key social impact area of relevance in Project development involves assessment of the impacts of a new incoming workforce population on existing community service provision within a region, a detailed assessment of which is outlined in Section 7.1.

To inform this assessment, 37 service providers were consulted in June 2019 from across a range of key community sectors including health, education, emergency services, childcare, employment, housing, sport and recreation, tourism and youth services. These stakeholders were asked questions relating to the perceived impact of the Project, as documented below, as well as questions regarding impacts relating to service provision in the region and their respective services capacity to accommodate any additional population change, should the Project proceed (refer to Section 7.2).

When asked to identify any positive and negative impacts relating to the Project, community service providers most frequently mentioned the positive impacts that the Project would have in relation to employment, local business procurement and use of local services. Negative impacts noted included a reference to more general environmental impacts, with more specific traffic, water, dust, noise, lead and visual impacts raised in lower frequency. Many of those consulted (8) however, reported no negative impacts or concerns in relation to the Project. These respondents expressed a high trust in the Company, and in the industry in general, that any possible environmental concerns would be adequately addressed in due course of the Project, as illustrated in the following quotes:

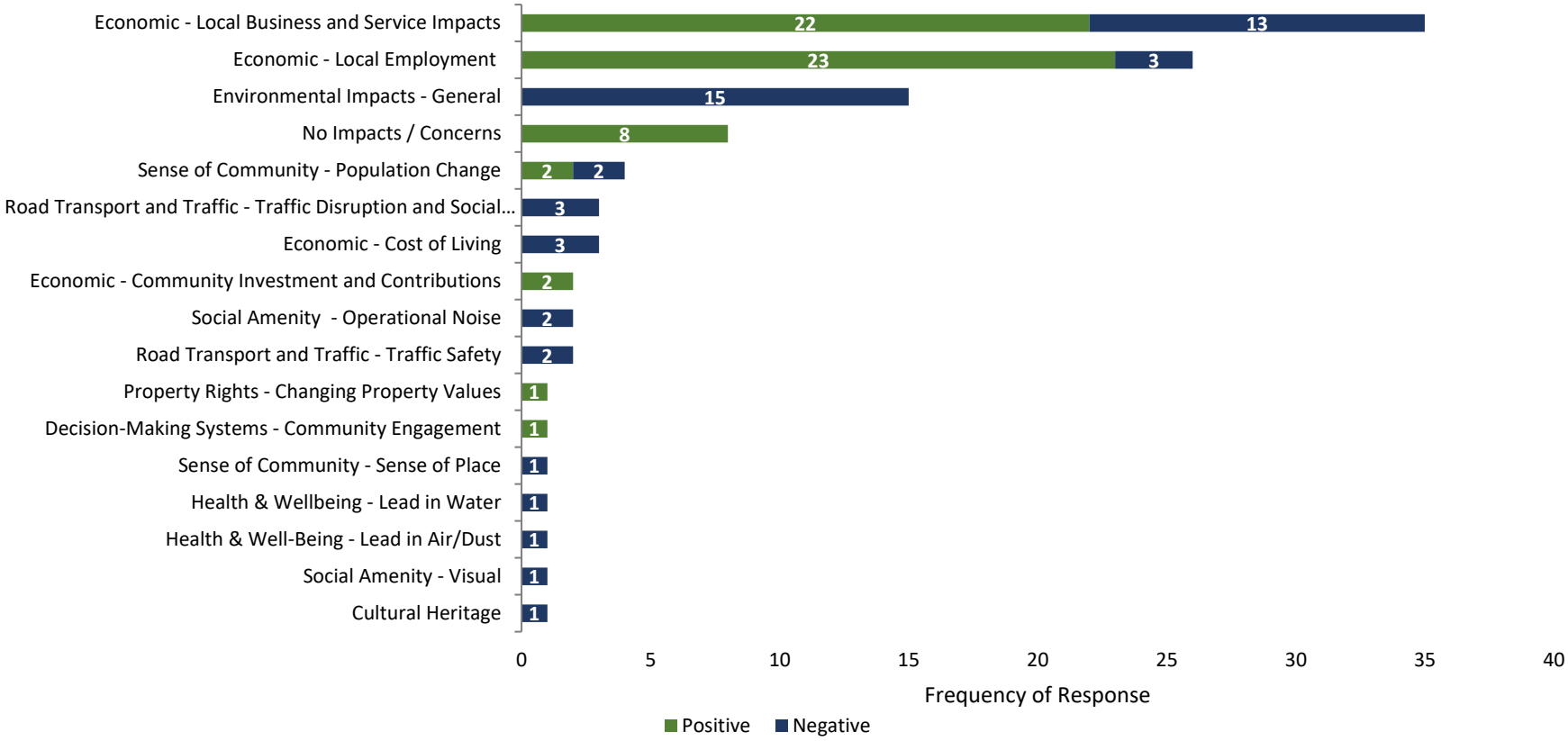
> *No concerns at all. It will bring people through here and that's what everyone would like.*
>
> *No, I don't have concerns. Just hurry up because it has been a long time. It's coming to the point that people are like 'we will believe it when we see it'.*
>
> *I don't have any negatives, not off hand. All the safety stuff and pollution stuff is well covered in industry - they have to have good practices.*
>
> *It hasn't got the stigma that coal has. I imagine a lot of Lue people will be thrilled. It will provide a lot of interest for the small little village, and it might bring a bit of life to Lue.*

Figure 6.17 outlines the social impact themes identified by the service providers interviewed.

6.6.1 Economic Impacts

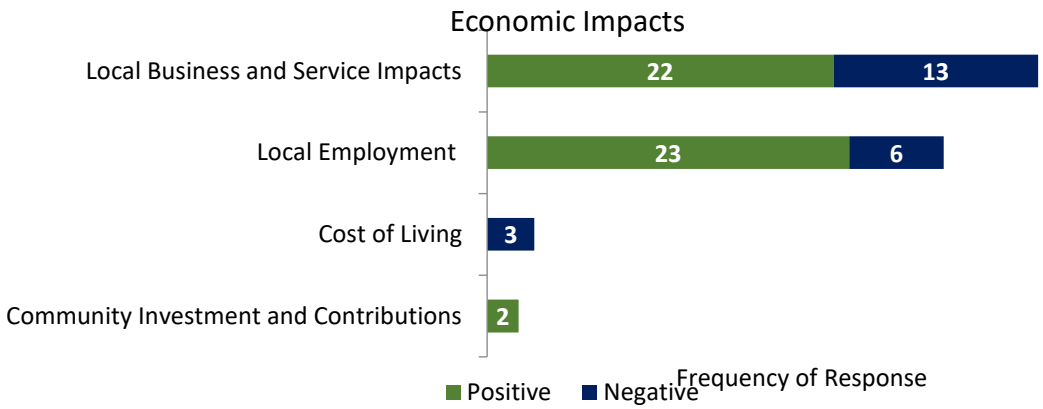
The economic impact themes relating to the Project, as identified by consulted service providers, included procurement from local businesses and service use (35), employment (29), cost of living (3) and community investment and contribution (2) (refer to **Figure 6.18**).

Figure 6.17 Perceived Positive and Negative Impacts - Community Service Providers



Note: n=37, multiple responses allowed. Three participants did not provide a response relating to positive impacts (n=34), and six participants did not provide a response to negative impacts (n=31)
Source: Umwelt (2020)

Figure 6.18 Perceived Economic Impacts - Community Service Providers



Note: n=37, multiple responses allowed. Three participants did not provide a response relating to positive impacts (n=34), and six participants did not provide a response to negative impacts (n=31)

Source: Umwelt (2020)

6.6.1.1 Local Employment

The most frequently mentioned positive impact of the Bowdens Silver Project related to employment, collectively comprising 68% (23) of positive responses across all the service providers surveyed. A summary of some of the comments obtained relating to employment included:

> *Employment, especially if they employ locals.*
>
> *Any employment in small communities is good.*
>
> *Basically, bringing people to the region, creating jobs.*
>
> *Encourage employees to live in the local communities.*
>
> *It would be good to encourage diversity in the mine workforce: make sure to include young people form local high schools, as well as women who don't want to work in traditional roles and Aboriginal people. School based traineeships would be good - it means kids get to know the owners/contractors early on and it's a nice conduit to going into the Project.*

Whilst employment was primarily mentioned as a positive impact of the Project on the community, some respondents (6) held fears that local employment targets may not be met. Respondents commented that in previous Projects, local workforce had not been sourced locally, with high proportions of Project workforces either DIDO or FIFO. There was therefore a strong desire to see employees reside locally to enhance contribution to the local economy in both construction and operational phases of the Project. Some providers also challenged the definition of 'local', suggesting that in hiring local employees, localities closest to the Mine Site should be targeted, including Kandos, Rylstone, and Lue, rather than Mudgee.

> *We have a big DIDO and FIFO workforce in the region, and I don't think that's the way. Would like to see people moving here and becoming part of the community.*
>
> *Stick with their promise to hire locals and not just people from the Mudgee. We're in Kandos and when we say 'locals', I envision locals to be Kandos, Rylstone and Lue, and less so Mudgee.*

6.6.1.2 Local Business and Service Impacts

A further positive economic impact, identified by those consulted, included the opportunity for increased procurement from local businesses and use of local services (22), either directly or indirectly related to the Project. In this regard, a number of respondents wanted to ensure that local businesses were involved in the supply chain and that, where possible, the Project had a direct impact on the local economy. A key benefit for many of the service providers interviewed was the prospect of further economic growth and sustainability within the region, as a result of the Project.

> *Employment and economic benefits for the town and the flow on effects that come from that, e.g. not just the direct economic benefits but it secures other industries as more people are coming to town.*
>
> *Engage and prioritise local businesses for the supply of services to Bowdens - work with local businesses to assist them to develop or partner to meet Bowdens requirements.*
>
> *Source locally, use local employment services.*
>
> *If locals are not employed. Making sure that locals are given every opportunity, that businesses are able to supply to the mine and have participation.*

The strain on local businesses and services that may result from population change associated with the Project was also mentioned by those consulted (13). As discussed in Section 7.2, housing and education were seen to be two of the service areas in the region that were experiencing capacity issues and may be further exacerbated should a large influx of workforce occur.

> *In relation to our placements – not being able to place children so they miss out – we just don't have that capacity.*
>
> *Impact on town – impact on services.*
>
> *Trying to find a rental is currently ridiculous.*
>
> *There is little housing here, especially for people on Centrelink benefits. It could impact us negatively to have an additional 250 people needing accommodation in the area. There have been instances where current renters have been given 90-day notice to vacate because the real estate agents know mining personnel are coming in and based on their higher wages, they get priority. The rental prices also increase as they think mining people can afford it, but it's not good for the people in need of housing.*
>
> *If you remove properties off the list of available rentals, for social housing applicants in the area, that is going to have a huge negative impact.*

While the demand for increased service provision, from the potential incoming workforce, was regarded as a positive impact of the Project, one provider was concerned that the Project had the ability to also attract a large proportion of the existing skilled workforce in the region, leaving gaps in other sectors. Furthermore, also identified were the potential impacts that the family members of Project employees may have in the area, should they be seeking local jobs in an already tough labour market.

> *I wonder if the town will be able to sustain itself if the Project goes ahead.*
>
> *There is a real change in the community wage gap – the skilled workforce goes to the mine. What happens after they leave?*

> *The workload will be huge, wait times will be huge. Unless they bring a GP service with them [the mine] or some form of medical support.*
>
> *You have a lot of miners with miners' wives who are skilled, trying to compete with the jobs that are here - most are tourism or hospitality - there are too many people here looking for work in these areas.*

Additionally, three respondents were concerned about the increased cost of living that may occur as a result of an influx of more highly paid employees and their families, particularly increases in rental costs; an issue that was also noted by the Aboriginal stakeholders consulted (Section 6.5.1).

It was suggested that housing and accommodation prices tend to rise when industry employees are recruited into the area. Four providers specifically referenced a current demand for housing, with three and four-bedroom accommodation in short supply in the localities of Mudgee, Rylstone, Kandos and Lue (further discussed in Section 7.2.1).

> *If work goes ahead at the silver mine, I predict a positive impact on people buying and getting a better price for their properties knowing there is employment in the area and people are getting work.*
>
> *The cost of living is already really high. [The Project] would increase the cost of living - pay exorbitant rent - and housing would be in short supply.*
>
> *Price of rent can become an issue due to people coming in and out, and the mines paying rent for their staff.*

To manage such impacts, those consulted identified several different strategies which included: purchase of properties by Bowdens Silver to lease back to their employees; or building Project-specific housing, to ensure local housing remains available to vulnerable people within the community. While the development of workforce accommodation facilities was not greatly favoured by those interviewed, there was greater support for Bowdens Silver to work in partnership with local real estate agents.

> *Maybe purchasing houses instead of leasing, and then leasing them back to their employees, would help stop the rental price increases across the town?*
>
> *They will need to build other housing to accommodate the impact on lease-hold properties.*
>
> *Don't think [accommodation] camps are the way - maybe some input into housing Projects - talk to the real estate agents.*

The provision of traineeships / apprenticeships, across a range of different industry sectors, was also suggested as a potential mechanism to encourage self-efficacy of low-income earners and assist them in transitioning out of social housing to more self-funded accommodation streams.

> *Maybe they could offer social housing applicant (who are able to work in the workforce) to apply for a traineeship/apprenticeship. They would further their skills; their income goes up and their mindset improves. They could help someone move out of social housing and into affordable housing with the view of maybe owning their own house one day?*

Service providers also noted the positive impact that community investment and contributions by Bowdens Silver may continue to have at the community level. Bowdens Silver currently supports a range of groups and initiatives in the area, which include Lue Public School, Mudgee District Netball Association, Rylstone Street feast, Rylstone/Kandos and Mudgee agricultural shows, local schools and others as outlined in Section 4.1.1 however, potential community investment opportunities identified included further sponsoring of local events and investment in education and infrastructure.

> *Invest money in local schools. Encourage families to move to the area.*
>
> *For Bowdens to sponsor anything that is seen as a positive thing in the community would be good.*
>
> *Assist with capital funding for more infrastructure.*
>
> *The mines will sponsor programs; in that way it would be beneficial.*
>
> *Sponsor positive community events.*

6.6.2 Environmental Impacts

Environmental concerns were also raised by service providers (15), in relation to the Project however responses provided were most often general in nature. Some providers (7) outlined that they didn't feel that they had the specific knowledge to outline the types of environmental impacts that may be of concern.

> *Don't know enough about the Project - but there are always environmental impacts.*
>
> *Not enough info - but environment is the main thing.*
>
> *I don't really know a lot about it to be honest, but I could imagine some environmental impacts.*
>
> *Environmental issues- but to have employment to keep people in the area, keep services going and schools running is also important.*

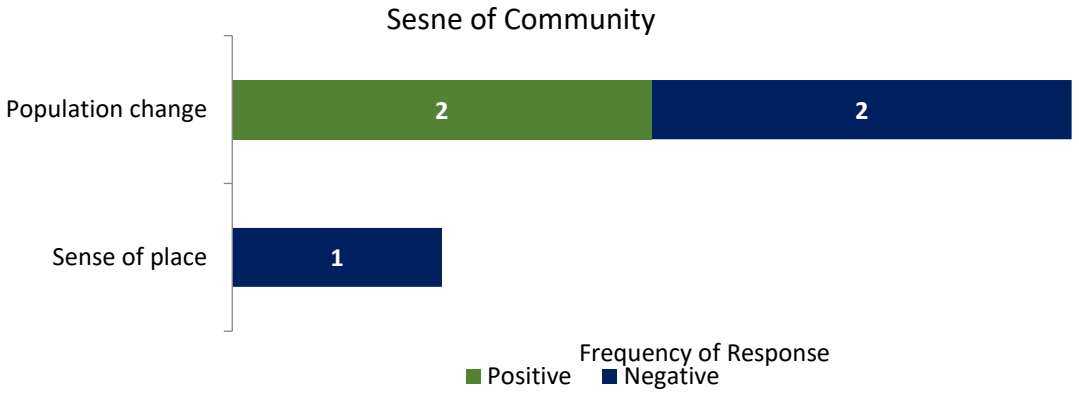
Those consulted also expressed the need for Company transparency and ensuring that appropriate mitigation and remediation strategies were in place to manage any environmental impacts of the Project should they arise. A few stakeholders also identified potential health effects from lead contamination as of concern to them.

> *Just let the community know what their remediation strategy is, how much they are investing into their remediation etc.*
>
> *Reassure the public through research, about how they will protect the environment.*

6.6.3 Sense of Community

Perceived impacts relating to sense of community were of a very low frequency of concern for the service providers interviewed (5). As has been noted earlier in this section, concerns relating to the presence of a new workforce to the area largely related to the longevity of the population increase, the safety risk that increased traffic may pose and the possible lack of volunteerism and involvement of those settling in the area. Disruption to sense of place was raised by one stakeholder, particularly regarding antisocial behaviour of FIFO workers (refer to **Figure 6.19**).

Figure 6.19 Perceived Sense of Community Impacts - Community Service Providers



Note: n=37, multiple responses allowed. Three participants did not provide a response relating to positive impacts (n=34), and six participants did not provide a response to negative impacts (n=31).

Source: Umwelt (2020)

> *What will happen after they leave? It changes things.*
>
> *Ongoing concern that the current employees for the Project do not live within the boundaries of the Lue Havilah boundary service - which means you get an influx of workers coming to the mine, but you don't get any resource inputs from those people to the RFS.*
>
> *Would hope that most of the jobs would be sourced locally - FIFO increases antisocial behaviour.*

Positive impacts of population change were also mentioned by two respondents, including bringing life to the town and increasing opportunities for local businesses (further discussed in Section 6.6.1).

> *It will bring people through here and that's what everyone would like.*
>
> *I think growth for our town.*
>
> *It will provide a lot of interest for the small little village; it might bring a bit life to Lue.*
>
> *General community - more people in the community is going to help small businesses. Gulgong is a lovely little community with shops and cafes and restaurants, so more people will strengthen the whole community. Small towns tend to die off quickly when we lose people, so bringing in mining families, not just the worker, is beneficial.*

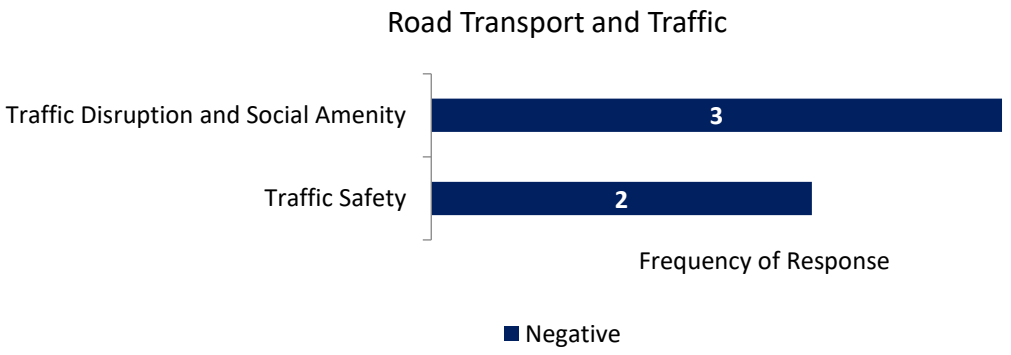
6.6.4 Road Transport and Traffic

Respondents identified increased traffic as a negative impact of the Project, with concerns around impacts on social amenity as a result of disruption to transport routes and local roads (3) and concern over safety due to increased traffic (2) (refer to **Figure 6.20**).

Service providers, primarily within the education and emergency sectors, held concerns for potential traffic congestion, an increase in traffic offences or an increase in motor vehicle accidents, as a result of more vehicles on the roads commuting to and from the site. One respondent suggested the use of the rail system to alleviate traffic congestion and minimise interactions on the road with wildlife.

> *Like with Ulan, they had all this extra traffic but it's the same old country roads.*
>
> *Traffic - inflow and outflow from work, congestion, and increased traffic offences.*
>
> *Use heavy rail to move your product, as happens out of Cobar and Hermidale, so as to minimise impact on roads and wildlife.*
>
> *There's a lot of concern within the brigade that a large influx of people will increase risk - more traffic - increase motor vehicle accident probability.*
>
> *I can see the Motor Vehicle Accident (MVA) number going up and spread over a 24-hour period. Normally at night Lue Road is quiet, I think operations would change that, especially with animals. Without major upgrades, I can see an increase in MVA's at shift change over times.*

Figure 6.20 Perceived Road Transport and Traffic Impacts - Community Service Providers



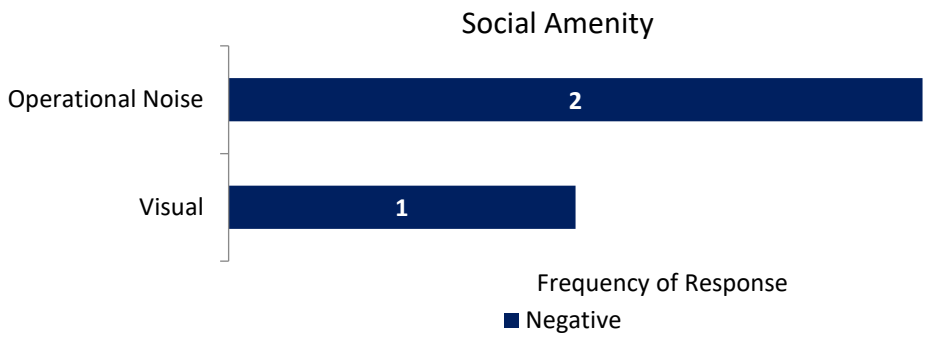
Note: n=37, multiple responses allowed. Three participants did not provide a response relating to positive impacts (n=34), and six participants did not provide a response to negative impacts (n=31).
Source: Umwelt (2020)

6.6.5 Social Amenity

Social amenity concerns as a result of the Project were infrequently noted as a concern for community service providers, with only two respondents identifying operational noise as a Project impact or concern (refer to **Figure 6.21**).

> *I suppose people in the local Lue area may be impacted by noise or congestion during the start-up process, but not really, I think it's a positive.*
>
> *Lue is going to be affected by the mine – noise and dust.*

Figure 6.21 Perceived Impacts on Social Amenity - Community Service Providers



Note: n=37, multiple responses allowed. Three participants did not provide a response relating to positive impacts (n=34), and six participants did not provide a response to negative impacts (n=31).

Source: Umwelt (2020)

6.7 LOCAL BUSINESS AND CURRENT PROJECT EMPLOYEES

Local businesses in the LGA were contacted through an online skills and capacity audit, to obtain their views on the Project and to identify the types of services they offered in the region. A total of 91 local business stakeholders responded to the survey (refer to Section 3.6); however, 4 respondents were excluded from data analysis due to missing or invalid responses. The remaining 87 businesses serviced a broad spectrum of industry sectors, including mining (34%), retail trade (28%), construction (25%), agriculture (22%), manufacturing (15%), electricity, gas, water and waste services (12%), transport, postal and warehousing (11%) and accommodation and food services (11%).

In terms of the size of businesses surveyed, the majority were small, with 38% having 0 to 4 employees; 26% with 5 to 9 employees; 19% with 10 to 20 employees and 5% with 21 to 50 employees. Of the larger businesses in the area, 8% had between 51 and 200 employees and 4% had more than 200.

The perceptions of Bowdens Silver Project employees (16) were also collected to inform the SIA process, with the key themes emerging across stakeholders relating to:

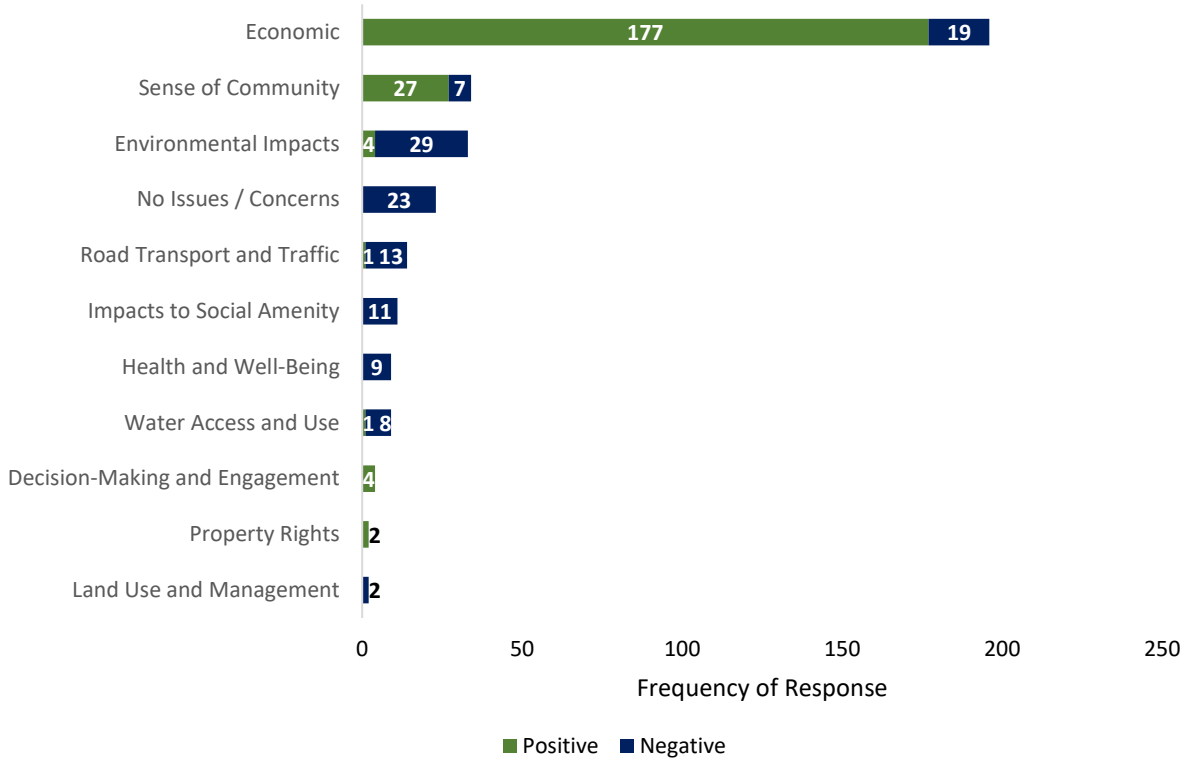
- Economic benefits,
- Sense of community,
- Environment,
- Road Transport and traffic, and
- Social amenity.

Approximately 25% of businesses surveyed reported having no concerns in regard to the Project (23).

> *No, just get approved and know that the Kandos Fairways Motel is here to support you all the way.*
>
> *I truly hope that this all goes ahead VERY soon and wish you all the best of luck.*
>
> *Good Luck and we really hope Bowdens gets the green light soon, our communities need you.*

Figure 6.22 details the impacts identified by members of the local business community and Bowdens Silver employees surveyed, with economic impacts featuring as a key theme. Each of the impacts is further described in the sections below.

Figure 6.22 Perceived Positive and Negative Impacts - Local Business and Current Employees



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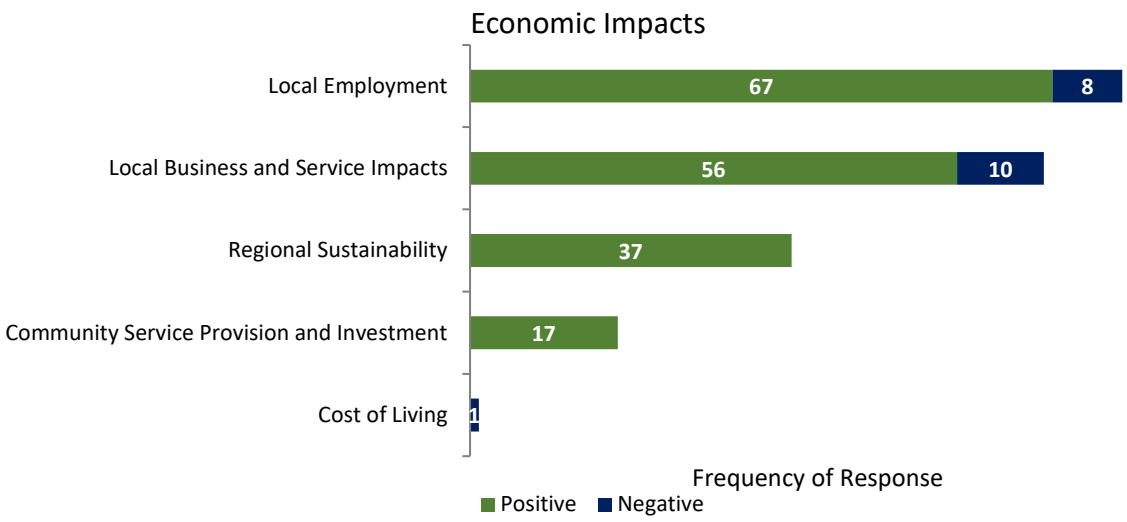
Note: Businesses n=87, multiple responses allowed. 19 participants did not provide a response relating to positive impacts, and 26 participants did not provide a response in relation to negative impacts; Employees n=16.

6.7.1 Economic Impacts - Livelihoods

The most frequently raised impacts by local business and employees in relation to the Project were economic-related issues, of which the majority were identified as positive impacts (refer to **Figure 6.23**).

Figure 6.23 Perceived Economic Impacts - Local Business and Current Employees



Note: Businesses n=87, multiple responses allowed. 19 participants did not provide a response relating to positive impacts, and 26 participants did not provide a response to negative impacts; Employees n=16.

6.7.1.1 Local Employment

Respondents were primarily positive about the level of local employment and job creation that may occur as a result of the Project (67), including the possibility of long-term employment opportunities, given the life of the proposed mine, and the potential diversification of mine employment.

> *Employment I guess, especially in Kandos where people are coming from an industrial background, (although doesn't have industry here anymore), there is a gap in the labour force presently.*
>
> *Better employment and improved people demographic.*
>
> *More employment diversity.*
>
> *Long term employment opportunities.*
>
> *Local towns such as Kandos and Rylstone are in desperate need of economic stimulus, the figures on unemployment are not great.*
>
> *New industry close by will help with employment.*
>
> *An operating mine will rely heavily on local suppliers and contractors.*
>
> *Increased employment will provide economic and social benefits.*
>
> *Lue to Rylstone area are in need of skilled jobs provision.*

In raising employment impacts, some respondents emphasised the need for employment to be local, stating that sourcing of employees from other areas and FIFO contracts would be detrimental to the community (8).

> *Wouldn't want to see jobs not being offered to the locals, who have the skills to do the work.*
>
> *I would be concerned if non-locals are preferred for employment.*
>
> *No FIFO employees.*

When asked what could assist in ensuring that local employment was enhanced, respondents suggested the provision of training programs to ensure that locals are ready for work when opportunities become available and having a policy that puts locals first. The need for the company to keep communication channels open and ensure that the community is informed should the Project proceed, was also emphasised. One employee also saw the opportunity to introduce a bus service to help facilitate transporting local employees to and from the site.

> *Training for regional youth - Youth unemployment is high locally.*
>
> *Employment/Upskilling programs: Making specific courses available to people or making people aware of prospective courses and employment opportunities, so they can appear more employable within that field and step into the jobs when they come available.*
>
> *Keep the locals informed of everything. Employ locals first.*
>
> *Just be honest with all residents /land holders and businesses owners and address the issues if they are actually concerning issues e.g. reassure people that their concerns are valid or explain truthfully why there is no risk or concern.*
>
> *To put it simply they just need to talk to the relevant people that are in town. I would been keen to tender for what they need. All they need to do is give me a call.*
>
> *We are very interested in discussing opportunities with Bowden as to how we can service their travel requirements.*
>
> *Work experience for kids with technical and field staff.*
>
> *Look locally first and be prepared to train local people for jobs at the site.*
>
> *Advertise all positions in local communities, provide dedicated traineeships/similar programs for local youth.*

6.7.1.2 Local Business and Service Impacts

The economic benefit of the Project to local businesses was also commonly identified (56), with those surveyed outlining that the Project would be positive for local businesses and may contribute to business stability and encourage additional business growth. Once, again, local business owners expressed that they would like to see contractors and suppliers to the Project also sourced from the local area, and for these businesses to have the opportunity to benefit directly from the Project.

> *Increase in local spending.*
>
> *It will help our businesses survive.*
>
> *Opportunities for local business to help them grow.*
>
> *Provide support for local businesses.*
>
> *Suppliers need to be sourced locally.*
>
> *I wouldn't want to see plant, equipment and materials being sourced from out of town without being given the opportunity to tender for the contract.*
>
> *More traffic, more spending.*
>
> *More cash flow in small communities.*

Employees shared this sentiment and said they would like to see the support of local businesses, suggesting an employee incentive scheme to encourage local spend and access of local community services.

> *Provide support to local businesses who would like to do business with the company, to enable them to be competitive.*
>
> *Offer incentives, or bonuses… to keep the money in the community.*

6.7.1.3 Regional Sustainability

In general, there was an optimism among many of the businesses surveyed (37) that the Project had the potential to contribute to further economic growth and stability in the region.

> *Injecting economic growth.*
>
> *Long term industry providing a floor in the local economy.*
>
> *Increase in financial support that major Projects bring to MWRC.*
>
> *The Rylstone-Kandos area needs employment, children to attend local schools and money spent in the local area asap.*
>
> *The Rylstone/Kandos community and economy is struggling to survive. We are at a point now that Projects like Bowdens Silver are imperative for the survival of our region.*

6.7.1.4 Community Service Provision and Investment

The community investment and support currently provided by companies in the region and the potential for further investment in infrastructure and community were also noted (17) as positive impacts of the Project.

> *Sponsoring groups in small communities keeps small towns alive.*
>
> *Funding community Projects. Assisting with contributions to the community.*
>
> *Supporting local community organisations.*
>
> *More infrastructure is needed in the Shire.*
>
> *Upgrade roads for the enhanced traffic produced by Bowdens operations.*
>
> *Sponsoring groups in small communities keeps small towns alive.*

6.7.1.5 Cost of Living

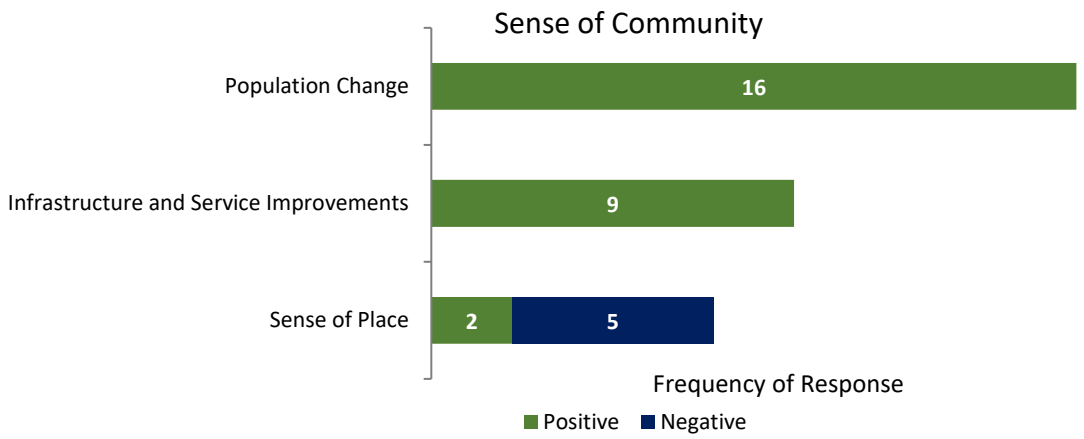
Whilst a number of employees saw the development and utilisation of accommodation and housing as a potential benefit of the Project, others felt the Project may potentially increase the cost of living, particularly rental costs, and reduce access to services as a result of population change in the area. These issues were also identified by some of the service providers interviewed (refer to Section 6.6).

> *Potential for price increase in the rental market.*
>
> *May affect the availability of rental properties.*

6.7.2 Sense of Community

The second most frequently raised issue by local business stakeholders related to sense of community. In this regard, positive impacts such as the potential increase in population expected from the Project (16) and improvements to local infrastructure and community services (9) were identified, as well as potential negative impacts on sense of place (5) and access to services (2) given population changes (refer to **Figure 6.24**).

Figure 6.24 Perceived Sense of Community Impacts - Local Business and Current Employees



Note: Businesses n=87, multiple responses allowed. 19 participants did not provide a response relating to positive impacts, and 26 participants did not provide a response to negative impacts; Employees n=16.

Potential population change and growth as a result of the Project, with new people moving into the area was seen to be a positive impact, resulting in opportunities for revitalisation and further growth and population stability in the LGA.

> *Mudgee and its surrounds is a beautiful area, we wish to assist its population and services prosper whilst maintaining an even economic and environmental balance.*
>
> *Growth and expansion of the township and area of Rylstone.*
>
> *Continuation of growth of our region.*
>
> *Towns revitalised.*
>
> *Increase in population.*
>
> *Expand the village population.*
>
> *More families staying in and/or coming to the area.*
>
> *More vibrant community.*
>
> *New influx of people and ideas for the local community.*

There was also a view that sense of community may be enhanced, with greater opportunities for youth to remain in the region with their families post completion of secondary school.

> *Opportunities for youth/school leavers who currently have to leave area for opportunities, keep families together.*

However, there was also a fear among some respondents, that a population influx could result in the current sense of place and community being negatively impacted due to changes in community dynamics. Some business owners expressed that the Project appeared to be causing division amongst some community members, those in support or against the Project.

> *Ill-informed environmental activism.*
>
> *Community backlash on change.*
>
> *It may change the social dynamics of a community.*
>
> *Division between supporters and protestors - A small local village where everyone knows each other could cause conflict amongst the locals.*

There were also a small number of those interviewed (5) that were concerned about the future, and what would happen in the area when the Project ceased. Such concerns appeared to be heightened by the cyclical nature of mining, as well as concerns regarding the viability and longevity of the Project, an issue which had been raised in the early stages of the Project.

> *Boom/bust of mining.*
>
> *Collapse of town again after the mine has left.*
>
> *Cut and Run (provide a short window of opportunity and get out).*

Potential improvements to existing infrastructure, the development of new infrastructure and increased support and use of local community services, particularly increased school enrolments, were also mentioned by several respondents as a positive impact of the Project (9) and seen to further enhance sense of community.

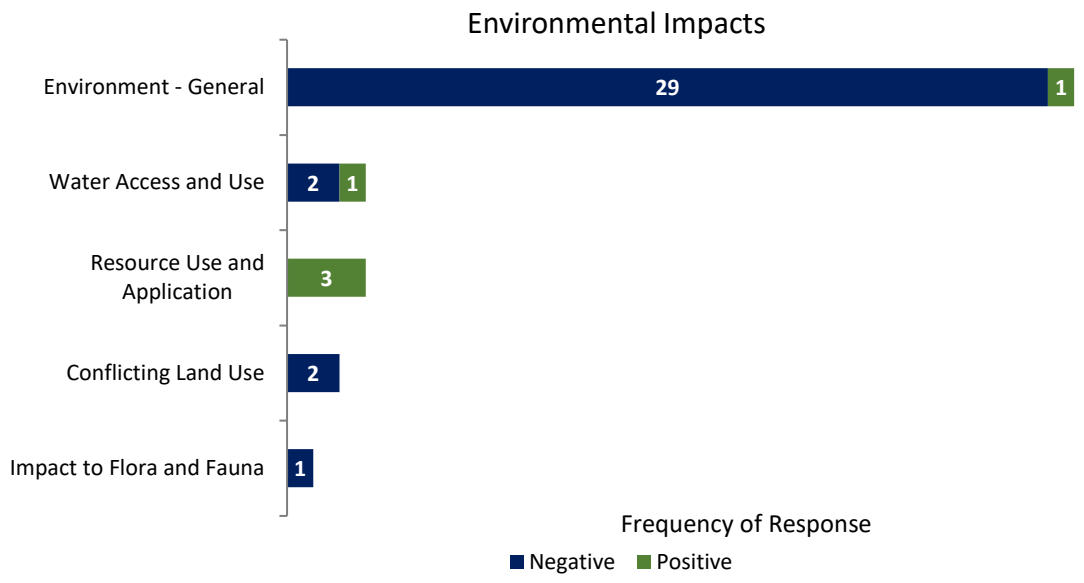
> *Local infrastructure expansion.*
>
> *More services if more people moving into town.*
>
> *It will bring family to the schools.*
>
> *Boost in enrolments at local schools.*
>
> *Community benefits with upgraded infrastructure.*

6.7.3 Environmental

During engagement, 27 local business stakeholders and two employees raised general environmental impacts associated with the Project, with more specific impacts relating to use and access to water (**Figure 6.25**).

> *The mining may damage the environment.*
>
> *Potential environmental impacts.*
>
> *The environment may be impacted.*
>
> *Implement initiatives to aim for a minimal footprint on the environment and involve the local community to alleviate any concerns and impacts on the surrounds.*
>
> *Company willing to assist community and also take care of the environment.*

Figure 6.25 Perceived Environmental Impacts - Local Business and Current Employees



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Note: Businesses n=87, multiple responses allowed. 19 participants did not provide a response relating to positive impacts, and 26 participants did not provide a response in relation to negative impacts; Employees n=16.

Concerns regarding access to water were raised by two stakeholders and included personal access to water for local farmers, as well as the Company's potential use of groundwater; again, with the pipeline seen by some as a good strategy.

> *Use of water [by the mine] affecting the water table.*
>
> *Limiting groundwater access.*
>
> *Effect on community farms water supply.*
>
> *Use of water pipeline rather than utilising local water sources - lower impact on local landholders/environment.*

Employees (3) suggested a positive impact of the Project was in regard to the utilisation of the resource, with particular mention made in regard to sectors such as medicine and renewable energies.

> *Providing resources to the renewable energy sector.*
>
> *Renewable energy technology, medicines etc all need substantial silver.*
>
> *Solar power will be more efficient with use of silver, helping to increase the viability of renewable energy and reduce reliance on fossil fuels.*

Conflicting land use and impacts on ecology were also mentioned, with one employee noting potential negative impacts as a result of the clearing of vegetation for the Project and subsequent impact on habitat. However, it was further acknowledged that with the appropriate environmental controls and management in place, such impacts would be mitigated.

> *Destruction of native habitat*
>
> *The short-term impacts are undeniably negative from an ecological perspective, however if appropriately managed long term can return a net gain in vegetated areas providing habitat for flora and fauna.*

Follow the best available science to mitigate/manage impacts. Place a high level of importance to rehabilitation activities so the best post mine ecosystems are left.

The area is rugged and wooded, albeit a small footprint, mining always changes the landscape in some way.

Strict environmental controls and monitoring to ensure regulations are adhered to.

6.7.4 Road Transport and Traffic

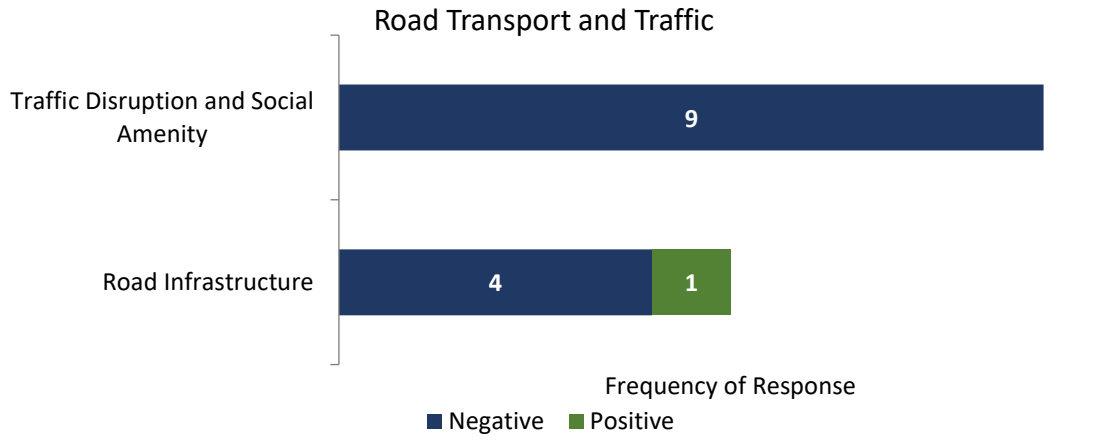
As shown in **Figure 6.26**, the potential for increased traffic on local roads, as a result of the Project, was an impact for some business stakeholders (14). Some respondents (4) were concerned about the ability of the existing local road network to accommodate heavy vehicle traffic, with one survey respondent acknowledging that the Project may actually assist in improving road infrastructure in the locality.

There may be increased traffic in area; roads not built for heavy vehicles.

Likely to be heavy vehicles on local roads.

More infrastructure and improved roads.

Figure 6.26 Perceived Road Transport and Traffic Impacts – Local Business Stakeholders



Note: Businesses n=87, multiple responses allowed. 19 participants did not provide a response relating to positive impacts, and 26 participants did not provide a response to negative impacts; Employees n=16.

However, the majority of respondents (9) were more concerned about the disruption that increased traffic movements would have on everyday life and local amenity, given the agricultural nature of Lue (1).

Traffic on the Lue road increasing.

More traffic on the roads.

Impact on farms in close proximity - traffic, noise.

Respondents had a number of suggestions as to how such impacts could be mitigated or managed, including a curfew for trucks within the hours of school buses runs, defined transport routes to reduce traffic disruptions and bus services to transport workers from respective localities to the Mine Site to reduce traffic on local roads and improve safety.

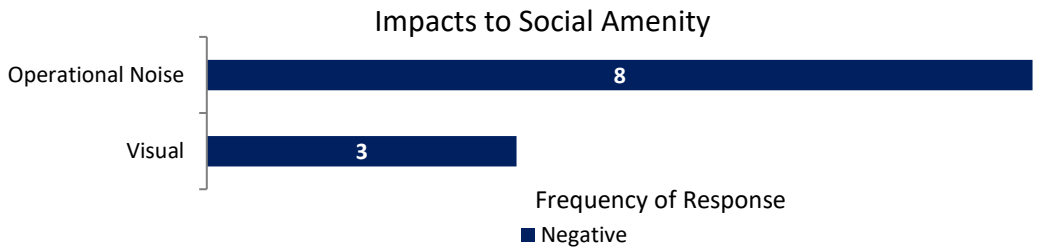
Concerns for mine personnel driving after long shifts was raised, with the perception that traffic related incidents are high in the mining industry due to fatigue.

> *Heavy transport curfew for school bus times.*
>
> *Defined transport routes to reduce movements on local roads.*
>
> *Bus services for workers to reduce traffic on local roads.*
>
> *As a local I believe that mining companies should have transport for their workers as we have all seen too many workers killed on our roads due to fatigue issues after long shifts.*
>
> *We are very interested in discussing opportunities with Bowden as to how we can service their travel requirements.*

6.7.5 Social Amenity

Impacts to social amenity raised by local business stakeholders were largely related to the potential for operational noise (8) and the visual impacts (3) of the Project (**Figure 6.27**).

Figure 6.27 Perceived Impacts on Social Amenity – Local Business and Current Employees

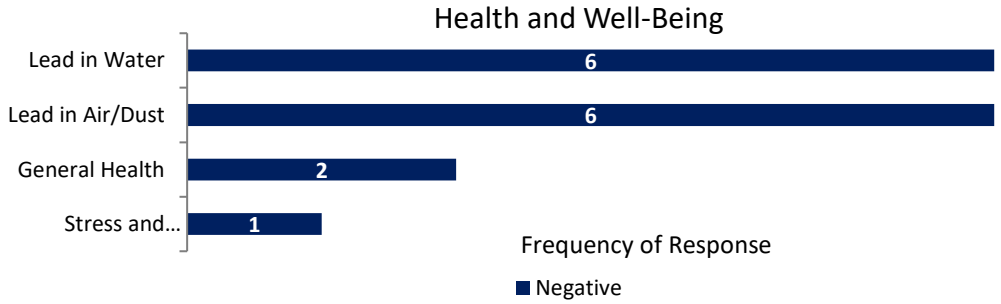


Note: Businesses n=87, multiple responses allowed. 19 participants did not provide a response relating to positive impacts, and 26 participants did not provide a response to negative impacts; Employees n=16

6.7.6 Health and Well-Being

Concerns relating to health and well-being, as identified by local business and employee respondents, included general health impacts and more specifically the impact of potential lead contamination in air and water (refer to **Figure 6.28**).

Figure 6.28 Perceived Health and Well-Being Impacts - Local Business and Current Employee



Note: Businesses n=87, multiple responses allowed. 19 participants did not provide a response relating to positive impacts, and 26 participants did not provide a response to negative impacts; Employees n=16.

Possible water contamination.

Contamination of groundwater.

Contamination to water ways

Air and noise pollution effecting the local community and food producers in the area.

Unknown future.

Put in place every method practical to minimise the release of toxic elements into the air and into the water. Ways of using minimal water for the Project. I don't have enough understanding on how this can be managed.

One respondent also raised the issue of uncertainty around the Project and its potential impact on people's mental health and way of life.

6.7.7 Property Rights

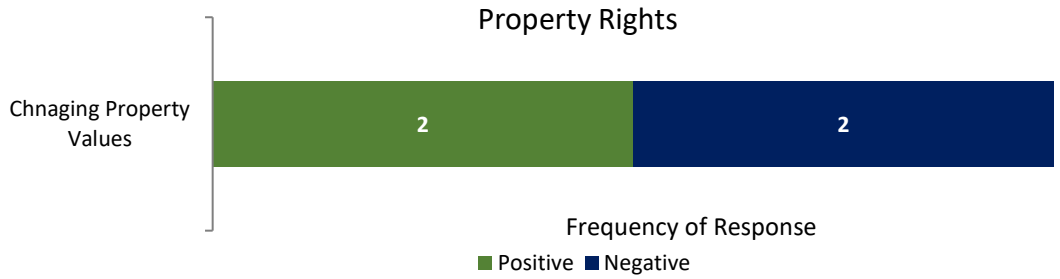
A small number of respondents also expressed the potential for impacts on property values, though the sentiment was mixed, with some suggesting that property values may increase and others that they may decrease as a result of the Project (refer to **Figure 6.29**).

Higher real-estate market values.

Devaluation of surrounding farmland.

Surrounding property values decreasing.

Figure 6.29 Perceived Property Right Impacts - Local Business and Current Employees

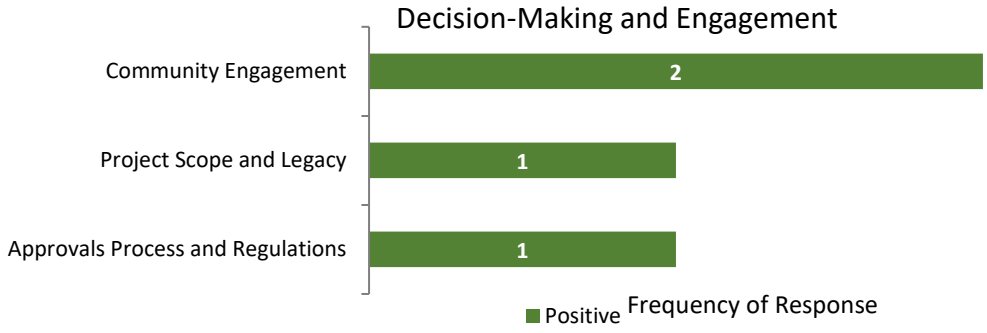


Note: Businesses n=87, multiple responses allowed. 19 participants did not provide a response relating to positive impacts, and 26 participants did not provide a response to negative impacts; Employees n=16.

6.7.8 Decision-Making and Engagement

Further engagement with the community was perceived to be a positive impact of the Project and there was a feeling among some of the consulted employees that the Project would be successfully managed by Bowdens Silver in line with relevant Australian standards and regulations (refer to **Figure 6.30**).

Figure 6.30 Perceived Decision-making Systems Impacts - Local Business and Current Employees



Note: Businesses n=87, multiple responses allowed. 19 participants did not provide a response relating to positive impacts, and 26 participants did not provide a response to negative impacts; Employees n=16.

6.8 COMMUNITY AND SPECIAL INTEREST GROUPS

This section provides a summary of the views obtained from interviews with community groups within the region; and from secondary review of relevant sources relating to groups with an interest in the Project, where direct engagement was refused.

A total of thirteen (13) community groups within the region were contacted to participate in the SIA program including service clubs, local show societies, the (Country Women's Association (CWA), local Landcare groups, heritage groups and the Lue Action Group (a group of landholders and residents who have publicly opposed the Bowden Silver Project).

Of the groups contacted, six participated in the interview process to discuss the potential issues or impacts of the Project from the perspective of their respective community organisation. The groups that were contacted and who participated in an interview are outlined in **Table 6.2**.

Table 6.2
Community and special interest group contacted during the SIA process

Community Group	SIA Consultation Status
Rotary Club Mudgee Sunshine	Accepted SIA interview
Rotary Club Mudgee	Accepted SIA interview
Rotary Club Rylstone Kandos	No response received
Country Women's Association (CWA) Mudgee Day Branch	Accepted SIA interview
Country Women's Association Evening Branch	Accepted SIA interview
Lions Club Mudgee	No response received
Rylstone Kandos Show Society	No response received
Mudgee Show Society	No response received
Rylstone and District Historical Society	Accepted SIA interview
Mudgee Historical Society	Accepted SIA interview
Lue Action Group	Declined SIA interview
Bingman Landcare	Declined SIA interview
Watershed Landcare	Declined SIA interview
Rylstone District Environment Society	Invitation pending
Mudgee District Environment Group	Invitation pending

The following sections outline the key issues as identified through personal interviews with community and special interest group representatives and members and secondary data review.

6.8.1 Heritage Groups

Engagement with heritage groups within the region, did not specifically elicit any positive or negative impacts in regard to the Project; however, heritage stakeholders identified the importance of heritage values within the Mid-Western Regional LGA as demonstrated in the preservation of such values in localities such as Mudgee and Gulgong. Where relevant, documentation of these values has been incorporated in the profiling section of the SIA report (refer to Section 5.4).

Of particular relevance to the Project were heritage values associated with the Lue locality, given its agricultural history associated with the development of the Lue Sheep Station in the late 1800s and early 1900s. The railway to Lue and the associated historic buildings are also considered significant, given the rail was considered the focal point of economic success, connecting Lue to the wider region of Mudgee and surrounds, as well as a gathering point for the community. The rail is now registered on the NSW Heritage Register, as being of State Significance.

Lue Public School, established in Lue in 1913, was also highlighted as a key community asset, a sentiment expressed by residents and landholders in the locality as outlined in Section 6.3.3 however, throughout the history of the school, the threat of closure has been a common risk, given a decline in school enrolment numbers and population influx and outflux over time. The Australian Curriculum Assessment and Reporting Authority, 2018a) stated that Lue Public School has 17 children enrolled. Consultation and engagement with the Lue Public School (November 2019) revealed enrolments have increased to 22, with children utilising the school coming from the localities of Lue (11), Kandos (5), Rylstone (3), Mudgee (2) and Clandulla (1).

6.8.2 Community Groups

Community groups within the Mid-Western Regional LGA are diverse and varied. The LGA is currently affected by drought and in an attempt to ease the burden to farmers during these adverse conditions, community groups have been active in financially contributing to relief efforts. Fundraising and donation efforts are dependent on local participation, with the majority of service provision offered through volunteer support. At the last census, a total of 4,163 people in the Mid-Western LGA (22%), indicated that they participate in volunteer roles (ABS, 2016) (refer to Section 5.9).

Around half of the groups consulted, suggested that a decline in community participation was a challenge in Mudgee in relation to being able to provide ongoing sponsorship and community support; with one stakeholder outlining changing social needs has required a shift in the provision of support offered and provided to the community. Contributions and sponsorships provided by Bowdens Silver to date (refer to Section 4.1.1) were welcomed by the community groups surveyed.

Although a small sample of community groups responded to the offer of interview as part of the SIA program, the issues noted in relation to the Project included general environmental concerns, including access to water and potential for water contamination of local aquifer systems.

> *Holes under the ground may lead to subsidence, but I don't know enough about it.*
>
> *Water is becoming a huge issue globally. It cannot be allowed to interfere with the aquifer systems.*
>
> *We're a mining town and as long as they conduct their environmental impact studies and do rehabilitation studies, and these are done properly…*

Opportunities for further local and regional employment for existing residents, procurement from local and regional businesses, and the potential to attract new residents to the LGA, were also commonly noted by the community group representatives interviewed.

> *On the plus side it's providing jobs, silver is a nice metal to have.*
>
> *I think it will be good for the community. It will bring more people to the town.*
>
> *I'd like to see the Project go ahead, as it will bring more jobs to town and more people to town.*
>
> *Mudgee is a mine and wine town.*
>
> *I think it will be good for the community. It will bring more people to the town.*

In order to enhance the positive impacts of the Project, community group representatives suggested that Bowdens Silver continue to contribute to community groups through the provision of support for annual events and sponsorships as well as ensuring support for local businesses in the LGA, should the Project be approved.

6.8.3 Lue Action Group

As a result of the proposed Project, in 2011, a number of concerned residents and landholders in the Lue locality formed the Lue Action Group (LAG), as a mechanism to share concerns in relation to the Bowdens Silver Project. The group has developed a website (lueactiongroup.org) and a Facebook community page (the Lue Action Group), which has approximately 106 'likes' by those following the page (September 2019).

As part of the SIA engagement program, the group was approached to provide its views regarding potential impacts of the Project, however declined on the basis that a number of members had been engaged on an individual basis as part of the first round of engagement for the Project. A summary of the issues of concern, identified by the group, has been developed based on secondary review and analysis of issues publicly recorded on the group's website and Facebook page.

The groups' concerns centre around the proximity of the proposed mine Project to Lue, suggesting that the location of the Project, approximately 2.5 km from Lue, is too close and would have negative effects on the community that live nearby. Specifically, the group fears that the air quality in town would be negatively impacted as a result of the potential for lead in dust associated with mining activities, with the potential for serious impacts on the health of community members and the local native flora and fauna in the locality.

Additional concerns regarding the potential for the proposed TSF to disrupt surface water flow into Lawsons Creek is noted as a key concern for LAG members, as is the potential for the contents of the TSF, that would hold heavy metals and chemicals, to leach into and contaminate the creek and associated waterways. Group members have expressed fears that when mining operations cease, the by-products of processing would remain in the TSF, with no responsibility for maintenance or management. LAG posted an article featuring BHP Chief executive Andrew Mackenzie who stated that 'dams failed with regularity' and outlined the steps required to ensure safe practices in the industry (**Annexure 3, Article 24**).

LAG members are also concerned that the presence of the operation would impact future tourism for Lue and that property values in Lue would be negatively impacted by the presence of the mine. Members are concerned by the outcomes of the Bowdens Silver Feasibility Study, which outlines a plan to deposit waste rocks, which have been identified as 'potentially acid forming', above an 80-m high embankment. LAG is also concerned that when the rock is exposed to oxygen, through the mining process, chemicals would seep into the ground, the ground water and surface water, potentially poisoning humans, animals and aquatic life.

The group has also raised environmental concerns in relation to conservation of the critically endangered Blakely's Red Gum and for the survival of koala populations which have been sighted in the area around the Mine Site (**Annexure 3, Article 43**). Access and use of local water resources has also been noted, particularly the drawing of water resources from the Lawsons Creek valley.

LAG has acknowledged the positive impact of employment that would be generated by the Project, and whilst they concede that the Project would create jobs, concerns have been raised that such jobs would not necessarily be awarded to local people, with the potential for the creation of employment not great enough to outweigh the long term social, environmental and economic effects on the local community.

The group has held information days to share their concerns over the mine with other residents and have received coverage from the local newspaper. LAG has initiated and participated in two protests, held on the same days as the two community information sessions for the Project, with one protest outside the Lue Hall on 7 May 2017 and the other at a neighbouring property close to the Mine Site on 15 June 2019. The Chair of the Action Group, Tom Combes, was quoted in the Mudgee Guardian (**Annexure 3, Article 10**), as stating: '*the Wilpinjong mine is further from Wollar than what Bowdens will be from Lue, and people were driven out of there just by the noise. If you take the environment concerns about this mine and add them to proximity, you've got to ask is it worth the risk?'*.

6.8.4 Environmental Groups and Landcare

Two of the Landcare groups in the locality, the Watershed Landcare and Bingman Landcare groups were approached to take part in the SIA program. Initial contact was made through the environmental impact assessment team in seeking input to the proposed Project's rehabilitation plan for input to the EIS. Responding to feedback regarding a lack of information about the Project more generally, Bowdens Silver approached both groups in April-May 2019 to participate in the SIA program. Watershed and Bingman were provided with multiple opportunities to be engaged with, however both chose not to participate.

Bowdens Silver has made additional efforts to contact Rylstone District Environment Society and Mudgee District Environment Group, and at the time of writing this report (November 2019) meetings are yet to be held.

6.9 COMMUNITY CONSULTATIVE COMMITTEE

To ensure community concerns are considered, and to afford better planning outcomes, the DPIE Community Consultative Committee Guidelines (2019) recommends proponents establish and operate Community Consultative Committees (CCC) to provide a forum for discussions between representatives of the community and the proponent regarding proposed Projects.

In November 2016 Bowdens Silver voluntarily established a community consultative committee (the initial CCC) to provide a mechanism to inform the community of the Project and its progress through the assessment process.

In late 2017, pursuant to updated SEARs, Bowdens Silver established a CCC under the DPIE Guidelines (the current CCC).

At the time of writing, 11 CCC meetings have been held (comprising meetings of the initial and current CCCs).

The current CCC comprises 12 representatives including an independent chair, representatives from Silver Mines Limited and Bowdens Silver, local and regional community representatives and representatives from the following stakeholder groups:

- Mid-Western Regional Council,
- Lue Action Group,
- Rylstone Kandos Chamber of Commerce, and
- Wellington Valley Wiradjuri Aboriginal Corporation.

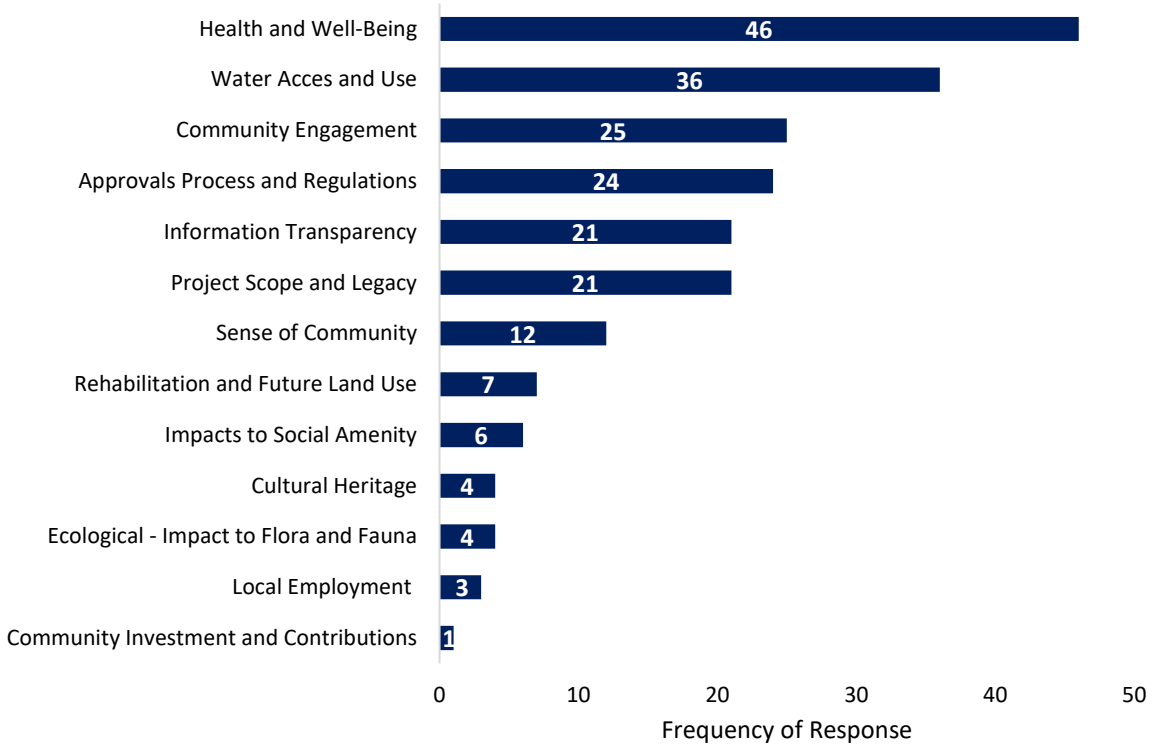
Presentations to the CCC have addressed the following topics:

- Presentations on the Bowdens Silver Project and subsequent discussion and questions
- Community open days, events and sponsorships
- Environmental aspects of the Project
- Presentations, questions and correspondence from community members and the Lue Action Group
- Site tour of the Bowdens Silver Mine Site
- Presentations and Q & A sessions with specialist consultants and the EIS consultant
- Exploration activities and results.

A review and analysis of the minutes of CCC meetings indicates that committee members were most concerned about the potential for health and well-being impacts (46) and access to water in the local area (36). Furthermore, given the role of elected CCC representatives is to share information with their local community, it is not surprising that a large proportion of the enquiries

over the two-year period analysed, pertain to information provision. Members were most concerned with the mechanisms for community engagement (25), the assessment and approvals process and regulations associated with State Significant Developments (24). Transparency of information and specific Project design and legacy issues were also mentioned with 21 responses attributed to these categories respectively. As has been previously noted, legacy issues largely related to the duration of time the Project has been considered, since first being initiated by Kingsgate (refer to **Figure 6.31**).

Figure 6.31 Perceived Project impacts identified during CCC Meetings 2016-2019



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Further detail of the issues identified by members in CCC meetings are provided in the following sections.

6.9.1 Health and Well-Being

Health concerns were most frequently raised by CCC Members, with 46/210 responses (22%) specifically relating to the effects of lead exposure on human health. Concerns relating to potential lead contamination centred around the potential for consumption of home grown produce or livestock and rainwater collected from the roof of residential properties in water tanks. Given the level of concern relating to potential impacts of lead on health and well-being, the health specialist responsible for undertaking the Human Health Risk Management assessment (2017) and the Determination of pb Bioaccessibility in Bowdens Silver Soil Samples (2017) as part of the EIS, presented to the Committee in April 2018 to provide an opportunity for committee members to ask questions and raise their concerns regarding lead consumption via environmental transfers.

6.9.2 Access to Water and Use

Access to water was the second most frequently raised concern across the meeting minutes reviewed, with 36 responses (or 17% of responses) pertaining to where water for the Project would be sourced, the potential impacts on the water catchment within the region used to source water; and how private bores would be monitored to ensure that any adverse effects to proximal landholders are minimised.

6.9.3 Decision-Making and Engagement

As outlined in the Community Consultative Committee Guideline (2019), the role of the CCC is to relay information provided by the Project team back to the community and to those with interest in the Project. It is therefore not surprising, that a large proportion of queries in CCC meetings, related to the decision-making systems afforded to the community in relation to the Project. Two key themes were raised by CCC members, and addressed by Bowens Silver staff, including community consultation and engagement processes, accounting for 12% of total responses. In this regard, members sought clarification of the types of mechanisms being used to identify and engage key stakeholders. It was also outlined that more visual mechanisms were needed e.g. visual aids including 3D modelling, to better communicate the outcomes of environmental assessment studies and mine planning aspects to the community. In this regard, Bowdens Silver have worked with Truescape to develop a visual representation of the Project, that has been used to communicate the Project to the community Open Day in June 2019.

In addition, a further 24 responses (26% of questions raised at CCC meetings) related to the exhibition phase of the assessment process, and the timeframes that could be expected for the assessment process and whether extensions to the exhibition period (120 or 60 days as opposed to 30 days) could be sought to allow further consideration by the local community. The appropriate consideration of impacts on the community were also noted by CCC members.

Issues relating to the transparency of information provided to the community, accounted for 10% of issues raised and frequently related to the provision of specific data and modelling results, such as meteorological data and the parameters/criteria relating to noise and air quality modelling undertaken as part of the EIS. Bowdens Silver, where possible, has provided links and references to CCC members to locate and review relevant policies and data sources in this regard, with the outcomes of air quality and noise studies communicated to residents/landholders individually and via community information sessions.

6.9.4 Project Scope and Legacy

CCC members have been involved in discussions with the Project team in relation to the Project scope and strategies for effective mine closure planning with concerns related to mine design, financial funding and the term of the mine life frequently discussed (21).

Committee members were particularly interested in understanding:

- The quantity of minerals present in the area, including what proportions of silver, lead and zinc are present and have the potential to be extracted;

- Any changes to mine design (11 responses specifically relating to the proposed size of the mine operation and footprint, placement of mine infrastructure and the need for open cut extraction, in preference to underground mining given the shape and depth of the deposit);
- Tax obligations, Project feasibility and Project funding/financing for the life of the mine.

6.9.5 Sense of Community

Regarding sense of community, a number of queries (7) related to the acquisition process for any noise affected properties, including discussions surrounding potential 'buy-back' schemes or compensation measures that would be put in place for affected stakeholders.

6.9.6 Social Amenity

Other issues related to the proximity of the Project to Lue given the proposed mine would be approximately 2.5 km from Lue, and the potential impacts on rural lifestyle and the social amenity of local residents and landholders, particularly as a result of Project noise at night (6).

6.9.7 Rehabilitation and Future Land Use

Rehabilitation measures, including knowledge of biodiversity offset areas and final void and landform strategies were also raised (7). There was a particular request by Committee members that Bowdens Silver have adequate financial provisions in place for site rehabilitation, particularly at the cessation of mining activities.

6.9.8 Cultural Heritage

A member of the CCC is a representative of the Wellington Valley Wiradjuri Aboriginal Corporation, who through the course of CCC meetings raised several Cultural heritage (4) matters, including seeking clarification that draft heritage reports are required to be submitted to Aboriginal parties for comment, and concerns that the proposed pipeline may impact on significant Aboriginal cultural heritage sites. In response, the pipeline alignment has been adjusted to afford protection of potential heritage sites and artefacts (discussed further in EIS Section 4.14). Furthermore, Bowdens Silver confirmed that the draft heritage report has been sent to the registered Aboriginal persons to comment on, and these comments have been collated by the archaeologist. Details of the consultation and response to the draft report are presented in Section 2.2.5 and Annexure 5 of Landskape (2020).

6.9.9 Ecological Impacts

Comments regarding the conservation of native flora and fauna (4) were made by CCC members. Particular species of concern included the White Box, Yellow Box, Blakelys Red Gum and potential impacts on Koala populations. In this regard, further information was requested in

relation to potential offset area locations and management measures to be put in place to ensure protection of critically endangered species. Concerns in relation to ecological impacts were primarily raised during 2017 CCC meetings and in 2018; with no ecological concerns raised in 2019 CCC meetings.

6.9.10 Economic Impacts

Impacts to the local and regional economy were less frequently identified by CCC members with minimal reference to the potential employment opportunities afforded by the Project.

CCC members enquired as to the Company's policy regarding local employment quotas and the size of the workforce required to operate the Project. In this regard, members expressed a desire to see apprenticeships offered to the local community.

Furthermore, clarity was sought around the nature and extent of the Planning Agreement with Council, which would see contribution made to the MWRC to facilitate infrastructure improvements and road maintenance.

6.10 REGIONAL COMMUNITY PERSPECTIVES

6.10.1 Overview

As outlined in Section 3.6, the views of those from the broader regional community have been ascertained from the following activities and information sources:

- Two community information sessions and a community open day, the latter being held in June 2019, to offer Project information, updates, visual aids and face to face consultations with Bowden Silver representatives. Attendees at the community information sessions were encouraged to submit a feedback form, either on the day or electronically. A total of 33 respondents participated in the feedback process.
- Regional community survey: a survey targeted to regional community members that was made available at public locations over a three-month period from July to October 2019. This survey, received 31 responses and contained questions pertaining to:
  - attitudes towards the proposed Project design changes
  - the positive and negative impacts associated with the Project
  - potential mitigation measures to enhance or mitigate these impacts
  - community needs and potential strategies
  - suggestions for potential initiatives or programs for Bowdens Silver to contribute to or support in the community
  - suggestions for final land uses at the cessation of operations.

Table 6.3 outlines the localities from which the wider regional community with an interest in the Project reside. As noted, five of these participants were residents of Lue and their responses have therefore been included in the analysis of residents and landholders in the locality (refer to Section 6.3) with the remainder included within the following sections.

Table 6.3
Attendees of the Community Information Sessions and Open Day

Locality of Residence	Count attending Community Information Sessions and/or Open Day, or those completing a regional community survey
Lue*	5
Mudgee	7
Kandos	15
Rylstone	19
Clandulla	2
Ilford	2
Milroy	2
Duramana	2
Glen Alice	1
Stubbo	1
Spring Flat	1
TOTAL Residents and Landholders in the Locality	5
TOTAL Regional Community	59
TOTAL	64
*: Respondents from Lue (5) have been included in Section 6.3. Total respondents reported in this section total n=59	

6.10.2 Regional Community - Perceived Positive and Negative Social Impacts

When community information sessions and open day attendees and survey respondents were asked what they saw as the positive and/or negative impacts associated with the Project, 40 of the 59 regional community member respondents identified potential positive impacts associated with the Project, while 12 respondents identified potential negative impacts. Multiple responses were permitted (refer to **Figure 6.32**).

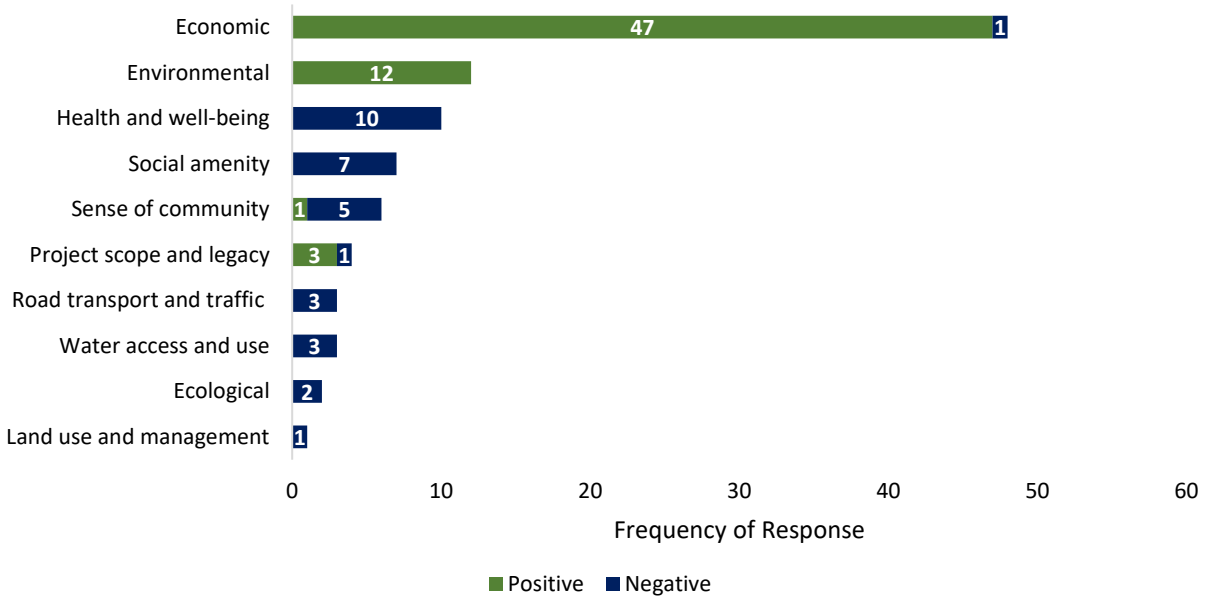
The most frequently raised potential impacts of the Project were with regards to economic benefits, the alleviation of environmental impacts as a result of the refinement of the Project design, negative impacts to health and wellbeing, and impacts to social amenity. Potential impacts from the Project scope and legacy, impacts to sense of community, road transport and traffic, water access and use, ecological impacts, and land use and management were also identified by regional community members.

6.10.2.1 Economic

The potential economic benefits of the Project were the most frequently raised impact of the Project by regional community members (47). These potential positive economic impacts related to opportunities for Bowdens Silver to employ local residents (31), additional community contributions and potential service provisions (11), benefits from the use and application of Silver (2), and local procurement opportunities (2). Only one respondent raised a negative impact with this concern related to the employment of locals (refer to

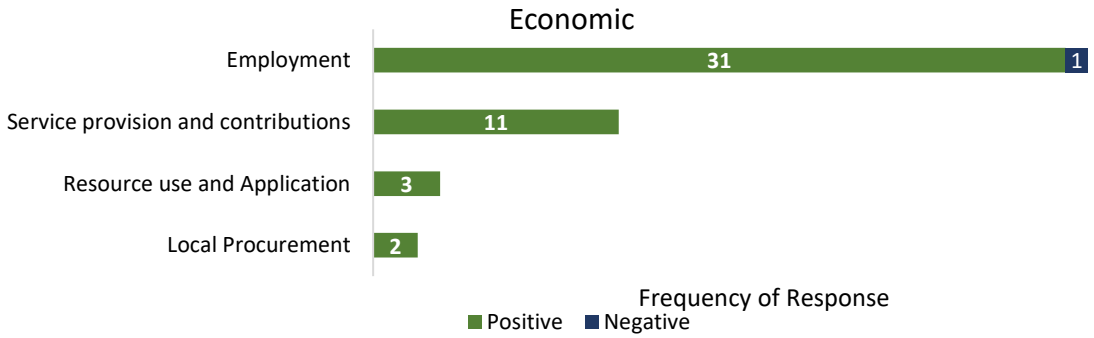
Figure 6.33).

Figure 6.32 Perceived Social and Environmental Impacts - Regional Community



n=59, multiple responses allowed.

Figure 6.33 Perceived Economic Impacts - Regional Community



n= 59, multiple responses allowed.

Regional community members raised that the employment of locals would be beneficial for their communities and provide opportunities for education, training and employment for younger people in the area. During the community information session, the difficulties for residents and school leavers to find work were highlighted by community members. Those who attended also noted difficulties in gaining experience and skills, and that the Project could offer a solution through training and employment of local people.

> *Hopefully there will be some employment opportunities for locals.*
>
> *Towns need the jobs.*
>
> *More employment opportunities for the locals, good for the economy. More job positions and new skills for locals to apply for - keep the towns running.*

However, one regional community member was concerned that Bowdens Silver would predominantly employ non-locals which would ultimately impact on local towns with people leaving due to a lack of opportunities.

> *Job opportunities given to non-locals, which will affect the local towns. If locals don't get a job locally, they will be packing up and leaving which is negative for local towns - Kandos, Rylstone, Lue etc.*

To maximise the employment opportunities associated with the Project, respondents suggested that Bowdens Silver focus and prioritise local employment and the use of local businesses.

It was also noted that the potential for Bowdens Silver to invest in the local communities through addition funding or sponsorships for educational facilities and community groups would be beneficial.

> *Support given to local community groups.*
>
> *Funding: School fundraisers.*
>
> *Money into local area: Schools, TAFE etc.*

Respondents (3) saw the extraction of silver as a positive impact through its utility and application.

> *Silver is in everything we use.*
>
> *Bacteria coming into contact with silver kills the bacteria and that's a good thing, I'm a big believer in probiotics and not anti-biotics.*
>
> *I'm all in favour of getting as many minerals out of here as we can.*

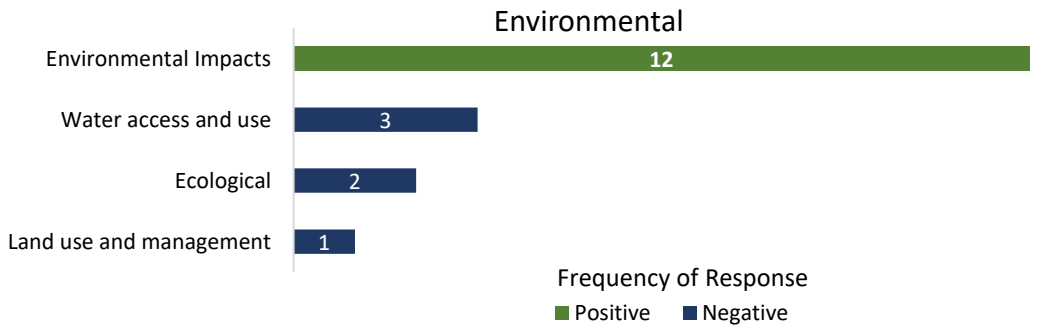
The potential for the Project to utilise local businesses was seen as another potential positive economic impact by respondents (2).

> *More money in the area and opportunities for local shops.*
>
> *Employment/local procurement is a positive impact.*

6.10.2.2 Environmental

Environmental and related impacts were the second most commonly identified impacts by the regional community (**Figure 6.34**).

Figure 6.34 Perceived Environmental, Water Access and Use, Ecological, Land Use and Management Impacts - Regional Community



n=59, multiple responses allowed

On a positive note, it was noted that the mine design changes that have occurred as a result of consultation and engagement with the community, will lessen the impact to the environment (12), particularly in regard to water usage, as expressed in the following stakeholder sentiment:

> *It won't be left as a big mess; it will turn back to bush land.*
>
> *Size of the Project - We didn't realise until this presentation that the size of this holding is relatively small with less environmental impact than has been sprouted by action groups.*
>
> *Less Environmental Impact - Smaller Mine.*
>
> *Using a new water supply from local mines that don't need it as much - to save the local water supplies.*
>
> *Massive reduction of water usage is a major positive.*
>
> *It is good to see that the water issue has been sorted through using the pipeline.*
>
> *Reduction in water usage and sourcing from Ulan - reduced local impact on local ground water.*

The potential impact on water access and use was also raised by regional community respondents. These concerns were predominantly around the impact on landholders and farmers of water being taken from catchments, with one respondent referring to the cumulative impact of mining on water sources and its sustainable viability. One respondent suggested water testing to take place prior to the development of the Project to afford comparison when the mine is in operation.

> *No matter where the water is sourced from, water usage and sustainability is a huge question for all mines.*
>
> *Water table decrease for local bores that will make it difficult for graziers that need bores for stock water.*

Respondents from the community information sessions had similar questions around the sourcing and storage of water. Concerns were raised around the use and viability of a tailings dam, the potential impacts on groundwater systems and Lawsons Creek, and what would happen if Bowdens Silver can no longer source their water from Ulan and/or Moolarben Coal Mines.

> *I don't think there are any tailings dams that have been rehabilitated.*
>
> *Every tailings dam in the world has failed.*
>
> *Will the Ulan mine be pumping the water or Bowdens Silver? What happens if Ulan closes what happens to the water and pipeline?*

Two respondents were concerned with the potential ecological impacts to endangered species such as the Box Gum and Regent Honeyeater as well as Koalas.

> *Destruction of Box Gum Grassy woodland that is endangered.*
>
> *Loss of habitat for endangered species including Koala and Regent Honeyeater.*

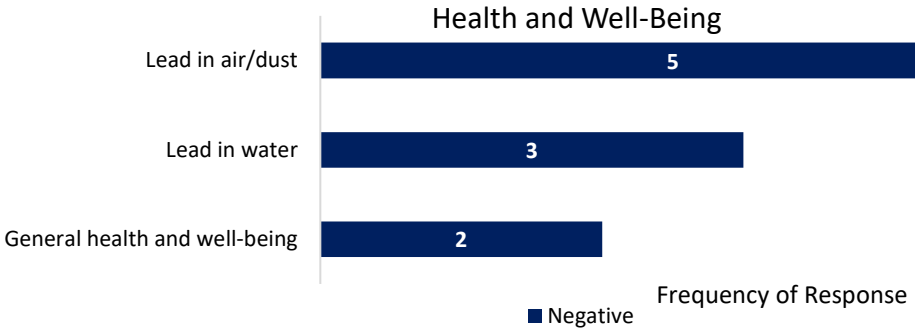
Use and management of the land post mining was raised as a potential negative impact by one respondent who requested additional information on Bowdens Silver's plans to rehabilitate the area.

When asked "*If the Project is approved, and after the operations have ceased, what would you like to see as the final land use in the area?*", responses to this question were mixed with 12 respondents suggesting that it be rehabilitated for agricultural and farming use, while nine respondents indicating that the land should be restored back to its natural state. Other suggestions include; recreational camping grounds (6) or dam for recreational activities (4), tree plantation (2), solar farm (1) or wildlife sanctuary (1).

6.10.3 Health and Well-Being

Health and well-being related concerns were noted by a total of ten (10) regional community members and were largely associated with the potential for adverse health effects of lead (8) – specifically concerns about lead particles travelling through the air (5) and the potential contamination of drinking water (3) (**Figure 6.35**).

Figure 6.35 Perceived Health and Well-Being impacts - Regional Community



n=59, multiple responses allowed

> *Air contaminated with lead dust which is dangerous and end up in our rainwater tanks; Lead Dust: effects of lead on community.*
>
> *There are health concerns from the lead - potential for there to be toxicity from mining lead ore.*
>
> *We were concerned you won't be able to drink rainwater from the roof, but she said the degree of lead exposures would be less than the car traffic impacts of Sydney. We were very much relieved in relation to that.*
>
> *Distance of the mine from Lue and potential dust/ noise implications.*

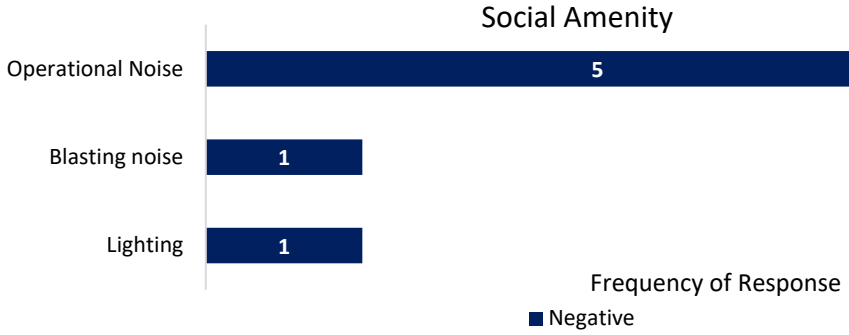
6.10.4 Social Amenity

Social amenity was also regarded by those in the regional community as an issue of concern, with five respondents raising concern with operational noise and how it would impact on the social amenity of their homes and Lue. While one respondent was satisfied with the mitigation measures proposed to alleviate the noise impacts, another believed Bowdens Silver needs to do more to address the constant ongoing operational noise (refer to **Figure 6.36**).

> *Noise pollution disrupting the usual quiet nature of Lue.*
>
> *Noise East of Mine: Interactive display has shown mitigation should minimise this for us.*

The more lingering concern was the noise level - they claim it will be 35-40 db and they likened that to a washing dishwasher. The fact is though that it will be a constant and they need more work to mitigate noise impacts more.

Figure 6.36 Perceived Social Amenity Impacts – Regional Community



n=59, multiple responses allowed

One respondent was concerned about impacts from blasting noise:

There will be constant blasting. They said we would not be able to feel it, that it would be more "like a thud", but we will be aware of it.

A further respondent noted a concern with regards to light pollution from the operations and the potential impact that this would have on the surrounding wildlife and the amenity of the Lue community.

Light pollution disrupting wildlife and unsightly for the community.

Suggested mitigation strategies from respondents were to limit operation hours to 12 hrs to reduce the impact of noise and light pollution, and the potential to limit the times that blasting occurs to reduce disturbance for community members.

6.10.5 Sense of Community

Potential impacts to sense of community were raised by six respondents, with five of these negative and in reference to the proximity of the mine to Lue and impacts on community cohesion. It was felt that the cohesion of the community has indirectly suffered as a result of the Project's announcement, with supporters of the Project conflicting with those who are actively against the Project.

This is indicated through respondents' comments of disdain for protestors and the action group (refer to **Figure 6.37**).

Destruction of the local community as no one will want to live near a lead mine.

Proximity to the mine.

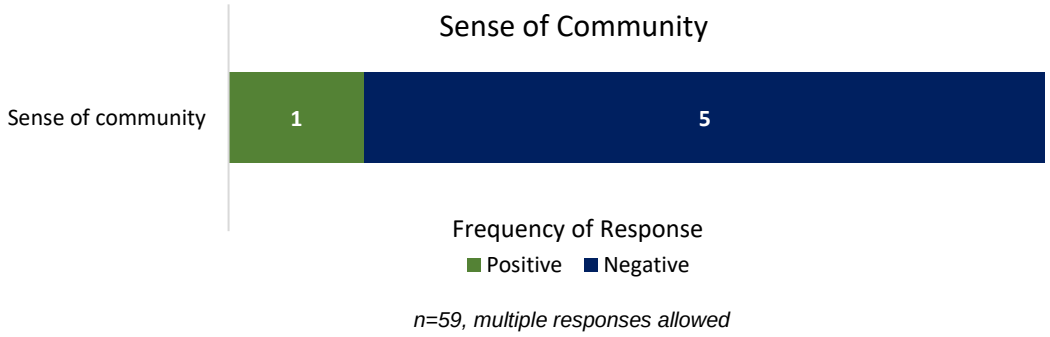
Protesters need to read the information.

Aside from the pesky protesters - no negatives.

One respondent identified the fact that the Project would not be transporting product through townships was a positive for residents.

> *Not routing product through townships - residents can continue with the lifestyle they bought into.*

Figure 6.37 Perceived Sense of Community Impacts – Regional Community



6.10.6 Project Scope and Legacy

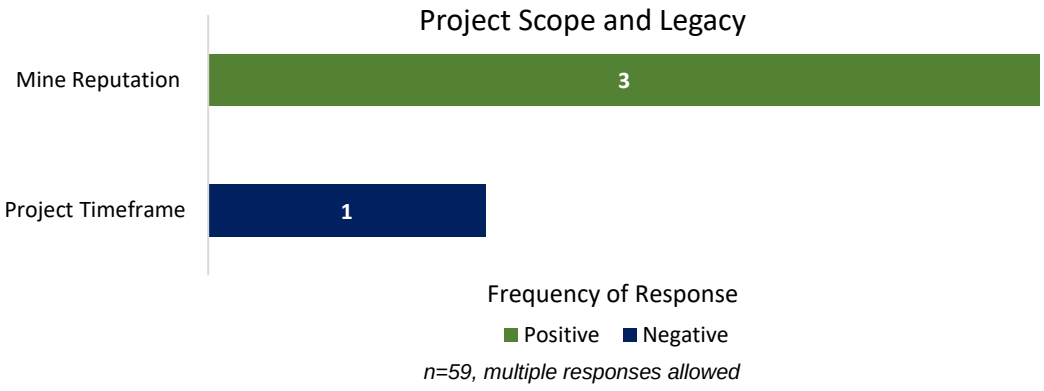
The Project and reputation of the Company were identified as a positive for three respondents with comments pertaining to positive affirmation towards the Project and the community mindedness of the Company (refer to **Figure 6.38**).

> *Happy with the mine, community company.*
>
> *Fantastic for community.*
>
> *Great community company.*
>
> *Very happy with mine.*

One respondent raised concern around Project timeframes.

> *It would be good to get an actual time frame of Project.*

Figure 6.38 Perceived Sense of Community Impacts – Regional Community



6.10.7 Road Transport and Traffic

Two respondents raised concerns around the potential issue of road transport and traffic impacts on social amenity and potential safety concerns around increased truck movements. Similarly, concerns were raised at the community information session around the viability of the Lue roads to facilitate three to four truck movements per day, and the impact on roads during the construction period.

> *Traffic on Lue Road increased with trucks making it more dangerous to travel locally.*
>
> *Prefer not to cross over the rail line - the way I see it is that they will have to cross over the rail line twice, they should stay on the same side as it will be cheaper.*
>
> *Wont lots of trucks be required in the construction of the pipeline and will road works be required.*

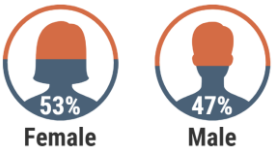
A suggested mitigation measure to address this concern was to ensure the roads were suitable to enable B-doubles to travel safely.

6.11 REGIONAL COMMUNITY RANDOM TELEPHONE SURVEY

This section details the outcomes of a random telephone survey of residents in selected areas of the Mid-Western Regional LGA to determine wider community perspectives relating to the Bowdens Silver Project. As outlined in Section 3.7, the survey was undertaken by Jetty Research from 19 to 28 August 2019, with 410 households participating in the survey from across the Mid-Western Regional LGA, including the towns and villages of Mudgee, Lue, Gulgong, Kandos and Rylstone and their surrounding rural areas.

6.11.1 Respondent Profile

Table 6.4 provides a profile of survey respondents. Of the 410 people interviewed 53% were female and 47% were male; with over half of the sample (51%) aged over 60 years, 27% aged 30-49 years and 3% aged 18-29 years.



It is important to note that in comparison to the broader population, there is an underrepresentation of individuals in the 18-29 years age bracket amongst the random telephone survey respondents, and an over representation of those aged above 60 years. The proportion of those in the age bracket of 30-59 years are reflective of the proportions within the broader population.

Respondents had, on average, lived at their current address for 22.4 years, suggesting very low population mobility.

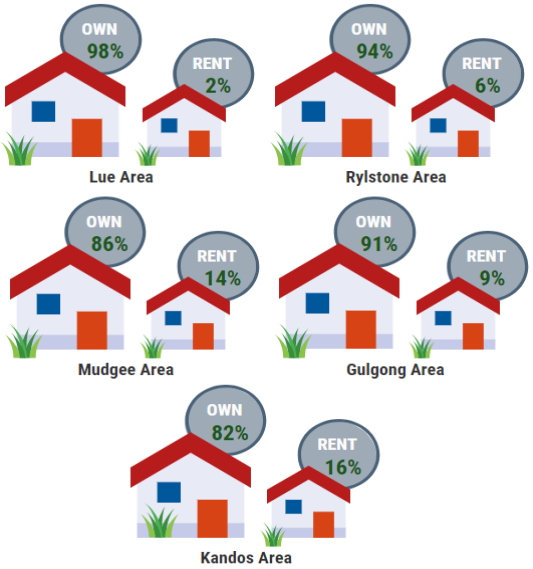
Table 6.4
Respondent Profile by Geographic Area
(sample comparison with the broader population)

	Kandos Area	Rylstone Area	Mudgee Area	Lue Area	Gulgong Area	Total	
Sample Size							
Sample Size	55	72	155	48	80	410	
Age						**Sample Proportion (%)**	**Population Proportion (%)**
18-29 years (%)	2	0	6	4	1	3	18
30-39 years (%)	5	8	14	4	15	11	17
40-49 years (%)	24	10	15	17	16	16	16
50-59 years (%)	18	19	19	15	20	19	17
60-69 years (%)	25	31	17	40	21	24	14
70+ years (%)	25	31	28	21	25	27	19
Declined to answer (%)	0	1	0	0	1	0.5	
Gender							
Male (%)	45	44	46	52	51	47	
Female (%)	55	56	54	48	49	53	
Proportion of respondents who work in the mining industry or as a contractor							
Yes, work in mining industry (%)	5	7	7	4	13	8	
Yes, work as a contractor to the mining industry (%)	4	0	6	4	9	5	
Yes, both (%)	0	1	1	2	1	1	
No, neither (%)	91	92	86	90	78	86	
Sample Size							
Sample Size	55	72	155	48	80	410	
Proportion of respondents with family who works in the mining industry or as a contractor							
Yes, work in mining industry (%)	24	26	26	17	40	28	
Yes, work as a contractor to the mining industry (%)	5	6	8	10	4	7	
Yes, both (%)	2	6	5	0	5	4	
No, neither (%)	69	63	61	73	51	62	
Average number of years lived at current residence							
Years lived at current residence	25.0	25.4	18.9	25.1	22.9	22.4	
Dwelling Ownership Type							
Own (%)	82	94	86	98	91	89	
Rent (%)	16	6	14	2	9	10	
Other (%)	2	0	0	0	0	0	
Note: Percentages rounded to nearest whole number							
Source: Umwelt 2020, ABS 2016							

The majority of respondents (89%) own their own home, with only a small proportion renting (10%). Home ownership was consistently high across all localities, with Lue demonstrating the highest percentage of home ownership at 98%.

Respondents in Kandos and Mudgee had the highest proportion of the sample that were renting at 16% and 14% respectively.

The majority of respondents had never worked for the mining industry, or as a contractor to the industry (86%), with 62% also not having any family members who worked for the industry or their contractors.



Respondent works for the mining industry/contractor (14%)	**Family member who works for the mining industry/contractor (39%)**

6.11.2 Community Values

When asked what they liked most about living in the area survey respondents referred to the peacefulness and isolation of living in a rural area, safety and security and tight knit, cohesive, friendly and supportive communities. The visual amenity and natural beauty of the area was also frequently noted, with respondents from the Rylstone area referring to their proximity to Wollemi National Park, and others in the Kandos area noting the mountains in proximity to their town. The vineyards, restaurants and Mudgee's tourist focus, was also valued highly by those in the Mudgee area. Some examples of responses by location are presented at in **Table 6.5**.

Table 6.5
What do you like most about living in your area?

Page 1 of 2

Kandos Area
• Country which is pretty. Friendly people. • Isolation...I like my space. • Hometown, family are close. • Peaceful, quiet, we have a good local hospital. • The views and lifestyle and safety. • Love the mountains and scenery. • Small community that bands together and looks out for each other.

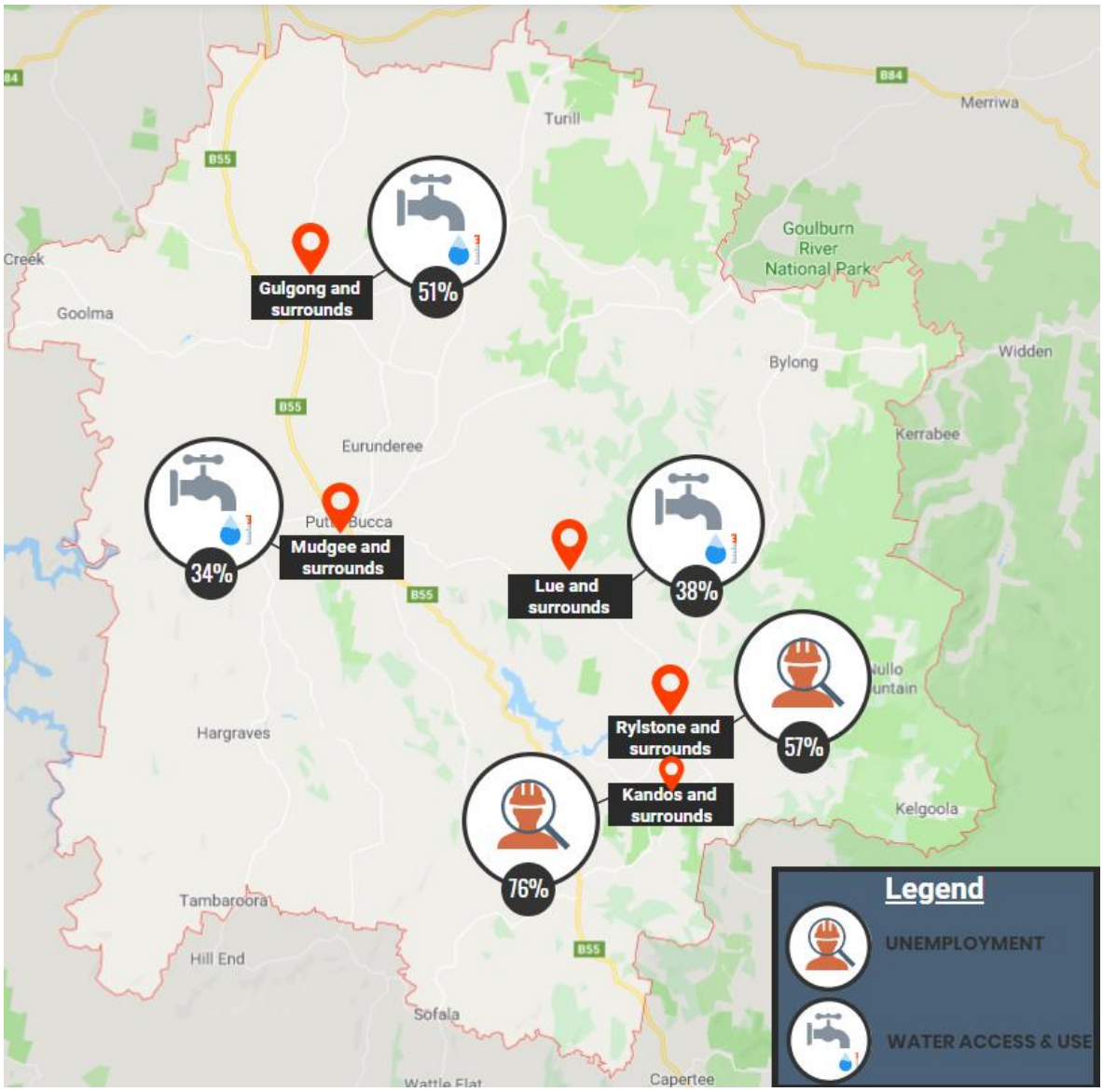
Table 6.5 (Cont'd)
What do you like most about living in your area?

Rylstone Area
• The peace and quiet and clean air. • Best parts of the world, Quiet area, Good people. • Beautiful place to live. • Rural countryside - undamaged bush lands, clean air and peacefulness. • I have lived here all my life - it's a beautiful area and very happy here. • There is nothing not to like about the area. Peaceful and quiet. • Clean air and pristine environment and relaxed country living. • It's just a quiet area close to everything close to Newcastle and close to Sydney. • Small community and community culture - everyone supports each other. • I like the slow life and no traffic. The lack of pollution. • The nature, being up against the Wollemi National Park - plenty of wildlife, people talk to you in the street.
Mudgee Area
• Quietness and a pretty town are the reasons we moved here, if contaminated with noise and environmental issues, may be the reason to leave. • Small tight-knit community, good support from mines. • The ambience of country life is great. • Stability of Mudgee. • It's viability as a tourist destination, makes it buzzy. Natural environment, location in the hills, cultural community. • Wineries and lifestyle. • The beauty of the natural environment. • I like the balance of country and earning a good living in the mining industry. • Really good red and white wine. Good restaurants. Strong tourism. Dynamic. • Isolation - I don't like heavy traffic and things in the city. Close knit community - everyone knows everyone, pleasant, supportive.
Lue Area
• Love the area - after travelling Australia have found it the most favoured destination. The family home is an original house and has been in the family 100 years. Great memories, pretty, important personal significance. • Its rural, the air quality is fantastic, water is great, there's serenity. • The atmosphere, and the people around here nice and friendly, good community. • Peace, quiet and tranquillity. • I am born and bred here; I think it is a great area. We have the lowest crime rate in the state, or we used to last time I checked, it's a nice area that is well known for our wine, fine wool and honey.
Gulgong Area
• Country lifestyle and local community and lots of support. • The sun does not stop shining. • Peace and quiet. Friendly locals. • Being out of town and being able to make noise, have animals and being in the bush. Being part of a community. • The quietness and closeness of the community. • Sense of community, generosity of the community, good infrastructure. • Rural living is quiet, friendly. • The air and the environment are clean, and we do have unspoilt places like Dunns Swamp and Rylstone. • Open spaces, friendly community, almost pollution free.
Source: Umwelt, 2020

6.11.3 Community Issues / Challenges

Respondents were also asked what they perceived as the current issues / challenges in their area. Overall, the biggest challenge facing the region, as identified by respondents, was unemployment and a lack of employment opportunities. The issue of unemployment was particularly noted by those respondents from the Kandos and Rylstone areas, with 76% and 57% of respondents respectively raising this as a key challenge (refer to **Figure 6.39**). For respondents in the Mudgee and Gulgong areas, unemployment was the second most identified issue/challenge (following water related issues) with 25% of respondents in each area noting this. In the Lue area, 15% of respondents raised unemployment as a challenge.

Figure 6.39 What do you see as the current issues / challenges in your area?



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Water access and use was the next biggest challenge facing all the community areas overall. Given current water shortages impacting on residents and farmers, due to drought, respondents identified this as a major issue for the region. For respondents from the Gulgong, Lue and

Mudgee areas, water issues were the largest concern with 51%, 38% and 34% of respondents raising the issue respectively across these areas. Water access and use was also the second most frequently raised issue/challenge for respondents in the Rylstone area (28%), however it was of lower in concern in the Kandos area with only 5% of respondents noting this as an issue (refer to **Figure 6.39**).

Other key challenges for the communities included:

- The number of mines and lack of industry diversity in the area with 10% of the total respondents raising this as a current challenge (Lue - 17%; Rylstone - 11%; and Kandos - 7%)
- Road quality and lack of infrastructure (Lue - 17%; Gulgong - 13%)
- A lack of variety in retail, shopping and sustainability of local businesses in Kandos (7%).

6.11.4 Awareness, Knowledge and Support for Mining and the Project

The top of mind associations that respondents had in relation to Bowdens Silver varied, with the most common associations being employment, mining, silver and lead. A relatively large proportion of respondents (24%) said that nothing came to mind. The size of words displayed below in **Figure 6.40** reflect the frequency at which they were raised during the survey.

Of the 410 respondents surveyed, 76% had previously heard of the Project, with 24% having no awareness of the Project. The locality with the highest proportion of respondents who were aware of the Project was Kandos (96%), followed by Rylstone (93%) and Lue (90%). There were also a substantial number of residents in Mudgee (67%) who had heard of the Project. Awareness was lowest in Gulgong with 55% having not heard of the Project.

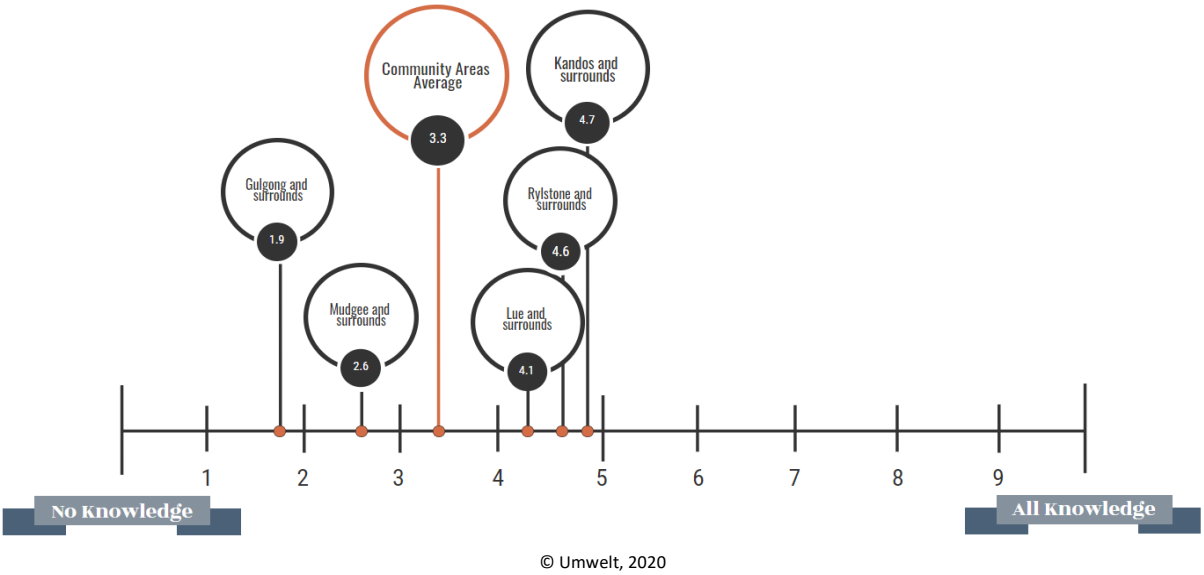
For those who had heard of the Project previously, the majority had heard via word of mouth (49%), the newspaper (25%) or through Project newsletters or flyers (10%). A high number of those in Mudgee noted hearing about the Project via an employee or other contact in the mining industry (14%).

General knowledge of the Project was quite low with an average rating of 3.3 out of 10 (where 0 was ‘no knowledge at all’ and 10 was ‘all possible knowledge’) (refer to **Figure 6.41**). However, Gulgong and Mudgee had significantly lower levels [(df=130.1u, n=410) =-4.408, $p < 0.001$], [(df=338.72, n=410) = -4.029, $p < 0.001$] of knowledge with average ratings of 1.9 and 2.6 out of 10 respectively. 53% of respondents from the Gulgong area responded that they had ‘no knowledge at all’.

The Kandos and Rylstone areas had significantly higher than average levels of knowledge [(df=81.48, n=410) = 4.838, $p < 0.001$], [(df=106.97, n=410) = 4.8, $p < 0.001$] with ratings of 4.7 and 4.6 respectively. The average level of knowledge for respondents in the Lue area was 4.1 out of 10.

Figure 6.40 What words or things come to mind when people mention Bowdens Silver?

Figure 6.41 Level of Knowledge about the Bowdens Silver Project



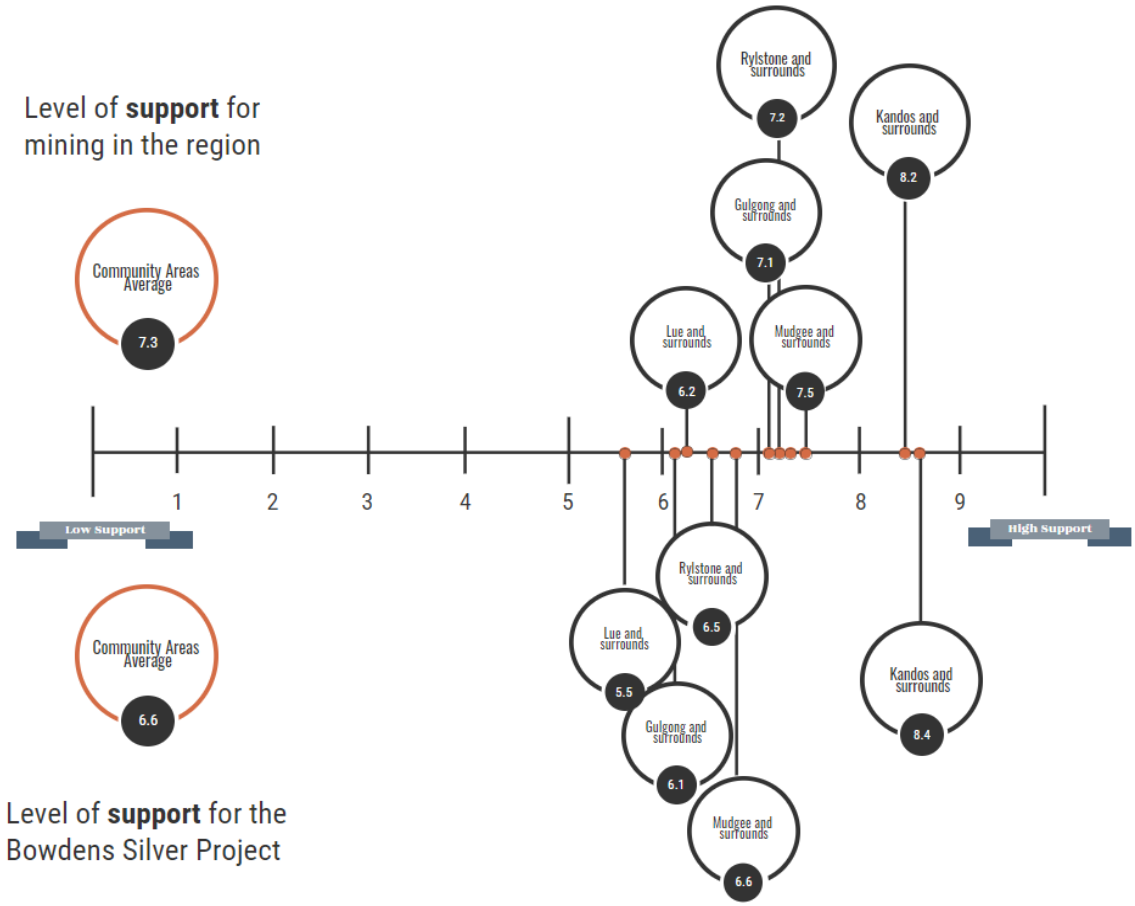
When considering knowledge levels of the Project by gender, results showed that on average, males (3.8) were more informed and had a higher level of knowledge than females (2.8). This was particularly evident in the number of 'zero' responses obtained from female respondents (38%) who indicated 'no knowledge at all', being significantly higher than males (20%).

6.11.4.1 Level of support for mining in the region and the Project

Respondents were also asked how supportive they were of mining in the region generally. On average respondents were very supportive of mining with an average rating of 7.3 out of 10 (refer to **Figure 6.42**). Support for mining in the region was highest in Kandos (8.2), followed by Mudgee (7.5), Rylstone (7.2) and Gulgong (7.1). Lue had the lowest level of support with an average rating of 6.2 out of 10; however, this result was still relatively high with 25% of people sampled in Lue providing a rating of 10 (highest level of support).

When asked to rate the level of support for the Bowdens Silver Project specifically, respondents on average provided a rating of 6.6 out of 10 (refer to **Figure 6.42**). Respondents from Lue had an average support rating of 5.5 out of 10. Responses varied amongst respondents in Lue with high proportions of respondents (19%) indicating they were 'not at all supportive' of the Project with a rating of 0 and 23% of respondents providing a rating of 10 indicating they were 'very supportive' of the Project. Average levels of support across the Gulgong, Rylstone and Mudgee areas were 6.1, 6.5 and 6.6 respectively. Respondents from Kandos were significantly more supportive [(df=84.7, n=410) =5.418, $p < 0.001$] of the Project than any other locality (8.4 out of 10) with 56% of respondents providing a rating of 10, indicating a high level of support for the Project. This particularly high rating from respondents in the Kandos area is likely attributed to the current challenge of unemployment facing the area, as noted in Section 6.11.3 above, and the desire to see local employment generated by the Project.

Figure 6.42 Level of support for mining in the region and the Bowdens Silver Project



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Further analysis of respondent level of support was also undertaken by gender, and whether respondents or their families were employed in the mining industry. Average levels of support across these groups are shown in **Table 6.6**.

Table 6.6
Level of Support Across Wider Community Demographics

Demographic Groups		**Level of Support**
Whole Sample		**6.6**
Gender	Male	7.1
	Female	6.2
Work in Mining?	Yes, work in mining industry	7.5
	Yes, work as a contractor to mining industry	8.7
	Yes, both	7.6
	No, neither	6.4
Family work in mining?	Yes, work in mining industry	7.2
	Yes, work as a contractor to mining industry	8.4
	Yes, both	8.1
	No, neither	6.0

Levels of support were compared between those who indicated that they worked in the mining industry, worked as a contractor or were not involved with the industry. Not surprisingly, results indicated that those who neither work in the mining industry or as a contractor, were significantly less supportive of the Project [(df=88 , n=410) = -3.998, $p < 0.001$] than other respondents with an average support rating of 6.4 out of 10 (refer to **Table 6.6**. Furthermore, ratings from those who work as a contractor for the mining industry were significantly higher [(df=30.4, n=410) = 5.867, $p < 0.001$] than other respondents at 8.7.

The level of support was also compared between respondents who had family members who work in the mining industry or as a contractor to the mining industry against those who did not. The latter group had a lower level of support for the Project (average support rating of 6 out of 10) than other respondents (again it is important to note that an average rating of 6 is still indicative of a moderate level of support for the Project).

Those with family members who work as a contractor to the mining industry on average gave significantly higher [(df=34.12, n=410) = 4.074, $p < 0.001$] ratings of support (8.4 out of 10); and those with family that work in the mining industry or as both an employee and a contractor to the industry, both obtained higher ratings of support for the Project with average ratings of 7.2 and 8.1 respectively.

When gender was considered in the analysis, it was evident that females tended to be significantly less supportive [(df=407.58, n=410) = -2.854, $p < 0.005$] of the Bowdens Silver Project than males, with average levels of support of 6.2 and 7.1 respectively. As reported in Section 6.11.4, females also reported being significantly less knowledgeable of the Project than males (2.8 and 3.8 out of 10 respectively).

6.11.4.2 Importance of the Project to the Regional Economy

In order to gauge the regional communities' perception on how important the Project is to the local economy, those who participated in the survey were also asked to rate the level of importance of the Project on a scale from 0 ('not at all important') to 10 ('very important').

Across the sample, the Project was considered an important development to assist in boosting and strengthening the local economy, with an average rating of 7.0 including a high proportion of respondents providing a rating of 10 (32%). This is further reflected in the positive impacts relating to the Project, that are detailed in Section 6.11.5.

Respondents in the Kandos area (58%), indicated that the Project was '*very important'*, with the highest average importance rating of 8.8 obtained, significantly higher [(df=103.57, n=410) = 6.665, $p < 0.001$] than the other areas.

The Rylstone area had the next highest average importance rating of 7.5, followed by Mudgee and Gulgong with average ratings of 6.8 and 6.6 respectively. Respondents from the Lue area provided the lowest average rating of 5.7 out of 10.

6.11.5 Perceived Project Impacts

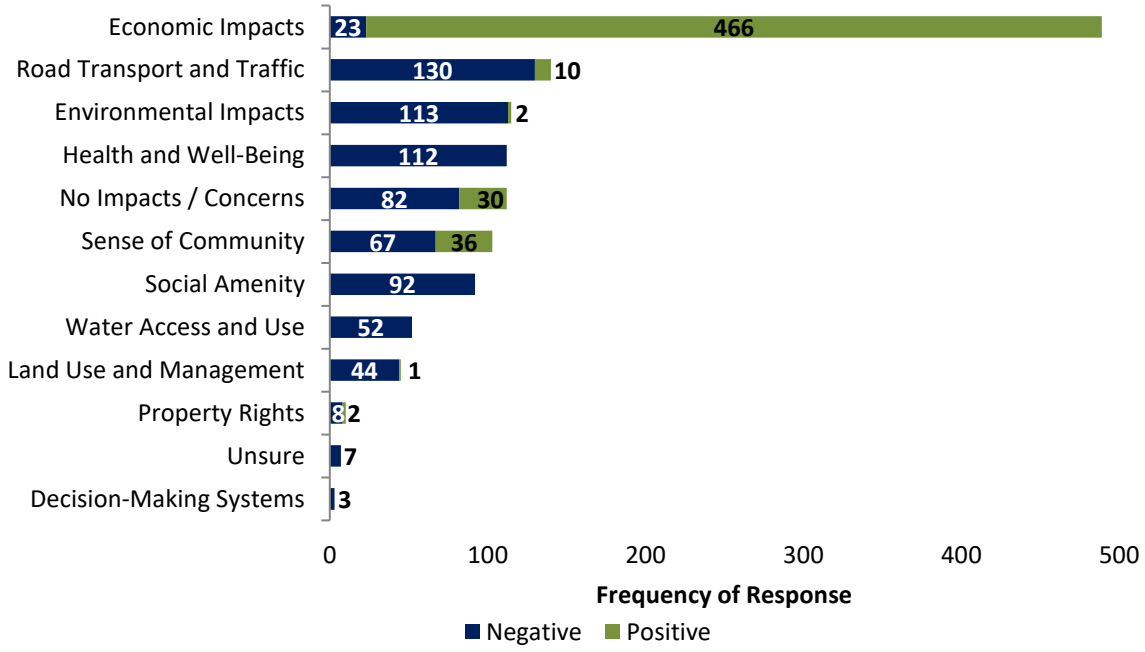
In order to gain the perspectives of regional community members on potential Project impacts, random phone survey respondents were also asked to indicate what they saw as the negative and/or positive impacts associated with the Project. In total, 407 of the 410 regional community members sampled identified potential positive impacts associated with the Project, with 405 respondents also outlining potential negative impacts. Multiple responses were permitted for this question and respondents were able to identify both positive and negative impacts.

Responses of potential impacts identified by respondents were categorised into several key issue themes, which are further described below.

As presented in **Figure 6.43**, the most prominent impact themes identified included economic impacts, road transport and traffic impacts, general environmental impacts, impacts relating to health and wellbeing, potential impacts on sense of community, impacts to social amenity, impacts relating to water access and use and impacts around land use and management. Impacts relating to property rights and decision making and engagement were less frequently identified.

Frequency distributions for these impact themes were similar across each of the community areas (refer to **Figure 6.44**).

Figure 6.43 Potential Positive and Negative Impacts of the Project



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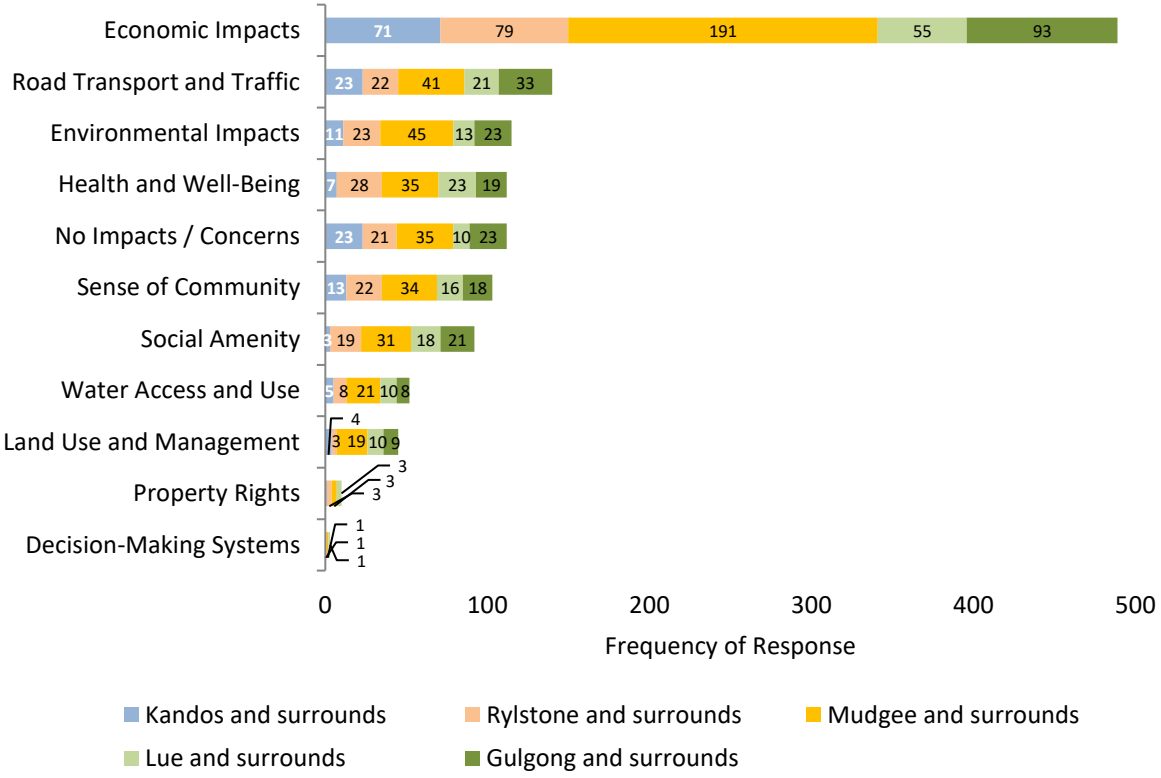
Note: For positive impacts n=407, for negative impacts n=405, multiple responses allowed

Figure 6.44 Perceived Positive and Negative Impacts of the Project – by Locality



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Kandos and surrounds n=55; Rylstone and surrounds n=72; Mudgee and surrounds n=155; Lue and surrounds n=48; Gulgong and surrounds n=80

Of the 410 respondents who responded to this question, 82 (20%) indicated that they had no issues or concerns in relation to the Project with a further 7 (1.7%) unsure. Note that respondents were able to provide multiple responses and therefore the total number of impacts raised exceed the number of respondents.

6.11.5.1 Economic Impacts

The predominant positive impacts of the Project, identified by the regional community members participating in the phone survey, related to the economic benefits of the Project (n=466), with such response consistent across the different areas. Respondents saw potential benefits as a result of local employment (347), local procurement (33), further expansion of the regional economy (81) and the potential for community investment by the Company (5).

Potential negative economic impacts that were raised by respondents related to increased cost of living (8), impacts on local services and business and services (5), as a result of influx/outflux of population, and fears that the Company would source their workforce from outside the local area (10). In this regard there was a strong desire to see the workforce sourced from the local area.

In relation to positive impacts alone, approximately 60%, of the total responses from each community area, related to the positive impact of local jobs being generated as a result of the Project. Respondents also noted a lack of employment opportunities specifically for youth, resulting in younger people relocating out of the area.

> *Would create employment in the area which we desperately need - (Mudgee).*
>
> *It will make jobs and stop people from moving away - more kids at schools – (Kandos).*
>
> *Employment for local residents as we do not have any employment. Any employment is better than none – (Kandos).*
>
> *With more jobs in the area comes increased activity in the local economy and opportunities for younger people. – (Lue).*
>
> *The town is dead, and we need the work in the region. Will bring people into the town, people will spend more money which will boost the town. – (Kandos).*
>
> *Employment for youth, as youth and young adults move away to the cities to find employment because there is not any in their hometown. – (Rylstone).*

Some (10) respondents were concerned that Bowdens Silver may choose to source their workforce externally, given previous experiences in the region.

> *They probably won't employ local people and will instead use FIFO like other surrounding mines do – (Mudgee).*
>
> *The local coal mines said they would train locals, but they didn't and brought in other trained people – (Gulgong).*
>
> *I have an issue with FIFOs. I am more likely to support Bowdens if they employ local not FIFO - as they won't spend their money in the town either – (Lue).*

Increased cash flow into the community, as a result of employment, investment and other income/revenue streams, was also noted. It was also expressed across the areas sampled, that the Project could assist in the retention of younger people and could contribute to overall growth in the region.

As noted by some respondents, there have been impacts to local industry, with the closure of the cement works, lime works and the recent rejection of a mine in the Bylong Valley (September 2019) impacting on regional employment. These respondents saw the Bowdens Silver Project as an opportunity to grow industry in the region.

> *The local area needs employment as we have lost the cement works, the lime works and a coal mine. Bylong coal is also on the fence - this is a loss of many jobs for our local people – (Rylstone).*
>
> *We need these mines in the area to keep people in the area, to keep the town alive and the local economy going – (Rylstone).*
>
> *We used to have a concrete plant, but it's now closed...putting about 60 people out of work. So it's needed for local employment – (Kandos).*
>
> *Jobs, growth for Mudgee and surrounding areas, I am for minerals and mining as long as it is done properly by responsible companies – (Mudgee).*
>
> *Employment - it will also boost Rylstone and Kandos, putting money into their economy – (Lue).*
>
> *Rylstone and Kandos will benefit most because they no longer process stone and brick anymore – (Gulgong).*
>
> *It brings money and people into the town, keeping the town running – (Mudgee).*

Some respondents had fears that the Project could adversely affect local services and businesses in the area. Concerns that the local schools and doctors would not be able to cope with the influx of workforce or conversely that local residents would move, and workers would be sourced externally, thus reducing access and use of local services.

> *More pressure on the schools, due to more people coming to the town. Not enough teachers – (Mudgee).*
>
> *The mines bought up the town and brought in all the workers and they travelled there and didn't live there, so the school ran out of kids and closed – (Mudgee).*
>
> *Not enough doctors as it is – (Gulgong).*

With the potential for workers to move into the local area, issues relating to the availability and affordability of housing for purchase and rental properties was also raised (8). These comments were primarily made by respondents from the Mudgee area (4) and Gulgong areas (2).

> *Miners renting houses and taking local homes and the rent increasing to be unaffordable – (Gulgong).*
>
> *Cost of living rises, and rent is too high – (Lue).*
>
> *Lack of housing, putting huge demands on houses available and a lot of homeless in Mudgee. Low income families are at risk of losing housing when rents are put up for people that can afford it – (Mudgee).*

6.11.5.2 Road Transport and Traffic

While there were 10 respondents that noted the potential opportunity for road upgrades as a result of the Project going ahead, there were 130 responses which related to negative impacts relating to road transport and traffic. The majority of these related to traffic disruptions impacting on people's ability to get around (82), damage to regional roads from increased traffic (44), and safety concerns as a result of changing traffic conditions (4). Road transport and traffic issues was the impact theme most commonly raised by respondents in the Kandos (25%), Gulgong (20%) and Lue (18%) areas.

The presence of additional trucks on the roads, as a result of the Project, and their impact on the social amenity of the area was of particular concern for respondents sampled. The issues surrounding traffic of most concern included changes in commute times, the visual presence of the trucks moving through local towns, noise, dust and other emissions generated by trucks. Some of these issues are discussed further in subsequent sections. The suggestion of moving the product by rail was brought up as an alternative.

> *Traffic impacts...would much prefer to open the rail line – (Mudgee).*
>
> *Traffic congestion and heavy trucks causing damage – (Rylstone).*
>
> *I am concerned about the transport factor - hauling long distance means a lot of extra trucks on the road – (Lue).*
>
> *I live in Mudgee I travel by road to work and it would slow things down on the road with all the trucks on the road – (Mudgee).*

There were fears around the impact of increased truck movements on road conditions and the capacity of the road network to support this increase. Most of these comments came from respondents living in the Mudgee (15), Gulgong (13) and Rylstone area (8).

> *Wear and tear on the already shocking roads – (Mudgee).*
>
> *Possible damage to local roads which are already in a terrible state in the Lue area and surrounds – (Gulgong).*
>
> *More trucks on the roads, so road damage - (Kandos).*
>
> *May impact on our poor local road infrastructure – (Kandos).*

Fears of increased accidents as a result of additional trucks on the road was also raised.

> *Trucks moving on the roads and possibility of accidents – (Lue).*
>
> *Extra trucks on the road causing the roads to be even more dangerous to drive on for residents – (Gulgong).*

There were 10 respondents who saw benefits in the Project as a result of the potential for Bowdens Silver to improve the condition of local roads. These comments came from respondents located in Gulgong (5), Kandos (3), and Mudgee (2) areas.

> *I assume there will be road upgrades to go with the proposal. – (Gulgong).*
>
> *Upgrading of the roads will help the Lue community which is struggling – (Gulgong).*
>
> *Upgrading the Western Highway – (Kandos).*
>
> *The employment is the most important thing...and the building activity and road improvement that should follow – (Mudgee).*

6.11.5.3 Environmental

The majority of the 115 responses recorded in relation to environmental impacts were negative, with 113 of these responses pertaining to potential impacts to the land as a result of altering the landscape for mining activities. Specific concerns in this regard related to changes to flora and fauna through land clearing and alterations to the landscape, visual impacts and potential mining chemicals affecting land and water systems. There were two positive responses that acknowledged the value of silver as a resource.

> *Production of minerals – (Gulgong).*
>
> *Getting the silver out – (Gulgong).*

More specifically, ecological impacts were raised in relation to the impacts on flora and fauna surrounding the Project area, through land clearing and alterations to the landscape.

> *Environmental damage - open cut pit will be incredibly damaging – (Gulgong).*
>
> *It scars the landscape...and it's bad for the environment and wildlife – (Mudgee).*
>
> *I would hate to see the country all dug up; people are so greedy – (Gulgong).*
>
> *Changing the landscape which ruins the land and wildlife – (Lue).*

Environmental impacts were raised across all of the community areas ranging from 10% of the total negative impacts raised in the Lue area, to 16% in Mudgee area, followed by 15% in the Rylstone area, and 14% in the Gulgong and Kandos areas respectively.

6.11.5.4 Health and Wellbeing

Respondents frequently raised issues that they perceived would impact on the health and wellbeing of the population (112 responses). Respondents were concerned about lead and dust particles contaminating the air (43), the potential for lead and other heavy metals to contaminate water systems (38), and the increased stress and anxiety as a result of the Project and its potential impacts (5).

Impacts regarding lead in air, were seen to arise from fears that strong winds would carry the lead and dust particles through the air, impacting on farmers land and stock, and people living in the Lue area. A few respondents raised concern around the health impacts on children at the Lue school.

> *Organic farmers are going to lose their organic licences due to air pollution from these mines being so close – (Lue).*
>
> *Given it's within 2kms to our little town and the impact on our children and our health – (Kandos).*
>
> *Lead...my understanding is that more lead will be mined than silver...and lead dust is very bad for the health – (Gulgong).*
>
> *Lue's mine will decimate the town. The dust and quality of life will be destroyed. It will de-value the whole town. The kids at school will need bottled water – (Mudgee).*
>
> *Worried about airborne lead particles – (Rylstone).*
>
> *It's an open cut mine and the wind will blow things like lead in my direction.... which will be hazardous to my health...and these things don't disappear – (Rylstone).*

Water specific health and wellbeing concerns centred around fears that water systems would be contaminated with 38 respondents specifically concerned about lead seeping into the water table. Others (43) raised concerns that lead particles, transported through the air, would contaminate water in their tanks from runoff from their rooftops during a storm.

> *The start of the water catchment at Dunns swamp is ecological gold and if it was ruined or contaminated it would be tragic – (Gulgong).*
>
> *Lead is heavier but it can be carried and could affect as far as Windamere Dam, which is the main water supply to the mid-western district – (Gulgong).*
>
> *Because we are on tank water - the impact of air pollution and water pollution – (Lue).*

Some respondents (5) were concerned about the psychological impact of the Project with one respondent noting discomfort around the uncertainty of whether the Project was going to be approved or not and others (4) mentioning the mental stress from the potential impacts of the Project.

> *It's the uncertainty, if it is going ahead or not and how long it is taking to get started – (Gulgong).*
>
> *I am worried about suicide and mental illness related to these issues – (Lue).*
>
> *Health issues, stems from noise, stress, dust pollution close to a residential community – (Mudgee).*

6.11.5.5 Sense of Community

Sense of community impacts associated with the Project were raised (103), with negative impacts accounting for 67 and 36 which were positive.

Respondents who identified negative impacts in relation to sense of community, discussed issues that related to impacts on sense of place (55), changes in population (7), changes to rural lifestyle (4) and ability to access services (1).

With the proposed Project to be located approximately 2km from Lue, 55 respondents were concerned about the potential impacts on the liveability of Lue and how the Project may impact on the amenity of the Lue area and its surrounds. Respondents did not want the Project to change the character of the area, or its sense of place, as Lue currently has a peaceful rural setting. Respondents noted an effect on community cohesiveness, with conflict arising between those who support the Project and those who do not.

> *Changing the lifestyle and beauty of the area - it will destroy the quiet, rural, woodland, farming area – (Lue).*
>
> *Disruption to the peaceful lifestyle of the Lue village – (Mudgee).*
>
> *Lue's mine will decimate the town. The dust and quality of life will be destroyed – (Mudgee).*
>
> *Can cause friction between supporters and opponents – (Rylstone).*
>
> *Locally some Lue locals were starting to draw a wedge between the mine supporters and non-supporters and the town was not divided before – (Lue).*

Concerns around population change predominantly related to the displacement of current local residents and disturbances from potential behavioural issues associated with a new workforce.

> *Locals will be affected initially - some of the workforce do behave inappropriately – (Gulgong).*
>
> *Increase in mining employees and endless issues (noise and traffic and drunk people) – (Rylstone).*
>
> *Concerns about people getting forced to move, what happened to people in Wollar? – (Gulgong).*

Potential positive impacts relating to sense of community were raised 36 times by respondents. Respondents saw benefits in the population increase as a result of the Project (24), as well as the potential increased use and access of community services (12). One respondent believed the Project could cause disruptions via the lack of available services and facilities to support the workforce population.

Further positive impacts noted related to the development of an enhanced sense of community, including retention of young adults looking for work, growth in school numbers from new families moving into the area, and further growth and support of local businesses.

> *We need these mines in the area to keep people in the area, to keep the town alive and the local economy going. – (Rylstone).*
>
> *Bringing more people to the town is a positive – (Mudgee).*
>
> *Better opportunities for kids leaving school and more working families would be moving to the area – (Rylstone).*
>
> *New people to town, schools increase in size – (Mudgee).*
>
> *Will retain young people in the area – (Kandos).*
>
> *Local employment which will bring more people to town and create more industry, and infrastructure upgrades – (Lue).*
>
> *Might be good for the town, might bring business to the town – (Gulgong).*

6.11.5.6 Social Amenity

Respondents raised concerns about the impacts on social amenity as a result of dust (37), potential operational noise (35), visual impacts of trucks and the operation (12), and noise (7) and vibrations (1) from blasting.

Comments around impacts on social amenity were quite general. Respondents did note that they were concerned about the proximity of the Project to Lue and the impacts on the social amenity of the area as a result of mining operations. Respondents were worried that the dust generated from the Project area would be a ‘nuisance’, for surrounding homes and Lue. Respondents also did not want the added impact of noise from blasting and operational noise occurring at all hours of the day.

Such responses were not exclusive to respondents from the Lue area (15%), with comments around dust, operational noise, visual impacts and blasting on social amenity also identified by residents in the Gulgong area (15%), Rylstone (14%), and Mudgee (12%).

> *Noise and dust on surrounding homes and communities – (Mudgee).*
>
> *Dust...not a major health problem, but it is a nuisance – (Lue).*
>
> *How close it is to Lue? I would be concerned about the dust and the noise of the blasting – (Gulgong).*
>
> *It will destroy the town and so will the dust – (Gulgong).*
>
> *The open cut mines are ugly and there is massive noise pollution with detonation only 2kms away – (Rylstone).*
>
> *I can see overall it is going to be dusty and noisy. I think it is too close to the town [Lue] – (Gulgong).*
>
> *Not wanting noise for 24hrs a day – (Lue).*

6.11.5.7 Water Access and Use

There was a total of 52 responses that identified water access and use as a potential impact. Respondents held concerns about where Bowdens would source water from, with this issue particularly heightened due to the current drought conditions in the region.

> *Taking water from the area which is bad – (Mudgee).*
>
> *A lot of concern about where the water will come from to process the ore – (Mudgee).*
>
> *What will they do for water? We are in the middle of a drought? – (Mudgee).*
>
> *Excessive water usage in an area that is already strapped for available water – (Mudgee).*

6.11.5.8 Land Use and Management

Impact relating to land use and management were raised 45 times, 44 of which were perceived as negative. The two main issues raised regarding land use and management related to surrounding rehabilitation practices (25) and conflicting land use between the proposed mine and farmers (19). Those with concerns around the rehabilitation process fear that the land would not be able to be returned to its natural state or that Bowdens won't comply with regulations around rehabilitating the area once operations have ceased.

> *Rehabilitating the area - never better than before the land was mined – (Mudgee).*
>
> *It's the open cut impact that worries me, because it takes a lot longer for the environment to ever recuperate – (Kandos).*
>
> *If they don't abide by environmental laws that state that they have to put the land back as it was before mining – (Mudgee).*

Conversely one respondent was optimistic about the rehabilitation practices.

> *My understanding is the regeneration Project is very good – (Mudgee).*

For some respondents, mining was considered a conflicting land use with farming, with livelihood and resource impacts on farmers most frequently noted.

> *Hugely negative impact on the local farmers and their farmland – (Rylstone).*
>
> *Organic farmers are going to lose their organic licenses due to air pollution from these mines being so close – (Lue).*
>
> *Opposed to mining of any kind in agricultural land – (Lue).*
>
> *Also, the ruin of the beautiful farmlands and environment would be devastating – (Gulgong).*
>
> *Worried about the amount of farming land that will be taken over – (Mudgee).*

6.11.5.9 Property Rights and Trust in the Company

While impacts on property rights did not generate a high response rate (10), respondents noted the potential for the Project to impact on property prices, which was seen in both the positive (2) and the negative (4). Two respondents noted that it could increase the value of real estate in the area.

> *The land values have plummeted – (Lue).*
>
> *It will de-value the whole town – (Mudgee).*
>
> *Cost of real estate will be affected, especially for little land holders in the area surrounding Lue – (Lue).*
>
> *Real estate would be worth a lot more – (Mudgee).*

Four responses also related to the development of the proposed pipeline through their property (3) and potential damage from blasting activities (1). Other negative impacts raised in regard to the Project, which received a small number of responses, related to decision-making systems and trust in the Company (3), with a request for Bowdens Silver to be transparent with information about the Project and upfront about the viability of the Project in general.

6.11.6 Engagement and Communication

Survey participants were asked a series of questions with regards to existing engagement activities, their preferences for receiving information, and their knowledge and experience of the CCC.

6.11.6.1 Preferences for Engagement and Communication

When asked what forms of communication they had found the most useful to gain an understanding of the Project, respondents indicated that the local newspaper was the most useful (103 responses), followed by newsletters or flyers, word of mouth (54), letters (43), and community meetings (36). When considering preferred mechanisms by location, the following results were noted.

Table 6.7
Preferences for Engagement and Communication

	2848 (Kandos)	2849 (Rylstone)	2850 (Mudgee)	2850 (Lue)	2852 (Gulgong)
Local newspaper (%)	10.6	11.8	35.2	18.2	32.1
Newsletter / Flyer (%)	25.9	24.5	8.3	25.8	5.4
Word of Mouth (%)	5.9	11.8	15.2	9.1	14.3
Letters to residents (%)	20.0	13.6	3.4	9.1	0.0
Community meeting (%)	9.4	15.5	2.8	9.1	1.8
Local radio (%)	2.4	5.5	9.0	3.0	10.7
No Information Received (%)	2.4	2.7	6.9	7.6	12.5
Social media (%)	5.9	3.6	6.2	1.5	8.9
Website (%)	4.7	0.9	5.5	1.5	7.1
Personal meeting (%)	2.4	1.8	2.1	3.0	1.8
Local Community Event (%)	4.7	1.8	1.4	0.0	0.0
Email (%)	2.4	0.0	0.7	3.0	1.8
Lue Action Group (%)	0.0	3.6	0.0	1.5	0.0
CCC minutes (%)	0.0	1.8	0.0	3.0	0.0
Local Council (%)	0.0	0.9	0.7	1.5	1.8
Environmental Monitoring Report (%)	2.4	0.0	0.0	1.5	0.0
Community Sponsorships (%)	1.2	0.0	0.7	1.5	0.0
Television (%)	0.0	0.0	1.4	0.0	0.0
Employees (%)	0.0	0.0	0.7	0.0	1.8

The main difference between how respondents have currently been receiving information about the Project and how they would prefer to receive information is that they do not wish to hear about it through word of mouth, and would prefer to have information provided to them directly from the Company.

6.11.6.2 Community Consultative Committee

As outlined in Section 6.9 an independent CCC was established in November 2016 for the Bowdens Silver Project. The CCC meets quarterly to discuss details about the Project, and then inform the community of the Project.

Respondents from the regional community were asked if they were aware of the CCC, and that the group met quarterly; they were also asked to indicate how effective the CCC had been in getting information to them about the Project.

Of the 410 respondents sampled, 139 (34%) were aware of the CCC with a higher proportion (271/66%) not aware that a CCC existed (refer to **Figure 6.45**). Of the 139 who were aware of the CCC, only 47 (34%) were aware the CCC met quarterly. Significantly fewer people in the Mudgee (25%) and Gulgong areas (16%) were aware of the CCC, as opposed to Rylstone (54%), Kandos area (49%) and Lue (46%) (refer to **Figure 6.46**).

Figure 6.45 Awareness of the CCC

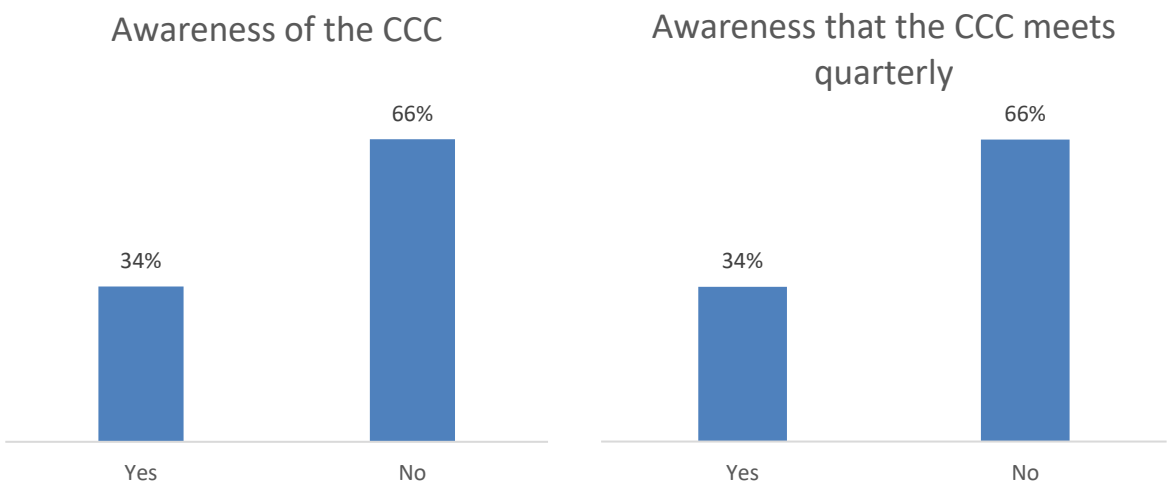
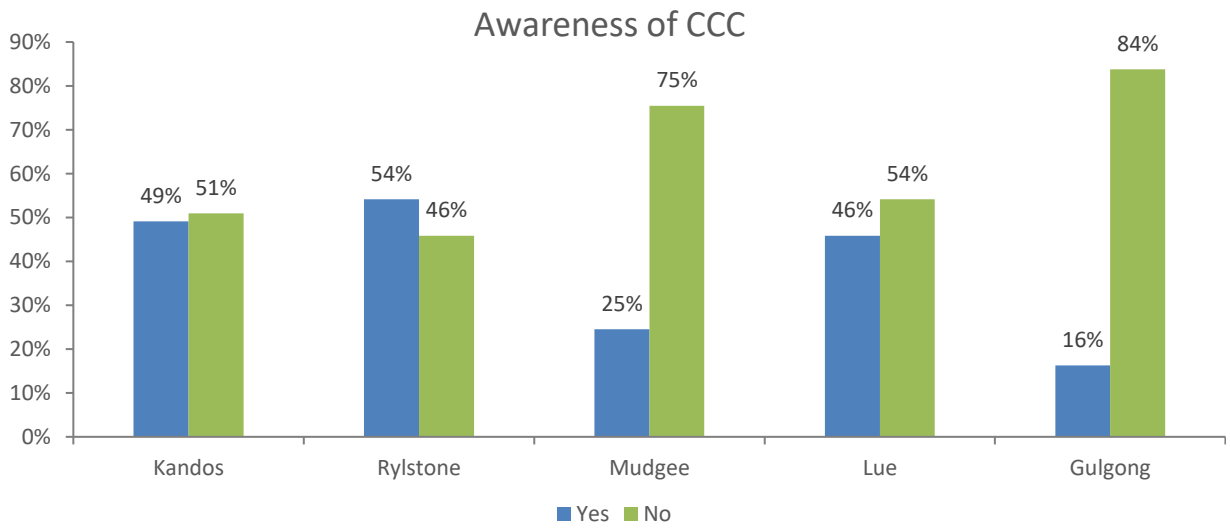
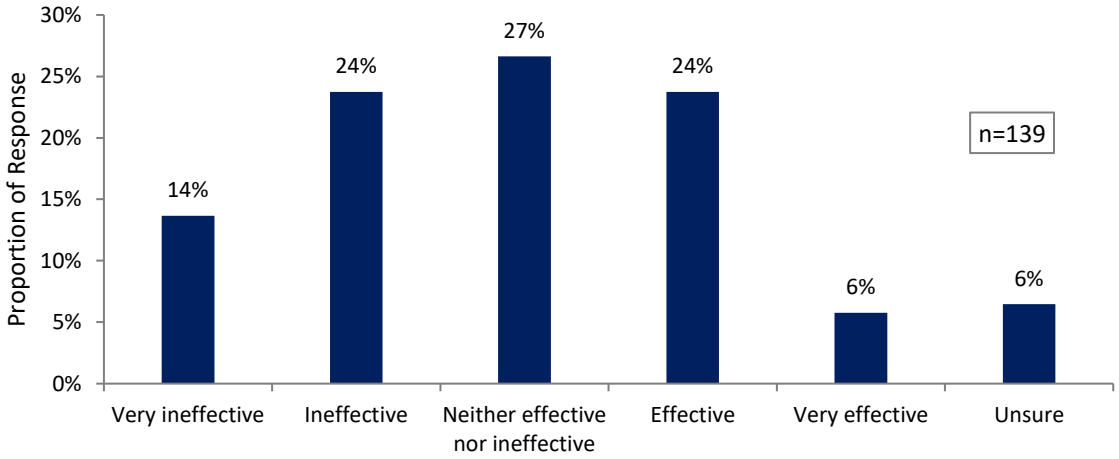


Figure 6.46 Awareness of CCC across localities



Respondents who were aware of the CCC (139) were asked to rate the effectiveness of the CCC in providing information on a scale of 1 to 5 where 1 equals very ineffective, 3 was neither effective nor ineffective, and 5 very effective. As can be seen in **Figure 6.47**, the 139 respondents were most likely to indicate that the CCC was neither effective nor ineffective at providing information about the Project (27%, n=37); with an overall average rating of 2.8 out of 5.

Figure 6.47 Effectiveness of the CCC



6.11.7 Community Investment

Levels of recall of local community organisations, events or activities which have been supported by Bowdens Silver to date was reasonably high across all community areas with respondents able to recall a number of local initiatives or social investment activities. **Figure 6.48** presents a word cloud of the events and activities most frequently recalled as indicated by text size.

As the word cloud illustrates, charities, local shows, educational facilities and schools and local sporting clubs were most frequently recalled.

Figure 6.48 Can you think of any local initiatives Bowdens Silver has been a part of, or contributions they have made to the local community?

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6.11.7.1 Focus areas for future contributions

When asked for their suggestions regarding future support and investment activities to be undertaken by Bowdens Silver, a range of suggested initiative examples were provided (**Table 6.8**), but included a focus on:

- Improvement and development of community infrastructure such as roads, town and beautification of Lue, recreational areas, construction of an art gallery and/or upgrades to the Regent theatre in Mudgee
- Investment in education and schools in the local area
- Sponsorship of different sporting clubs and their facilities
- Support of health services, childcare, aged care and any programs which could potentially bring additional doctors or specialists into the region
- The employment of locals and use of local businesses.

Table 6.8
What initiatives or programs do you think would be good for Bowdens Silver to contribute to or support in the community?

Areas of Community Investment	Proportion of Responses
Community Infrastructure and Utilities	17%
Education / Schools / Youth Programs	17%
Sporting Clubs	14%
Health Services / Hospital	13%
Employment / Local Procurement	10%
Community Groups / Charities / Not for Profit	7%
Youth / Children / Family Initiatives	5%
Continue Current Initiatives	3%
Farmers / Drought Relief / Water	3%
Local Community Events	3%
General Community Support	2%
Emergency Services	2%
Community Engagement	1%
Housing and Accommodation	1%
Tourism	1%
Renewable Energy	0%
Note: n=410 respondents, n=508 responses, multiple responses allowed	
Source: Umwelt, 2020	

6.11.7.2 Additional Comments

Respondents were also asked whether they had any additional comments that they would like to make as part of the survey, with these comments summarised in **Table 6.9**.

Table 6.9
Are there any other comments you would like to make? (selected comments)

Selected comments
Lue: • *As long as it passes an environmental criterion it should be right. It's a good step forward for employment in the area* – (Lue). • *Would hate to have lots of noise, explosions and a disrupted view of the landscape as I live overlooking the mine. I don't have a full understanding of the impacts and fallout of the mine of this size - the unknown is worrying* – (Lue). • *They need to be truthful about the lead once they start the extraction, it's all good for them to say it's for the silver but the lead is dangerous and they're not letting people know that* – (Lue). **Rylstone:** • *It's just a bad idea, I am not in favour of it at all. It's too close to my home, it's going to cause so many health issues in the community. I am all for the mining industry, just not when it's going to negatively impact my family and community* – (Rylstone). • *Bring it on* – (Rylstone). • *I am worried about pollutants and toxins getting into our waterway*s – (Rylstone). • *I would like to know more details about employment and training/skilling for the local region - how people will be located around the region that are coming in to work in the mines* – (Rylstone). • *If it creates more jobs locally, I support it* – (Rylstone). • *There are negatives but we need the jobs and bring life back into the area, especially in Kandos*. – (Rylstone). • *They need to have complete clarity of operation regarding the new road for access* – (Rylstone). **Gulgong:** • *I don't think it should go ahead* - (Gulgong). • *Silver is needed, I don't know how much comes out of the country, but people want these products, but it sounds terribly too close to the village - dusty, dirty, frightful! I would be happy if it didn't go ahead* – (Gulgong). **Kandos:** • *Hope it gets underway* – (Kandos). • *It would be good for the area, as long as local people are used, and they have good work practices and look after employees. The area needs apprenticeships and traineeships for local people young and old* – (Kandos). **Mudgee:** • *The best thing since sliced bread for Mudgee* – (Mudgee). • *Roads will really need upgrading if there's a lot of trucks* – (Mudgee). • *I am a bit ignorant in fully understanding the total layout and plan - I would like more open and clean knowledge about what they are doing. I am concerned that the motorbike track in Lue will close as a result of the mine going in which is a worry because it is a major activity for us locals and a lot of people travel here to use it* – (Mudgee). • *More information about the mine would help ease the backlash...as it's speculation rather than fact that's driving the negativity* – (Mudgee).
Source: Umwelt, 2020

6.11.8 Random Telephone Survey Conclusions

The survey findings provide an improved understanding of broader community sentiment towards the Bowdens Silver Project. Interestingly, knowledge about the Project was very low, particularly for females as opposed to males; and level of knowledge about the Project was not seen to significantly influence people's level of support for the Project.

Information received from survey respondents which relates to what they value about their communities and living in their area, and the challenges which they are currently facing, provides further context regarding the potential positive and negative impacts and overall level of support for the Project. For instance, one of the biggest challenges facing the region broadly was unemployment, particularly noted by respondents from the Kandos area. Similarly, residents across all community areas frequently raised local employment as a benefit of the Project, with a view that the Project may potentially alleviate some of the economic pressures currently being experienced in the region.

Likewise, potential negative impacts raised, directly relate to, and were seen by some respondents to threaten, what they value most about living in the area. In this regard, respondents frequently noted that they value the peaceful rural setting, the clean air, and the strong sense of community which exists in communities across the region. The negative concerns raised pertain to the Project's potential to impact on this amenity and lifestyle, by increasing noise, dust, increasing the potential for health and environmental impacts as a result of mining and lead contamination, changes to population due to additional workforce influx, and subsequent impacts on community dynamics.

With the Lue area being the most proximal to the Project, respondents from this area were less supportive of the Project, than in other areas at 5.5 out of 10. Over the entire sample, however, the level of support for the Project was relatively high with a mean rating of 6.6 out of 10, indicating that respondents sampled have a general level of support for the Project.

7. ASSESSMENT AND PREDICTION OF SOCIAL IMPACTS

This section provides an assessment and ranking of the social impacts identified in relation to the Project, with the aim of assessing the forecast/anticipated changes to the current baseline social environment as a result of the Project proceeding.

The SIA has utilised data from a range of sources to develop a layered picture of the potential social impacts arising from the Project. This section further assesses the social impacts associated with the Project, providing a ranking of impacts according to impact characteristics, as defined in the SIA Guideline (DPE, 2017). These criteria relate to:

- **Extent** – the geographical area affected by the impact, or number or proportion of people or population groups who are affected
- **Impact Timing/Duration** - when during the life of the Project the potential social impacts are expected to occur e.g. Pre-construction, Construction, Operation, Closure, Post-closure and the timeframe over which the impact occurs
- **Vulnerability/Sensitivity** – identification of who specifically is to be affected (directly, indirectly or cumulatively), including susceptibility or vulnerability of people, receivers or the receiving environment to adverse changes caused by the impact
- **Stakeholder perceived risk ranking** – the importance placed or level of concern that those potentially affected feel about the social matter
- **Impact Severity** – the potential level of social risk posed by the negative social impact and the scale or degree of change from the existing condition as a result of the impact.

In order to prioritise the identified social impacts, a risk-based framework has been adopted. Traditionally, the technical risk assessment process has not been greatly amenable to the inclusion of social impacts. One key adaptation of the approach is that both technical ratings and stakeholder perceptions of impacts are assessed. This approach is consistent with Sandman's risk equation (Risk = Hazard + Outrage) (Sandman, 1993), which acknowledges possibly low correlation between a risk's technical 'hazard' (how much harm it's likely to do) and its 'outrage' (how upset it's likely to make people).

Stakeholder perception of risk/impact is considered an independent and no less valid component of risk. It is worth noting that stakeholder perceptions vary between individuals and groups with no single perception more important than another. However, for the purpose of assessment the most common, or what is judged to be the general perception/sentiment of a stakeholder group has been used as a measure of perceived stakeholder risk or impact.

The integration of the outcomes of technical ranking (severity) with stakeholder perceived ranking of impacts (sensitivity), thus affords a true integration of expert and local knowledge in SIA and enables both types of risk to be addressed in the development of impact mitigation, amelioration and enhancement strategies. Such an approach is acknowledged in the SIA guidelines in relation to estimating material effects.

Prioritising impacts in this integrated manner ensures that appropriate assessment and mitigation strategies can be developed that not only address impacts that may require more technical management, but also those impacts that are perceived by stakeholders as of high risk / importance / concern. These perceived concerns are just as important to manage as they have the potential to result in elevated levels of community concerns, complaints and grievances if not addressed appropriately.

As outlined in Section 6, a range of social impacts have been identified in relation to the Project, that require prioritisation for assessment and appropriate management/enhancement. These impacts relate to a number of social impact categories and have been identified across the two main rounds of engagement undertaken to support the SIA.

The impacts identified within these social impact categories are assessed in detail as part of the overarching risk-based framework in the following subsections. It should also be noted that social impacts are often not mutually exclusive, with higher order impacts such as population change resulting in second order impacts such as impacts on sense of community and service provision. This interconnectivity has been highlighted in Section 6.2.1.

This section provides an evaluation of the significance of each potential negative and positive social impact. The assessment is undertaken using the impact characteristics noted above and through the application of a consequence and likelihood framework, as identified in the SIA Guideline (DPE, 2017 p.41). It is recognised that the SIA Guideline requires the evaluation of significance of each potential negative social impact both with and without mitigation in place. However, as there have been numerous iterative changes in project design throughout the assessment process, the following evaluation has been undertaken with consideration of the identified mitigation measures considered in mine design.

The social risk matrix (refer to **Table 7.1**), that considers both the consequences of the potential social impact (minimal, minor, moderate, major and catastrophic) and the likelihood of the impact occurring (rare, unlikely, possible, likely and almost certain) is then used to determine an overall risk assessment of the social impact as ‘low’, ‘moderate’, ‘high’ or ‘extreme’.

Table 7.1
Social Risk Matrix

		Consequence Level				
		1	**2**	**3**	**4**	**5**
		Minimal	**Minor**	**Moderate**	**Major**	**Catastrophic**
Likelihood Category	A. Almost certain	**HIGH**	**HIGH**	**EXTREME**	**EXTREME**	**EXTREME**
	B. Likely	MODERATE	**HIGH**	**HIGH**	**EXTREME**	**EXTREME**
	C. Possible	LOW	MODERATE	**HIGH**	**EXTREME**	**EXTREME**
	D. Unlikely	LOW	LOW	MODERATE	**HIGH**	**HIGH**
	E. Rare	LOW	LOW	MODERATE	**HIGH**	**HIGH**

Source: NSW SIA Guidelines (DPE, 2017)

Both positive and negative impacts are considered in this regard, with slight adjustments made to the approach to reflect positive impacts e.g. level of concern becomes level of interest, severity becomes scale of improvement or benefit, sensitivity becomes importance of the improvement or benefit and the equity of its distribution, etc.

As noted in the SIA guideline, the definitions and scale assigned to each of the likelihood and consequence categories need to be relevant to the impact that is being evaluated, explained and justified in the SIA; and where possible the consequence scale should be based on established measures and standards. As relevant, specific definitions have been developed for the consequence categories of each of the identified social impacts and are guided by best practice research findings (Coakes, 2012), and relevant agency guidelines (Vanclay, Esteves, Aucamp, & Franks., 2015). These definitions are outlined in **Table 7.2**.

The social risk assessment process for the current SIA, has therefore involved four main steps:

1. **Determining the consequence**. The risking approach adopted for this SIA requires the determination of the worst-case (but reasonable), consequence of a Project factor. For some stakeholder's impacts may have a negative consequence, while for others it may be a positive consequence (positive risk rankings are delineated in italics). These consequences are assessed against impact-specific consequences and are categorised as 'catastrophic', 'major', 'moderate', 'minor' or 'minimal' (refer to **Table 7.1**). It is noted that the social risk matrix from the NSW SIA Guideline (refer to **Table 7.1**) provides greater emphasis on high and extreme risks, with 16 out of 25 risk rankings (64%) across the matrix being identified as high or extreme.
2. **Determining the likelihood**. To understand the risks presented by a Project factor, the magnitude of a consequence must be cross-referenced with the likelihood of it occurring. **Table 7.3** presents the **likelihood definitions** that were used to assess the likelihood of social impact consequences associated with the Project, categorised as 'almost certain', 'likely', 'possible', 'unlikely', or 'rare' (DPE, 2017).
3. **Assessing the technical risk.** To assess the overall social risk, the consequence determined in step one is cross-referenced with the likelihood determined in step two to determine an overall risk assessment rating (i.e. low, moderate, high, or extreme) (refer to **Table 7.1**). In the case of some impacts, this risk assessment has involved referencing the respective technical reports of the EIS (e.g. economic, water, blasting, traffic), however the associated social impacts have been assessed through the social risking process. It should be noted that the resulting social risk ratings represent the risk post implementation of mitigation measures, with proposed mitigation and enhancement strategies to address the significant impacts outlined in Section 6.
4. **Ranking the stakeholder perceived risk**. An important component of the SIA has been the integration of technical results with the perceived risk ranking of a Project factor or impact by key stakeholders (i.e. the sensitivity/susceptibility/vulnerability) of people to adverse changes caused by the impact and/or the importance placed on the relevant social matter. Consequently, stakeholder ratings of risk were determined by assessing impacts identified through the scoping phase of the SIA. The perceived ranking (i.e. low, moderate and high) is determined by the frequency that an issue was raised by a stakeholder group in the engagement process. The justification for each ranking is highlighted in the discussion within each respective impact section. It should be noted that community perception rankings are not 'residual risk' rankings as they do not reflect the management measures an applicant may put in place.

Table 7.2
Social Consequence Definitions

Social Impact Factors	Social Consequence Definitions				
	1	**2**	**3**	**4**	**5**
	Catastrophic	**Major**	**Moderate**	**Minor**	**Minimal/ Negligible**
Population Change	Greater than 20% permanent population change in a region or local area	Greater than 10% permanent population change in a local or regional area	Permanent population change in a local or regional area over 5% Temporary population change in regional area over 5%	Minor population change in a local area less than 5%	Nil or negligible population change in a local area
Community Infrastructure and Services	Permanent and significant reduction in the capacity of regional community services and infrastructure, and existing regional housing and accommodation stock	Temporary and major reduction in the capacity of local community services and infrastructure, and existing local housing and accommodation stock	Temporary or moderately significant reduction in capacity of local community services and infrastructure, and existing local housing/ accommodation stock	Temporary or minor reduction in the capacity of local community services and infrastructure, and existing local housing and accommodation stock	Minimal impact on capacity of local community services and infrastructure, and existing housing and accommodation stock
Social Amenity	Permanent and significant reduction in social amenity in a region as a result of dust/air quality, noise, visual impacts, traffic congestion	Permanent and significant reduction in social amenity in a local area as a result of dust/air quality, noise, visual impacts, traffic congestion	Moderately significant reduction in social amenity in a local area as a result of dust/air quality, noise, visual impacts, traffic congestion	Minor reduction in social amenity in a local area as a result of dust/air quality, noise, visual impacts, traffic congestion	Minimal impact on social amenity in a local area as a result of dust/air quality, noise, visual impacts, traffic congestion
Health and Well-Being	>1 fatality or 2-5 permanent disabilities or Non-permanent injuries requiring hospitalisation for 2-5% of population at risk or Acute health effect requiring hospitalisation for >2-5% of population at risk or Chronic health effect requiring medical treatment for 5-10% of population at-risk or >$5m - $10m of health cost due to hazard or Demand exceeds capacity of health services by >30-40%	No fatality and 1 permanent disability or Non-permanent injuries requiring hospitalisation for >2-5% of population at risk or Acute health effect requiring hospitalisation for >2-5% of population at risk or Evacuation is necessary or chronic health effect requiring medical treatment for 2-5% of population at-risk or >$1m - $5m of health cost due to hazard or Demand exceeds capacity of health services by >20-30%	No fatality and no permanent disability and non-permanent injuries requiring hospitalisation for 1-2% of population at risk or Acute health effect requiring hospitalisation for 1-2% of population at risk and no evacuation or Chronic health effect requiring medical treatment for 1-2% of population at-risk or >$500k - $1m of health cost due to hazard or Demand exceeds capacity of health services by >10-20%	No fatality and no permanent disability and non-permanent injuries requiring hospitalisation for 1-5 persons or No acute health effect requiring hospitalisation) and no evacuation or Chronic health effect requiring medical treatment for about 0-1% of population at-risk or $100k - $500k of health cost due to hazard or Demand exceeds capacity of health services by >1-10%	No fatality and no permanent disability and no non-permanent injuries requiring hospitalisation and no acute health effect requiring hospitalisation and no evacuation or No chronic health effect requiring medical treatment or < $100k of health cost due to hazard or Demand exceeds capacity of health services by 0-1%

Table 7.2 (Cont'd)
Social Consequence Definitions

Social Impact Factors	Social Consequence Definitions				
	1	2	3	4	5
	Catastrophic	**Major**	**Moderate**	**Minor**	**Minimal/ Negligible**
Sense of Community	Permanent and significant reduction in sense of community due to > 10% permanent population change in a region or Serious and/or long-term impact to items and/or places of community value or Serious and long-term impact on other land uses– agriculture, viticulture, tourism, residential, industry, natural or Community members are in serious and prolonged dispute	Permanent and significant change in sense of community due to > 10% permanent population change in a local area or Major and/or medium-term impact to items and/or places of community value or Moderate and/or medium-term impact on other land uses– agriculture, viticulture, tourism, natural or Community disputes evident	Permanent and moderate significant change in sense of community due to >5% permanent population change in a local area or Moderate and/or short-term impact to items and/or places of community value or Moderate and/or short-term impact on other land uses – agriculture, viticulture, tourism, natural or Possibility for community disputes	Temporary or minor change in sense of community due to temporary or < 5% population change in a local area or Very minor and/or short-term impact to items and/or places of community value or Minor and/or short-term impacts on other land uses – agriculture, viticulture, tourism, natural or Community disputes/conflict unlikely	Negligible change in sense of community due to negligible population change in a local area or Negligible /no impact on items and/or places of community value or Negligible /no impact on other land uses– agriculture, viticulture, tourism, natural or Negligible levels of community dispute
Note: The technical assessments of economic and environmental impacts are undertaken as part of the EIS (please refer to the relevant sections of the EA for further detail)					
Source: Adapted from Coakes Consulting (2012)					

Table 7.3
Social Likelihood Definitions

Likelihood Category	Definition
Almost certain	Common repeating occurrence, ongoing Will occur in most circumstances
Likely	Will probably occur, in most circumstances There is at least a 50% chance that it may happen
Possible	Might occur at some time Could occur but not often 5% chance it could happen
Unlikely	Unusual occurrence Unexpected
Rare	May occur only in exceptional circumstances Unheard of in the industry
Source: NSW SIA Guidelines (DPE, 2017)	

In line with the process defined above, the following sections assess the technical and perceived social risk in relation to the positive and negative consequences that may be experienced by stakeholders due to anticipated impacts/changes associated with the Project. These have been categorised in line with the Social Impact Categories and characteristics outlined in the SIA guideline (DPE, 2017, p.5) and then further defined within impact themes and sub-impact issues, as noted in Section 6.

At the conclusion of each impact theme, a table is presented which summarises the Project aspect, the social impact category and social impact, the extent of the impact, the likely affected stakeholders, and the sensitivity/vulnerability of these individuals and groups based on their perceived social risk (from the perspectives of the stakeholders consulted), the duration and/or timing of the impact and the severity of the impact with consideration of the relevant mitigation and enhancement measures to be put in place. Proposed management and enhancement strategies proposed to manage the predicted risks are further described in Section 8.

7.1 POPULATION CHANGE

Changes to population are fundamental impacts within SIA, given that the size, diversity and behaviours of a community are underpinned by its population and characteristics. Population change (influx and outflux) is usually described as a first order social impact which has the potential to create second order social impacts, such as impacts on community infrastructure and services, changes in sense of community, social cohesion and networks etc.

Population change in the locality has been associated with impacts on sense of community, with these issues raised strongly by locality residents in Lue and surrounds. This impact is further discussed in Section 6.3.3.

This section examines the potential impacts of population change as a result of the Project, utilising established population change characteristics adapted from Burdge (2004). Burdge suggests that population change of greater than 5% in a local area is likely to result in impacts and as a result population change consequences have been based on Burdge's criteria (refer to **Table 7.2**).

Utilising workforce Projections, existing ABS Census data relating to age, gender (refer to Section 5.8.1 and household size (refer to Section 5.11.3)) and assumptions in relation to source locations for the workforce, the following section provides estimates of potential population changes in the Mid-Western Regional LGA as a result of the proposed Project.

Population estimates are based on the assumptions that those migrating into the region for employment would be of working age. Accordingly, population estimates relate to population statistics for those aged 64 years and under. For the operational workforce, the breakdown of expected migration assumes that workforce family demographics would conform to current population age distribution trends within the LGA.

In relation to population change, it has been determined that the Project could influence population change in a number of ways:

- as a result of an influx of the **construction workforce** (most likely temporary and non-resident) during the construction period only;
- as a result of an influx of a proportion of the **operational workforce** and/or;
- as a result of **acquisition of residential land** in proximity to the operations (permanent for the Project life);

There are three scenarios presented for estimates relating to both the construction and operational workforce, with the 80:20 rule, used frequently in previous SIA practice. These scenarios are outlined below:

- **Scenario 1 –** assumes **80% of the workforce** would migrate into the region;
- **Scenario 2** – assumes **40% of the workforce** would migrate into the region;
- **Scenario 3** – assumes **20% of the workforce** would migrate into the region.

Population change estimations are provided at an LGA level only. Whilst Section 4 provides an indication of current employee location of residence, there is insufficient data available to accurately model how the incoming workforce (both construction and operational) would be distributed within specific communities in the LGA. However, available data on current townships of residence within the LGA and capacity of relevant housing/accommodation options outlined in Section 5.11.3, has been considered in order to infer the communities where employees in the construction and operational phases could potentially be housed. Based on this data, comment is provided on the viability of each scenario given current availability of housing/accommodation options.

A range of scenarios are presented to illustrate the extent of population change that may occur as a result of the Project. Scenario 1 represents a worst-case scenario. Within the Mid-Western Regional LGA, a proportion of the current population are unemployed (approximately 679 persons unemployed across the Mid-Western Regional LGA as of March 2019, Small Area Labour Markets) and consequently it is assumed that a higher proportion of workforce may be sourced locally. Furthermore, in 2016, unemployment was particularly high in key communities such as Kandos (16.5%) and Rylstone (8.4%) compared to NSW (6.3%), which have previously housed a high proportion of workers employed in extractive industries and related fields (refer to Sections 5.10.1 and 5.5 for further discussion).

As such, Scenario 2 (60% of the Project workforce may be sourced from within the LGA, with 40% migrating in from outside the LGA) is considered to be the most likely of the three operational scenarios assessed, assuming as noted above that a proportion of the existing population in the region may be likely to take up employment relating to the Project. Scenario 3 is considered an aspirational scenario and would be dependent upon key strategies being put in place to facilitate local employment and training.

Whilst the 80:20 rule has been used in the SIA to assess population change impacts (worst case scenario), Bowdens Silver is targeting the following arrangements for the operational workforce:

- 75% absorbed from the Mid-Western Regional LGA;
- 15% in-migration from areas outside the Mid-Western Regional LGA
- 10% commute from outside the Mid-Western Regional LGA

Section 7.2.8 provides a summary of predicted impacts of population change, and proposed mitigation measures to address these impacts. Section 9 outlines an approach, to be adopted as part of the Project SIMP, to monitor both construction and operational workforce numbers, residential locations of the Project workforce and other social and economic characteristics (e.g. community participation and involvement) against predicted employment and local procurement scenarios.

The Project aspects that have the potential to influence population change are considered further below.

7.1.1 Construction Workforce

The construction phase of the Project is expected to last for a period of 18 months, with construction workforce estimates predicting a peak of 246 employees working on site. A further 74 persons would be employed off site through provision of management, design, procurement etc.

Construction workforces can typically result in some specific social impacts to the communities in which they are housed, as construction work is transient, and workers often do not bring their families with them. Given the nature of the work being completed and the timeframe of the construction phase, the following assumptions have been made:

- the construction workforce coming in from outside the LGA is not expected to permanently relocate to a community within the LGA boundary
- it is unlikely that families would accompany these workers in migrating to the area
- the workforce is likely to want to temporarily reside near the Project, as much as is practicably possible
- construction workers that come from outside the region are expected to be housed in temporary accommodation, largely rental properties (as required).

In considering the social impacts associated with the Project's construction workforce, the estimates below represent non-resident workforce impacts. However, it is important to note that this is a worst-case scenario used to predict the maximum impact that may occur. In practice, it is expected that Bowdens Silver would utilise local contractors, where possible, that reside in the region (as detailed in Section 8.5.1).

In relation to the employment of local contractors during the construction phase, whilst there appears to be potential scope for Bowdens to engage local contractors and recruit workers from the local employment pool, many positions available during the construction phase require skills and experience specific to mine construction (Australian Government: Department of Employment, Skills, Small and Family Business, 2019). As such, Scenario 1 is conservatively suggested to be the most likely Project scenario for construction, with 80% of the construction workforce expected to be sourced from outside the region (i.e. non-resident workers).

Whilst the construction workforce may not reside permanently in the region, and would be unlikely to utilise services such as childcare or schools, this workforce is still likely to access a range of health, hospitality and recreation services within the towns in which they are temporarily located; thus having the potential to impact on service capacity in these particular sectors (addressed in Section 7.2). **Table 7.4** summarises the population change estimates based on the three construction workforce scenarios presented.

Table 7.4
Construction Workforce Population Change Estimates – All Scenarios

Scenario	Mid-Western Regional LGA	
	Population Increase	**%**
Scenario 1 (80% migration into LGA)	197	1.0
Scenario 2 (40% in-migration into LGA)	98	0.5
Scenario 3 (20% in-migration into LGA)	49	0.3

At a **regional level**, the predicted temporary population influx across the LGA is less than 5% and is consequently assessed as a 'minor' social impact, for all three scenarios. Given the outcomes of the engagement detailed in Section 5.11 service providers consulted suggested that they would be able to adapt to this potential temporary increase in population for the types of services noted (further discussion is provided in Section 7.2).

In assessing the potential impact of the Project's estimated construction workforce migration on specific communities within the Mid-Western Regional LGA, the worst-case scenario of 80% migration to the region has been compared against the number of short-term accommodation and rental options currently available within the major population areas of the LGA.

The perceived stakeholder risk has been ranked as *high* for Lue residents and *moderate* for regional residents, given that concerns were frequently expressed regarding the influx of workforce relating to the Project (refer to Section 6).

Therefore, considering Scenario 1 as the most likely:

- The temporary population change for Lue has been ranked as a ***low*** social impact, as it is *unlikely* that the construction workforce would be housed in Lue itself (given limited accommodation options), with a *minor* consequence.
- The temporary population change at a regional level has been ranked as a ***moderate*** social impact, as it is *likely* that the construction workforce would result in a temporary population influx across the Mid-Western LGA, again with a *minor* consequence.

These risk rankings are summarised in **Table 7.5** below.

Table 7.5
Summary of Project Impact – Impact of Construction workforce (Scenario 1)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce (Scenario 1)	Way of Life Community Culture Fears and Aspirations	Population change – influx of construction workers	Mid-Western Regional LGA	Construction period – 18 months	Locality Residents	High	Low
				Construction period – 18 months	Regional LGA Community	High	Moderate

Considering Scenario 1 (worst case), the associated increase in population would equate to a 1.0% increase in population (*minimal* consequence) resulting in a ***Moderate*** predicted social impact on the broader regional community. Such impacts could be further reduced through procurement of local contractors and businesses within the region during the construction phase. The impact of population change, due to construction, on locality residents however is ranked as ***Low***.

7.1.2 Operational Workforce

During the operational phase of the Project, there are expected to be between 190 and 228 jobs created; and it is expected that this workforce would permanently reside in the LGA with none (or very few) employees driving in and out. Given that the Project operational phase is expected to run for approximately 15 years, it is assumed that family members of workers, who relocate from outside the LGA, would also move into the area. Given this assumption, the workforce is likely to have an impact on all local services including education, health and social services (as discussed in Section 7.2). In order to generate an estimate of the extent of these impacts, the three scenarios outlined at the beginning of Section 7.1 have once again been assessed.

Table 7.6 provides a summary of the population change estimates at the LGA level for all scenarios. For each scenario, the Projected workforce influx has been multiplied by the current average household size across the Mid-Western Regional LGA (2.4 persons, ABS, 2016) to determine the approximate total population increase. For example, under **Scenario 1** (80% in-migration of workers), a maximum workforce of 182 employees would be sourced from outside the Mid-Western Regional LGA, leading to an estimated total population influx of 438 persons (1.8%) – the workforce and their families. However, it should be noted that population change impacts may be greater within smaller population areas in close proximity to the Project (e.g. Lue, Kandos and Rylstone).

Based on a range of factors, Scenario 2 (40% in-migration of workers) appears to be the most likely workforce operational scenario with appropriate mitigation strategies. These factors are explored in greater detail below. Under Scenario 2 a maximum workforce of 91 employees would be sourced from outside the Mid-Western Regional LGA, leading to an estimated total population influx of 219 persons (0.9%) – the workforce and their families

Table 7.6
Operational Workforce Population change Estimates – All Scenarios

Mid-Western Region				
	Workforce Influx	**Average Household Size**	**Population increase (Family level impact)**	**%**
Scenario 1	182	2.4	438	1.8
Scenario 2	91	2.4	219	0.9
Scenario 3	46	2.4	109	0.5
Source: ABS Census (2016)				

All predicted population change associated with the Project, under the three scenarios assessed, appears reasonably consistent with annual average growth rates in the LGA. For example, the average annual population growth in the LGA from 2007 to 2018 has been 1.2%, with the annual average for NSW being 1.4% for this same period (refer to **Table 7.7**).

Table 7.7
Average Annual Population Change (Estimated Resident Population)

	Mid-Western Regional LGA			**NSW**		
	Estimated Resident Population*	**Annual Increase**	**Proportion Change %**	**Estimated Resident Population***	**Annual Increase**	**Proportion Change %**
2006	21 641	-	-	6 742 690	-	-
2007	21 887	246	1.1	6 834 156	91 466	1.4
2008	22 186	299	1.4	6 943 461	109 305	1.6
2009	22 469	283	1.3	7 053 755	110 294	1.6
2010	22 774	305	1.4	7 144 292	90 537	1.3
2011	23 020	246	1.1	7 218 529	74 237	1.0
2012	23 343	323	1.4	7 304 244	85 715	1.2
2013	23 742	399	1.7	7 404 032	99 788	1.4
2014	24 059	317	1.3	7 508 353	104 321	1.4
2015	24 374	315	1.3	7 616 168	107 815	1.4
2016	24 546	172	0.7	7 732 858	116 690	1.5
2017	24 827	281	1.1	7 867 936	135 078	1.7
2018	25 086	259	1.0	7 988 241	120 305	1.5
Average Annual Change 2006 - 18-		287	1.2	1.2	103 796	1.4
* ERP is an estimate of actual population calculated annually by the ABS, which takes into account a range of factors including Census numbers, annual growth rates, births and deaths, and migration.						
Source: ABS Stat Beta, 2018; Estimated Resident Population (ERP)						

Consequently, the predicted worst-case scenario of 1.8% (80% of the operational workforce migrating into the LGA), is only 0.60% higher than the annual average growth rate; with growth rates varying from 1.7% (in 2013) to 0.70% (in 2016).

Using current demographic data from the ABS Census (2016), the estimated age and gender distribution of population change across the Mid-Western Regional LGA associated with the Projected operational workforce for each scenario, is presented in **Table 7.8**. Given the assumption that incoming family demographics would mirror current age distribution within the LGA (ABS, 2016), all scenarios would see greatest increases in the 5-14 years, 45-54 years and 55-64 year age groups (accounting for 17%, 18% and 16% of persons aged 64 years or below moving to the area, respectively).

Table 7.8
Mid-Western Regional LGA Operational Workforce Population change Estimates - Age Distribution

Age Range	ABS %[41]	Population change Scenarios (% Relocating to the area)		
		Scenario 1 (80%)	Scenario 2 (40%)[42]	Scenario 3 (20%)
0-4 years	9	38	19	10
5-14 years	17	73	36	18
15-19 years	7	30	15	8
20-24 years	6	25	12	6
25-34 years	14	61	30	15
35-44 years	14	63	31	16
45-54 years	18	77	39	19
55-64 years	16	72	36	18
Total	**100**	**438**	**219**	**109**
Note: Numbers in each age bracket are affected by rounding, so totals may vary slightly from the sum of values shown				
Source: ABS Census (2016)				

In order to assess the impacts these changes may have within each age group, the estimated number of incoming residents has been compared to the predicted changes in population across the relevant age groups to 2036 across the LGA, as calculated in the NSW Department of Planning and Environment (now NSW DPIE) population Projections (NSW DPE, 2016) (refer to **Figure 5.16** in Section 5.8.1).

As further outlined in Section 5.8.1.3, the NSW DPE Projections show predicted population change every five years, from 2011 to 2036. In general, population change between 2016 and 2021 is predicted to result in population decreases in youth and young adults, increases in persons in the mid-twenties to mid-forties and those aged 55-64 years, along with large increases in residents aged 65 years and above. It should be noted that a large part of the population increases predicted by the NSW DPE are within the older age brackets, in line with trends across the State.

Table 7.9 shows the population change (number of additional/subtracted persons and the proportion of additional persons to the previous year's population) at a year-by-year basis (i.e. annual change). This has been calculated using only the five yearly changes, which are divided by five to obtain an approximate average annual population change (shown in **Table 7.9**).This enables improved analysis of the level of impact associated with the estimated increases in each age group outlined in **Table 7.8**. Notably, the overall changes predicted in the population aged between 0 and 64 years are minimal, with a predicted overall increase between 2011 and 2016 of 1.5% (0.3% per annum), followed by a small gain of approximately 0.04% annually between 2016 and 2021, after which the population in these age brackets is projected to experience a slow reduction through to 2036 (see total change in **Table 7.9**).

[41] As a proportion of total persons aged 0 to 64 years

Table 7.9
Projected population change Mid-Western Regional LGA – Annual Changes

		Average Annual Change 2011-16	Average Annual Change 2016-21	Average Annual Change 2021-26	Average Annual Change 2026-31	Average Annual Change 2031-36
0-4 years	Change (Count)	0	0	0	0	-10
	Change (%)	0.0%	0.0%	0.0%	0.0%	-0.7%
5-14 years	Change (Count)	10	10	0	0	0
	Change (%)	0.3%	0.3%	0.0%	0.0%	0.0%
15-19 years	Change (Count)	-20	-20	20	-10	0
	Change (%)	-1.3%	-1.4%	1.5%	-0.7%	0.0%
20-24 years	Change (Count)	0	-20	-20	10	-10
	Change (%)	0.0%	-1.7%	-1.9%	1.1%	-1.0%
25-34 years	Change (Count)	70	10	-30	-30	0
	Change (%)	3.0%	0.4%	-1.1%	-1.2%	0.0%
35-44 years	Change (Count)	-40	20	50	0	-30
	Change (%)	-1.3%	0.7%	1.7%	0.0%	-0.9%
45-54 years	Change (Count)	20	-20	-50	20	50
	Change (%)	0.6%	-0.6%	-1.5%	0.7%	1.6%
55-64 years	Change (Count)	30	30	20	-30	-20
	Change (%)	1.0%	1.0%	0.6%	-0.9%	-0.6%
Total change 0-64 years	Change (Count)	70	10	-10	-40	-20
	Change (%)	0.3%	0.04%	-0.04%	-0.2%	-0.1%

Source: NSW Government DPE, 2016 New South Wales State and Local Government Area Population and Household Projections, and Implied Dwelling Requirements

Given the current timeframe for the Project, these population projections span the approximate period in which the mine would operate if approved. However, the key projection period for population increase associated with the operational phase of the Project would be 2021 to 2026. Over this 5-year period, the NSW DPIE has predicted an overall annual decrease in population of 0.04% (estimated, refer to **Table 7.9**), with some age groups expected to experience increase, while others to experience a decrease.

Critically, the projections show an increase in persons aged 35 to 44 years (250 persons 2021-2026 or 50 persons per year, equating to an increase of 1.7% annually), and a corresponding decrease in persons aged 45 to 54 years old (also 50 persons per year, a decrease of 1.5% annually). It is likely that the former Projection, an increase in 34 to 44-year-old persons, has been made in anticipation of the approval of mining Projects within the LGA[43] leading to an influx of workers, as well as being a result of the corresponding decrease in persons aged 25-34 years old (i.e. local persons who have moved into the next age bracket).

[43] Population projections take into consideration announced policies and projects in the LGA including major projects that may impact on population influx and outflux (DPE, 2016).

Other changes of note between 2021 and 2026 include an increase in persons aged 15 to 19 years old (20 per year, 1.5% per annum), and decreases in persons aged 20-24 (20 per year, 1.9%) and those aged 25 to 34 years (30 per year, 1.1%). No change is predicted in primary and early secondary school aged children (aged 0 to 14 years old), while a small change is anticipated for persons aged 55 to 64 years (20 per year, representing an annual increase of 0.6%).

Table 7.10 combines the predicted population changes associated with the operational workforce outlined in **Table 7.8**, with the annual population change anticipated by the NSW DPIE in their population projections between 2021 and 2026 (averaged across 5 yearly Projections, refer to **Table 7.9**).

Under Scenario 1, all age groups would see an increase in population, particularly, those aged 15-19 years (4%) and 35-44 years (4%). However, all changes are predicted to be below 5%. Furthermore, Scenarios 2 and 3 indicate that even with moderate levels of workforce influx, the population change is predicted to experience a decrease in persons aged 20 to 24 years and 45 to 54 years.

Importantly, during engagement for the SIA, local residents expressed particular concern that the lack of employment in the LGA was resulting in an outflux of young people (refer to Section 6.3.2. While the projections shown in **Table 7.10** indicate that the Project may partially mitigate this change, through an influx of younger persons in association with the operational workforce, it may also provide incentive for locals to remain in the area by providing employment opportunities. Local workforce capacity is explored further below.

Table 7.10
Combined population Change 0-64 years (DPE Projections and Workforce Induced Change)

Age Range	Projected Population 2021	Predicted Change Scenario 1*	Predicted Change Scenario 2*	Predicted Change Scenario 3*
0-4 years	1 500	38 (3%)	19 (1%)	10 (1%)
5-14 years	3 200	73 (2%)	36 (1%)	18 (1%)
15-19 years	1 300	50 (4%)	35 (3%)	28 (2%)
20-24 years	1 050	5 (0%)	-8 (-1%)	-14 (-1%)
25-34 years	2 700	31 (1%)	0 (0%)	-15 (-1%)
35-44 years	2 950	113 (4%)	81 (3%)	66 (2%)
45-54 years	3 250	27 (1%)	-11 (0%)	-31 (-1%)
55-64 years	3 300	92 (3%)	56 (2%)	38 (1%)
Total	**19 250**	**428 (2%)**	**209 (1%)**	**99 (1%)**

* Predicted change has been calculated as the Projected annual change between 2016 and 2026 under the DPE population Projections combined with the predicted increase in population resulting from the Project under each workforce migration Scenario

A key factor in determining the likely uptake of employment for the Project, relates to the makeup and capacity of the existing workforce in the LGA. Available data on workforce capacity, outlined in Section 5.10.1, also suggests that there is a pool of potentially suitable workforce candidates.

- As documented in Section 5.8.2 current training and education trends appear to align with the skills required for the Project, likely due to the employment opportunities already generated by resource Projects operating within and close to the LGA (further description of these Projects can be found in Section 5.5).

Furthermore, high unemployment rates in key communities such as Kandos (16.5%), which has a history of employment in other industry sectors, suggests that there is existing capacity to fill workforce positions from the local employment pool. In this regard, key employment indicators for the LGA suggest that:

- Approximately 679 people are unemployed across the Mid-Western Regional LGA as of March 2019 (Small Area Labour Markets)
- Approximately 411 of unemployed persons in 2016 had no post-school qualifications (60% of total unemployed; ABS Table builder)
- The NSW rate of long-term unemployed, as a proportion of total unemployed, was approximately 25% in June 2018 (APH Long term unemployment guide)

Given the high rate of persons lacking post school qualifications and utilising the NSW benchmark of 25% long-term unemployment, it is likely that some of these individuals would require additional training in order to be job ready. Responses obtained from employment service providers consulted during engagement (refer to Section 6.6.1) further supported the statistics presented, with providers indicating that they were eager to pursue whatever training was necessary to increase local applicant employability and to work proactively with the Company to secure employment for their clients.

It is also expected that most of the operational workforce would likely choose to reside in the towns within the region that are well serviced and in close proximity to the Mine Site. This means that it is likely that the workforce would choose to reside in Mudgee, Kandos or Rylstone. Whilst the township of Gulgong would provide access to a range of education, health and social services, it is assumed that its distance away from the Mine Site may make it impractical as a township option. Furthermore, although the Mine Site is located in close proximity to Lue, lower levels of access to housing and temporary accommodation options, make it less likely that a significant proportion of the workforce could be housed in Lue itself. Further detail on service availability and potential impacts in these areas are further discussed in Section 8.

In November 2018, the Australian Parliament released the outcomes of the '*Keep it in the Regions inquiry'*, in which major barriers for local employment and attraction of workers to permanently relocate to local regions in which mines operate, was explored. Major barriers identified in the inquiry included:

- The 'liveability' of regional areas;
- Access and capacity of health and education services; and
- The availability of land and property and the cost of building.

Based on data obtained through secondary review (refer to Section 5) and stakeholder interviews (Section 6), the liveability of towns within the Mid-Western Regional LGA appear to be reasonably well-placed in comparison to other areas within Australia where mining occurs (e.g. regional Queensland). In particular, the LGA is considered to be highly liveable, given its diverse natural capital and economic diversity e.g. tourism, viticulture and mining (refer to Section 5.10).

Furthermore, as outlined in Sections 5.8.2 and 5.8.3, the LGA is reasonably well serviced by health and education facilities, with the exception of childcare services, which appear to be in more limited supply. However, land availability and living costs are the least favourable, with the data suggesting a potential impact on the availability and affordability of housing (refer to Section 5.11.3 for further discussion).

Bowdens Silver has received a high volume of expressions of interest for employment from local residents across the LGA, with three advertised positions on the Project team, receiving nearly 500 applications. A strong interest in local employment was also raised during engagement with the wider community, with respondents of the community survey indicating that unemployment was the greatest perceived challenge facing their communities (Kandos - 76% and Rylstone - 57%). Residents in these areas suggested that, given the loss of several local businesses in the LGA (e.g. the cement/lime works and the recent Bylong Coal Project refusal by the IPC), employment opportunities would be welcomed by the community.

The opportunity for Aboriginal employment both on and off site was also noted by Aboriginal groups and service providers consulted. In this regard, there was a desire to see those that wanted to work in the mining industry provided with relevant traineeships and apprenticeships, and other opportunities offered in the areas of rehabilitation and land management.

Under the worst-case scenario (Scenario 1), an influx of 80% of the workforce from outside the LGA would result in a ***high*** social impact of population change (*likely* to occur, with a *minor* consequence). However, given current employment figures, Scenario 2 is considered the most likely scenario, with approximately 60% of the workforce sourced from within the LGA and resulting in a ***moderate*** predicted social impact. Scenario 3 is considered a more aspirational scenario that may be achieved with the development of dedicated enhancement strategies (refer to Section 8.5.1).

Consequently:

- Population change across the region has been ranked as a moderate social impact (likely to occur, with a minimal consequence, refer to **Table 7.11**).
- Population change in the Lue locality has been ranked as a low social impact (possible to occur, with minimal consequence), given that only a small proportion of the workforce may reside in the Lue locality, given limited housing availability.
- The perceived stakeholder risk has also ranked as a high negative perceived risk, due to the concerns held by locality residents that the Project would lead to either a large influx or outflux of residents as a result of the Project on Lue; but a high (positive) by those in the wider community, given potential population increase in the area.

Table 7.11
Summary of Project Impact – Impact of Operational Workforce on Local Population

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Operational Workforce (Scenario 2)	Way of Life Community Culture Access to and use of infrastructure, and services and facilities	Population change – influx of operations workers and their families	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community	High (Positive)	Moderate (Positive)
					Locality Residents	High (Negative)	Low (Negative)

7.1.3 Property Acquisition

Engagement with Lue residents indicated that there is a high level of concern around the ongoing sustainability of Lue, due to the purchase of properties by Bowdens Silver and consequent population attrition. There was a perception amongst some stakeholders that they had already seen a population decline due to purchases by Bowdens Silver and attrition of previous owners in and around the Mine Site. Other Lue residents were concerned about additional properties falling within the acquisition zone, and/or properties in Lue and the locality being opportunistically purchased by Bowdens Silver.

Due to the relatively high proportion of properties in Lue and the surrounding rural localities that are utilised as weekenders (see Section 5.11.3), population change associated with property purchase has been assessed at both a full time and temporary (weekender) level. While weekender residents will not generally be counted as part of the local resident population by the ABS Census, these landowners have a connection to the community and the area. As such, these residents are considered in the assessment of population change as a result of acquisition or purchase at a qualitative level, but are not included in assessments of proportional change, as this would likely overestimate the impact.

The population changes to Lue and surrounding localities, as a result of acquisition, can be viewed both in the long term as a result of property acquisitions made by Silver Standard and Kingsgate and those acquisitions made by Bowdens Silver in relation to the current Project. Since 1989, when silver mineralisation was first discovered at the site, to July 2016 when Bowdens Silver purchased the Project from Kingsgate, 13 properties in and around the Mine Site were purchased. These properties included:

- 2 vacant lots/farm blocks
- 7 residential properties
- 4 weekenders, shacks or houses used on a temporary basis.

The seven residential properties which were progressively acquired over 27 years were owned by a mix of family and couple households. Overall, this equates to approximately 21 people. The owners who utilised the four weekender properties were estimated to equate to approximately 10 people with a connection to the area at that time.

Since commencing the Project in July 2016, Bowdens Silver has purchased, or has an option to purchase, three properties. Two of these properties were occupied full time (four persons), while the third was used as a weekender (two persons). As such, the historical impact of property acquisitions made by Bowdens since July 2016 on population change equates to approximately 1.5% (four permanent persons) of the current population in Lue and surrounding rural localities.

Since this time, and as a result of the current Project, Bowdens Silver has approached the owners of an additional four properties where there are predicted noise and/or dust impacts associated with the Project, as required in accordance with the VLAMP (further discussed in Section 7.6.1.2). Contracts of sale have been exchanged for two of the four properties. Three of the properties have been used as weekenders by several families, with owners permanently residing elsewhere.

These additional (4) acquisitions could result in a minor change to the population of Lue and its surrounding rural localities, bringing the overall loss of full-time population in the community since Bowdens commenced the Project in 2016 to approximately 1.8%. Furthermore, acquisition of the properties that are used currently as weekenders could also potentially result in the loss of visiting families to the area.

Consequently, when taking into account both the historical and Projected changes to population numbers associated with the Bowdens Silver Project through property acquisitions of full-time residents (associated with the presence of the Project), the impact is categorised as a ***high*** social impact (*likely* to occur, with *minor* consequence given a predicted population change of less than 5%) (refer to **Table 7.12**).

Table 7.12
Summary of Project Impact – Impact of Property Acquisition on Local Population

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Acquisition of properties under the VLAMP and historic purchase	Way of Life Community Culture Health and Wellbeing Personal and property rights Decision making systems Fears and Aspirations	Property Acquisition	Neighbouring community	Project life	Four properties in the acquisition zone Three properties with purchase agreements since 2016	High	High

While the Project is not expected to result in any significant impact on population change at the LGA level, even under the worst-case Scenario (Scenario 1), such impacts can be further mitigated through the employment of local people currently residing within local towns and the broader LGA.

Bowdens Silver is committed to leasing or utilising acquired properties wherever possible, to maintain population within the area. out of the properties currently owned by the Company, 11 have habitable residences. Each of the 11 residences are currently leased to tenants (approximately 17 persons) or utilised by Bowdens Silver staff and consultants. There are two other residences regarded as derelict.

In relation to population change in the locality, the MWRC Comprehensive land use strategy (2017) identifies a small area of land to the south of Lue, which could be prioritised for rural lifestyle development under the lot size of 6-12 ha, deemed by Council to be in keeping with Lue's aesthetics. This land could potentially afford the development of an additional 11 rural lifestyle lots in proximity to Lue (refer to Section 8.2.2 for further discussion).

7.2 ACCESS TO AND USE OF COMMUNITY SERVICES

The impact of a Project on community infrastructure and services is often one of the more tangible social impacts and is considered a secondary order impact largely influenced by population changes associated with construction and operational workforce influx.

Project aspects or factors that can impact on access to, and use of, community services include:

- changing demand due to an increase or decrease in population
- changing behaviours of users, such as workforce rosters determining patterns of peak service utilisation
- direct impacts on physical infrastructure during Project construction and/or operation.

As noted in Section 7.1 any workers relocating into the LGA, as part of the construction workforce, are not expected to permanently relocate to the area or bring their families with them, due to the temporary nature of this Project stage and consequently, the majority of community services and facilities are not expected to experience a significant impact as a result of population change during the construction period. As such, the impact predictions below relate solely to the operational workforce.

The following section describes the Project's potential impact on the following community sectors:

- Housing and accommodation
- Health services
- Child-care services
- Aged care services
- Emergency services
- Youth services
- Education and training services
- Utilities
- Road infrastructure
- Recreation

As noted in Section 5.11, a survey of service providers across the Mid-Western Regional LGA was undertaken as part of the SIA engagement process, in order to triangulate existing data on service provider capacity and develop a better understanding of the potential impacts of the Project on these services. Seventy-nine service providers were identified through relevant community service directories and online searches to participate in the survey, with 37 agreeing to take part in the interview process, yielding a participation rate of 46%. Where interviews could not be set up immediately, three call back attempts were made.

Respondents were asked a range of questions relating to the provision of their service(s), including items relating to service size, catchment, capacity, as well as their ability to respond to additional population change. Interviews were successfully conducted with services providers from the following key service areas as outlined in **Table 7.13**.

Table 7.13
Service Provider Survey Participants

Service Provider Sector	Number of Participating Services
Childcare	9
Education	6
Emergency Services	4
Employment Services	2
Health	5
Housing	4
Sports and Recreation	2
Transport	1
Youth	3
Tourism	1

In summary, of all service providers surveyed, those working in the areas of childcare, health and housing outlined that their services were at full or close to full capacity currently. Despite capacity issues, these providers generally acknowledged the importance of the Bowdens Silver Project to the community, and welcomed the potential influx of mining personnel in creating further employment opportunities and contributing to the region's economic sustainability (refer to Section 6.6).

With regards to population change, a key aspect identified by most service providers, particularly those reliant on government funding, related to the nature of the workforce; with questions raised as to whether the workforce would be FIFO or DIDO (non-resident) or would reside permanently within the LGA. The funding models of the majority of service providers interviewed, are based on the number of residents, a count which excludes non-resident workers, thus making it difficult for these services to plan and secure funding for those non-residents that may utilise their services within the LGA (see also, Rolfe & Kinnear, 2013). Consequently, it was considered important that Bowdens Silver plan to utilise a resident workforce, where possible, to maximise local and regional benefits and to enable providers to facilitate more effective planning of service delivery.

The following sections assess the impacts of predicted population change associated with the Project on key service sectors in the region. For this analysis, the worst-case Scenario (Scenario 1) has been assessed, however impacts associated with Scenario 2 (most likely to occur) and Scenario 3 are also noted.

7.2.1 Housing and Accommodation

It has been identified that the Project may have an impact on housing and accommodation in two ways:

- As a result of the need for the construction workforce to utilise rental properties and local temporary accommodation during the construction period;
- As a result of population influx of the operational workforce moving to the area seeking properties for rent or purchase.

It should also be noted that based on a review of factors that may influence mine workers residential preferences (as referred to in Section 4.1), it has been assumed that a higher proportion of the workforce may have a preference towards purchasing properties. At the time of this review, there were a greater number of properties and vacant lots for sale than properties for rent. However, should employees choose to purchase vacant lots to build, they may require rental accommodation whilst building.

Additionally, there may be some further impact on housing as a result of the acquisition and/or management of properties nearby to the Mine Site, should the impacted residents choose to relocate to another property in or close to Lue.

It is reasonable to assume that the highest demand for housing would be experienced in the Mid-Western Regional LGA more broadly, and more specifically Mudgee. However, due to their size and proximity to the Mine Site, the towns of Rylstone and Kandos are also likely to experience a relative increase in housing demand as a result of the Project.

A report undertaken by Manidis Roberts (2012), identified housing as a key limitation on service provision for the LGA, suggesting that based on predictions of population change (utilising migration factors at the time), the stock of housing and accommodation available within the LGA would be unable to support a large Greenfield mining operation. However, as of June 2018, the estimated resident population of the Mid-Western Regional LGA was 25,086 well below the Manidis Roberts prediction of 30,875 by 2020.

Furthermore, engagement with housing agencies and real estate providers indicated that the housing market is capacity limited, with key limitations on rental capacity and emergency/social housing availability. The following sections address these issues in further detail.

7.2.1.1 Land Use and Development

In 2017, the Mid-Western Regional Council released a revised version of their Comprehensive Land Use Strategy, which aims to predict expected demand and supply pressures on land usage across the LGA to 2031. This report, whilst primarily based on Projections first estimated from 2001 ABS data, provides an up to date summary of Council strategic goals and existing Council land assets available to manage future housing needs associated with an increasing population.

The revised Council Comprehensive Land Use Plan (2017) identifies that whilst there would be a need for residential development to accommodate the growing population, this development must be progressively managed to balance the necessity of growth against current agricultural land use and the capacity of services and facilities to accommodate new residents. Control measures identified include:

- Maintaining a settlement hierarchy based on capacity and potential to grow, namely:
  - Develop a ‘hard edge’ limit on the future growth development boundary of the Mudgee urban area.
  - Concentrate development in locations with access to services and facilities (namely Mudgee, Gulgong, Rylstone and Kandos).
- Prevent inappropriate fragmentation of agricultural lands (through subdivision).

- Prevent development of inappropriate non-agricultural land uses including large lot residential development that would adversely affect the productivity of agricultural areas and result in inappropriate fragmentation.
- Retain the ability to seek development approval for a dwelling on lots that have been created by Council for that purpose.

The settlement hierarchy outlined in the land use plan proposes that most development should occur in Mudgee, with moderate growth Projected for Gulgong and Rylstone and some growth in Kandos. The report predicts that medium term growth (5-15 years) would require an additional 80-100 large lot residential plots and 1100 to 1200 residential lots across the LGA. Estimates indicate that as of 2017, the Council held approximately 1100 potential lots based on land already zoned for residential development within the LGA. Based on these Projections, it was determined that additional land would be required if large lot residential developments were to be allowed, and that additional land may also need to be rezoned to accommodate single lot residential developments.

A key strategic direction for the MWRC is to increase diverse, sustainable and adaptive housing stock. In line with this, as mentioned above, as of June 2019 there were approximately nine housing estates currently being developed close to Mudgee, with approximately 111 lots which would become available as the estates further progress. The availability of lots in each of these estates is summarised in (Section 5.11.3).

7.2.1.2 Housing Availability

Available data from the ABS indicates that the housing situation in the Mid-Western Regional LGA is characterised by low levels of housing diversity with high proportions of separate houses. This aligns with the findings of the Manidis Roberts report (2012), which also predicted a shortfall in housing stock and rental availability, with the rental market particularly tight for one- and two-bedroom homes (Manidis Robert, 2012).

As presented in Section 5.11.3, the Mid-Western Regional LGA has been experiencing lower than State average costs of living including rental and mortgage costs and house prices, although these costs are increasing. Demand for rentals is also currently low across Lue, Kandos, Rylstone and Mudgee, while demand is average in Gulgong. Engagement with real estate agents providing services across the LGA suggested that rental properties are usually filled within one to three weeks, with rental properties close to capacity.

The proportion of private houses currently occupied, as of the 2016 ABS census, was also generally lower than in NSW, suggesting some capacity to accommodate additional residents. However, engagement with some residents of Lue, for the SIA, suggested that increased vacancy rates were associated with people living elsewhere but traveling to the Mid-Western Regional LGA for holidays and weekends.

As shown in **Table 7.14** as of August 2019 there were a variety of properties and land currently available within the LGA. Although this analysis does not provide a full review of available housing stock, it does suggest that there was a minimum of 81 houses for rent, 330 properties for sale and 162 available vacant blocks within the region in August 2019.

Table 7.14
Summary of Housing Availability by Postcode (August 2019)

	Houses Available for Rent	Houses available for Purchase	Vacant plots for Purchase*	Total Available lots for Purchase or Rent
Mudgee	61	206	154	421
Kandos	6	19	0	25
Rylstone	7	32	1	40
Gulgong	6	73	7	86
Lue**	1	0	0	1
Total	81	330	162	573

Data collected: March to June 2019.

* Vacant lots include individual plots in housing estates

** Lue lies within the Mudgee postcode – the property for rent in Lue has been removed from the count of properties in Mudgee (2850).

Source: Realestate.com.au, 2019; Domain.com, 2019.

Additionally, as indicated in the Mid-Western Regional Council's Comprehensive Land Use Strategy (2017), there are approximately 1100 additional lots across the LGA (not included in the table above) that are zoned as rural residential (R5) and which could be released for development as rural lifestyle properties (minimum lot size, 12 ha), should additional lots be required. Across the communities in the region, this equates to approximately:

- 412 lots in the area surrounding Mudgee
- 215 lots in Rylstone and Kandos
- 93 lots in Gulgong
- 11 lots in Lue

Whilst the availability of adequate temporary and permanent housing/accommodation was discussed in the service provider interviews with housing representatives (refer to Section 6.6), there was a view that if the towns of Kandos and Rylstone were considered, some housing and rental accommodation was available; and that the availability of undeveloped residential land, would be able to accommodate any influx of Project population.

This sentiment appears to be supported by the data in **Table 7.14** with 162 lots for sale across the region as of August 2019, the majority of which are located in proximity or close to Mudgee. Furthermore, as noted above, the MWRC also indicates that there is additional supply of residentially zoned land should existing lots be exhausted (see Comprehensive Land Use Strategy, MWRC, 2017).

Discussions with housing service providers, however, did highlight that there is currently limited social housing within the region; with some concerns raised that an influx of operational workforce as a result of the Project may impact current rental availability and rental costs. As of the 2016 Census, the median weekly rent across the LGA was $270, almost 30% lower than the NSW median of $380 (ABS, 2016). In 2012, the Manidis Roberts report also predicted a potential shortfall in temporary accommodation capacity, hypothesising that this could lead to a reduction in availability of temporary and welfare accommodation for vulnerable groups. Potential impacts on temporary accommodation, particularly during the construction phase of the Project are further discussed below.

Although it cannot be determined whether rent is the precipitating factor, ABS (2016) census data outlines that across the Mudgee, Mudgee Region East and Mudgee Region West (Statistical Areas 2) there are approximately 47 people that are homeless, which include people sleeping rough as well as those in shelters, boarding houses, temporary housing or those living in severely crowded houses (**Annexure 3**, **Article 41**).

7.2.1.3 Temporary Accommodation

Employment services who participated in the service provider survey in the second round of SIA engagement highlighted the need for Bowdens to engage the community in order to ensure maximum uptake of local employment opportunities and to maximise community benefits.

> *You would hope that if the local skills set is not there, then at least they would have their contractors/employees stay in local accommodation and the local town will get to feel the benefit.*

The workforce required for the construction phase would fluctuate over the 18-month period and as a result it is likely that this workforce would access temporary accommodation as required. Data presented in Section 5.10 suggests that there is a range of temporary and tourist accommodation in the Mid-Western Regional LGA, with an approximate average of more than 35% room availability (average occupancy rates ranging from 60% to 67.5%, ABS tourist accommodation report, 2015-16; Tourism Research Australia, 2018). Most accommodation facilities in the LGA, are more tourist focused, particularly those located in Mudgee, with the majority of trade for these businesses occurring on weekends.

> *A challenge we face from a tourism perspective is lack of accommodation inventory in peak periods, and as we grow the visitor economy each year, this becomes a bigger problem…in turn, if mines source accommodation from providers currently offering visitor accommodation, this could impact our planned growth of the visitor economy. – Mudgee Tourism Association*

Despite this concern, outcomes of the Skills audit conducted by Umwelt as part of the SIA, suggests that at least some accommodation providers have the capacity to offer their services to accommodate construction workers and contractors. Of the eight accommodation providers who participated in the survey, six suggested that although they had no direct link to mining, they had capacity to provide services to the Project, with none of the service providers indicating that they were at capacity.

Data from the ABS tourist accommodation report (2015-16) on the availability of rooms in hotels, motels and caravan parks has indicated that approximately 117 rooms are unoccupied across seasons in the Mudgee Tourist Region. From this baseline data, the average occupancy rates and number of rooms per establishment have been extrapolated across the temporary accommodations currently available within the Mid-Western Regional LGA, as identified through a review of various accommodation booking platforms. **Table 7.15** shows the number of providers in each study area, while **Table 7.16** provides an estimate of the number of rooms available, utilising the following conservative assumptions around room numbers:

- 25 rooms per hotel, based on average rooms of 36 for the Mudgee Tourist Area (ABS, 2016) - recognising the below average size of many hotels in the area
- five rooms per serviced apartment/cottage complex
- two rooms per guesthouse.

Table 7.15
Accommodation Providers in the Mid-Western Regional LGA

	Hotels, Motels and Caravan Parks	Serviced Apartment blocks and Cottages	Guesthouses and Townhouses	Total Accommodation Providers
Mudgee	22	15	15	52
Kandos	3	0	3	6
Rylstone	3	0	6	9
Gulgong	4	4	14	22
Lue[44]	1	1	3	5
Total	33	21	41	95
Source: ABS, 2016; Wotif, 2 September 2019; Airbnb, Google Travel, 4 September 2019				

Table 7.16
Summary of Temporary Accommodation Availability (September 2019)

	Approximate Number of Temporary Accommodation Rooms	Average Room Occupancy	Number of Rooms Available to Accommodate Workforce
Mudgee	550	40%	262
Kandos	66	40%	32
Rylstone	92	40%	37
Gulgong	128	40%	59
Lue[27]	31	20%*	7
Total	842		397
* Estimate based on feedback from accommodation providers relating to current capacity			
Source: ABS, 2016; Wotif, 2 September 2019; Airbnb, Google Travel, 4 September 2019			

A review of online advertisements of short stay accommodation indicates that there are a large number of serviced apartments, cottages and guest houses currently supported by the tourist visitor industry that may be able to accommodate some of the workforce (refer to **Table 7.15**). Of these smaller-scale options reviewed (September 2019), approximately 70% had vacancies for the following month. However, based on available data from the ABS (2016) and Tourism Research Australia (2018), a conservative average occupancy rate of 60% across seasons is used, with engagement with relevant representatives from the tourism and accommodation sectors indicating that this figure is significantly reduced in peak holiday times.

In addition to the above, a search of Airbnb reveals that there are a large number of private houses, apartments and rooms listed in Mudgee and across the LGA (approximately 300 listings as of 12 September 2019). These have not been included in the table above, as there was some crossover between the listing e.g., cottages and guesthouses; with some listings considered to be inappropriate for workers (e.g. low number of maximum nights allowed, sharing of facilities and amenities with resident families, etc.). However, the number of listings indicates that there is additional accommodation available to service the local tourism industry.

[44] Lue here includes the surrounding communities of Bara, Havilah, Pyangle and Monivae, although most accommodation options were in Lue

In addition, the Lue Hotel was purchased by Lue Hospitality Pty Ltd, which is affiliated with Bowdens Silver. The purpose of the purchase was to support continued functionality of the local Lue infrastructure and potentially has some temporary accommodation capacity.

7.2.1.4 Construction Workforce Impacts on Housing and Accommodation

As discussed in Section 7.1, the Project has a peak construction workforce that is estimated at 246 on site workers, over an 18-month period. The three scenarios of population change outlined in Section 7.1 are used below to assess the housing and accommodation impacts associated with the influx of the construction workforce for the Project. As noted in Section 7.1.1, a number of assumptions have been made in assessing the impacts of the construction workforce on housing and accommodation services. These include:

- Due to the temporary nature of the construction schedule, families associated with the workforce are unlikely to relocate with the worker.
- The workforce would be most likely to be accommodated close to the Project, i.e. within the Mid-Western Regional LGA in Mudgee, Kandos or Rylstone. The distance from Gulgong to the Project makes it less likely that the workforce would reside in the Gulgong locality.
- All other factors would remain proportionally the same over the construction period.

Based on the results detailed in Section 5.11.3 and **Table 7.14**, there is a limited pool of rental properties across the LGA that could accommodate the construction workforce. However, as can be seen in **Table 7.16** there are a number of accommodation providers that may be able to provide accommodation to the non-resident workforce for this period. Furthermore, results of the skills audit suggest that the accommodation providers consulted have a strong interest in working with Bowdens Silver to address workforce accommodation options.

Given the current average occupancy rates detailed in Section 5.11.3, there would be approximately 400 rooms available across the identified towns. Noting that occupancy rates tend to increase during peak tourist periods, this indicates a potential stretch in the capacity of accommodation facilities to accommodate the non-resident construction workforce under **Scenario 1** (worst case scenario) should 80% of the construction workforce migrate into the region (197 workers) and require temporary accommodation. However, anecdotal evidence from service providers and local businesses, and as reported in Mudgee Regional Tourism Annual Report 2018, highlight that weekend visitation in Mudgee and the region is higher than mid-week. This indicates that there may be additional capacity for accommodation facilities to house the construction workforce, depending on workforce day and shift arrangements.

Accommodation of the construction workforce for **Scenario 2** (40% in-migration) is seen to be manageable with approximately 98 rooms required respectively for the construction workforce under this scenario.

Scenario 3 (20% in-migration) would have the least impact on temporary accommodation facilities in the region (49 workers from other LGAs) and although aspirational, it is assessed as possible to achieve should adequate mitigations measures be put in place to ensure maximum utilisation of local contractors in the construction phase of the Project.

Therefore, depending on the extent of the construction workforce required to be accommodated and construction rosters, the construction workforce has the potential to impact on the capacity of housing and accommodation facilities in the region in a ***moderate*** way (*possible* with a *minor* consequence) under Scenario 1, which is considered the most likely scenario.

From a stakeholder perspective, this impact has also been ranked as *high* based on the outcomes of engagement with relevant service providers.

Table 7.17
Summary of Project Impact – Impact of the Construction Workforce on Housing and Accommodation

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact / Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce (Scenario 1)	Access to and use of Infrastructure, Services and Facilities	Population change – impact of construction workers on housing and accommodation	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community Tourists/ Visitors Housing and Accommodation Service Providers	High	Moderate

7.2.1.5 Operational Workforce Impacts on Housing and Accommodation

During the operational phase, Bowdens Silver expects to employ a peak workforce of 228 for the Project. As shown in **Table 7.18**, this could result in an overall migration of 438 people to the region, under Scenario 1 (worst case) should employees bring their families; and require approximately 182 residential dwellings (average household size of 2.4).

Table 7.18
Summary of Project Impact – Impact of Operational Workforce on Housing and Accommodation

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact / Sensitivity	Social Impact Ranking (Mitigated)
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on housing and accommodation	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community Service Providers – Housing/ Accommodation	High	Moderate

As discussed in Section 5.11.3, at 9 August 2019 there were 411 properties available to rent or purchase across the Mid-Western Regional LGA (refer to Table 7.14). In addition, a further 162 vacant lots were listed for sale, including several plots located on housing estates that would become available as the estates are further approved and developed; providing no further major Project development occurs simultaneously in the area.

In relation to housing capacity, considering relevant data sources, it is likely that the region would have sufficient capacity to house the operational workforce and their families under all Scenarios. This influx could be accommodated by using existing housing stock and new houses likely to be constructed in existing housing estates.

It should also be noted that local estate agents indicated that there is current growth in the housing market across the LGA, particularly in relation to rental properties, which are able to be leased quickly. A requirement for rental homes by the operational workforce may, therefore, place additional strain on the rental market, and may also potentially increase both rental and real estate prices.

Under Scenario 1 (worst case), the impact of population changes due to operational workforce influx on the provision of housing and accommodation is categorised as ***high*** (possible with moderate consequence). Similarly, the perceived stakeholder risk is also ranked as high.

However, in relation to Scenario 2 (most likely), the social impact on housing and accommodation, as a result of the influx of an operational workforce for the Project, would result in a ***moderate*** impact (*possible* with a *minor* consequence) (refer to **Table 7.18**), with the ability for impacts to be further mitigated through local employment and training strategies (Scenario 3).

7.2.2 Health Services and Aged Care

Health service provision in rural and regional areas is often a key topic of discussion. In 2012, given Projected population change, Manidis Roberts identified the need for urgent upgrades to existing health infrastructure within the Mid-Western Regional LGA. Since that time, proposed works for a major upgrade to modernise the Mudgee hospital facilities has been approved and construction has begun (further detail can be found in Section 5.8.3. There are several factors that may impact on the provision and capacity of health services in the region, these primarily include:

- Population change (due to construction and operational workforce influx)
- Workforce demand on health services as a result of work-related health and wellbeing issues
- Changing levels of community health and well-being.

As discussed in the social profile (refer to Section 5.11.2), there are a number of health services offering general and specialist care in the Mid-Western Regional LGA, with facilities concentrated in Mudgee, Kandos, Rylstone and Gulgong. Commonly accessed health services include doctors/general practitioners (GPs), dentists, hospitals, optometrists, physiotherapists and local community health centres.

As shown in **Table 7.19**, surveyed health providers indicated varying levels of capacity to adapt to an increase in population as a result of the Project, with the majority suggesting that they would have difficulty servicing any additional demand. Further discussion of the limitations on health service capacity for local GPs, emergency and health specialists is further discussed below.

Table 7.19
Summary of Health Provider Capacity

		Construction Phase & Operational Phase		
Service Provider Sector	**Service Provider**	**Currently at maximum capacity**	**Perceived sector stress / Challenges faced**	**Available capacity (Yes/ No)**
Health	Gulgong Multi-Purpose Service	Yes	Increase in Hospital Service Demand Increased Wait List Unable to admit paediatrics (Demand on Ambulance service to take to Dubbo)	No
	Kandos Advanced Medical Centre (General Practitioner)	Yes	Lack of Specialist Care (Mental Health Services) Staff Recruitment	Yes
	Kandos Family Medical Practice (General Practitioner)	No response provided	Staff Recruitment Increased Wait List	Yes
	Mudgee Medical Centre	Yes	Staff Recruitment Increase in Hospital Service Demand (Operational)	No
	Rylstone Hospital - Rylstone Multi-Purpose Service	No response provided	Increase in Hospital Service Demand (accidents) Increase in demand for specialist care e.g. physiotherapy or speech pathology (Operational) Staff recruitment Health budget constraints (Construction)	At Risk
Source: Umwelt Service Provider engagement, June 2019				

7.2.2.1 Health Service Provision

General Practitioners

It is evident from data collected to inform the social profile (refer to Section 5.11.2), that the Mid-Western Regional LGA has significantly lower rates (per 100,000 people) of GP services compared to NSW; with Mudgee and Gulgong having higher rates (per 100,000) of services than the LGA, suggesting a concentration of practitioners in the larger towns. However, practitioner-to-patient ratios are still well below the NSW average, suggesting a strain on GPs in the region; with difficulties attracting and retaining GPs, also noted in the MWRC's Community Plan.

This finding was further validated through engagement with health service providers, consulted as part of the SIA, who stated that GP and medical services were already at capacity within the region, with limited ability to adapt to any influx of population as a result of the Project; respondents also noted difficulties in sourcing new staff (refer to Section 6.6).

> *The workload will be huge, wait times will be huge, unless they bring a GP service with them [the mine] or some form of medical support.*

Some health service providers also saw the potential increase in population as a positive aspect, acknowledging that they had plans in place to expand, should further access and use be required.

Emergency Services

Access to emergency services can be found at hospitals in Gulgong, Rylstone and Mudgee. While all three hospitals have fewer than 50 beds, the Mudgee hospital is currently in the process of redevelopment which would provide a modern upgrade to existing health services and improved medical facilities.

During engagement, representatives from the local hospital services suggested that both the construction and operational phases of the Project could result in an increase in demand for hospital services. In this regard, providers noted current deficits in the availability of emergency specialist services for paediatric and mental health patients; and also expressed fears that a further population increase could result in higher rates of vehicle accidents and associated emergency presentations.

As is shown in **Table 7.20**, the number of hospital presentations in the Mid-Western Regional LGA is comparatively lower than rates across NSW. However, such rates may be commensurate to the level of capacity currently available in the LGA, suggesting that any increase in hospital presentations could cause a bottleneck for emergency department services.

Table 7.20
Emergency Department Presentations Per 100,000 Population

Indicator	Mid-Western Regional LGA	NSW
Emergency department presentations per 100,000 population 2012/13 (ASR)	14,589.3	30,264.7
Source: PHIDU, 2020		

Allied Health Specialists

During engagement with health service providers, interviewees noted that there was a lack of on-the-ground specialist services, particularly in the smaller towns of Gulgong, Rylstone and Kandos. Specific shortages noted by multiple service providers included allied and mental health services, with some medical centre respondents indicating that they provide access to services such as psychologists and psychiatrists via weblink.

> *No [specialist services] - we do have skype available for sessions with psychologists, etc*
>
> *We have some visiting specialists - we do a lot by tele and video conferences - Psychiatrists, specialist geriatricians, paediatricians*
>
> *We do have visiting specialists - oncologist once a week - paediatrician once a month from medical centre - psychiatrist has just stopped coming*

Aboriginal stakeholders also identified that there was a need for Aboriginal health services in the LGA and again noted that residents must travel to Bathurst, Orange or Dubbo to access more specialist services.

Therefore, given that health service provision in the region is already stretched, it is likely that current health services may feel the pressure of an additional influx of Project construction and operational workers.

Aged Care

There are five aged care facilities in the Mid-Western Regional LGA offering a range of services and care facilities (refer to Section 5.11.2). In addition, the region has more residential aged care places per 1,000 persons over 70 years old than the NSW average (refer to **Table 7.21**). Within the region there are also a number of other aged care related services including home modification and maintenance services, community transport, Meals on Wheels and community groups such as Probus Clubs and Seniors' Associations.

Table 7.21
Aged Care Places

Indicator	Mid-Western Regional LGA	NSW
Residential aged care places per 1,000 population aged 70 years and over	88.8	83.4
Source: PHIDU 2019		

It is unlikely that the Project's associated workforces would have an impact on aged care services, given that those likely to be relocating to the area, would predominately be of working age and their associated family members. Whilst some employees who move into the area may choose to relocate older family members, it is considered that such numbers would be low.

7.2.2.2 Impacts on Access to, and Use of, Health Services

Construction Workforce

Given the short timeframe of the construction period and given the assumption that any population influx associated with the workforce would be temporary, the impacts of construction phase workers on health services is expected to be minimal. Where construction workers would utilise services, it is expected that such use would be related to specific and discrete incidents (e.g. GP visitation for minor ailments).

Impacts on emergency departments could occur in the event of serious workplace medical incidents which cannot be treated by medical and/or first aid staff on site. This would depend on the level of medical assistance available on site and any agreements in place between relevant health and emergency services and Bowdens Silver.

Impacts on GPs and other specialists, as a result of regular check-ups, is expected to be relatively low, given that workers temporarily relocating to the area would most likely preference specialists in their hometown. However, previous research on temporary (non-resident) workforces suggests that mine workers living away from home can experience a range of negative psychological health impacts, but this is particularly relevant in the case of FIFO workers and workers based in isolated workers camps (see Parker et al, 2018).

Although it is not intended that FIFO workers be utilised for this Project, low levels of psychological and psychiatric services available in the LGA (refer to Section 5.11.2) mean that any elevated mental health issues in the workforce could result in strain on what are currently

limited services within the region. However, this impact may be mitigated by maximising local employment for both construction and operational phases, and in the design of employee rosters, which encourage healthy social behaviour and community participation.

It should be noted that no workers camp is proposed as part of the current Project. However, specific strategies to maximise local employment and facilitate accommodation and housing of the workforce in local towns is considered in Section 8.5.1 of this report.

Consequently, the influx of the construction workforce, as a result of the Project, may (*possibly*) result in a *minor* reduction in the capacity of local health services under Scenario 1, resulting in a ***Moderate*** social impact (refer to **Table 7.22**). The perceived risk was also ranked as a *moderate* perceived risk by the stakeholders interviewed.

Table 7.22
Summary of Project Impact – Impact of Construction Workforce on Health Services

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Health Services	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community Health Service Providers	Moderate	Moderate

Under the aspirational scenario for construction workforce of 40% migration (Scenario 2), the Project would have a ***Low*** impact on local health service capacity (*unlikely* with *minimal* consequence).

Operational Workforce

In assessing the potential impacts on health services associated with the operational workforce, there are a number of health risk factors associated with the predicted demographic of workforce employees that have been considered. As stated above, rates of mental health issues tend to be elevated amongst mine workers in comparison to the broader public. Whilst these impacts are typically felt on more remote Projects, other factors such as long shifts and reduced social connections associated with mining workforces have been linked to poor mental health outcomes (see also James et al, 2018).

Whilst the scenarios utilised in **Table 7.6** are based on equal gender distribution, as workers are assumed to be bringing family members, it is likely that a greater proportion of those who migrate to the area would be men. Data collected by the ABS during the 2017-18 financial year indicates that 84% of the mine workforce across Australia was male, making it the second most male dominated industry after construction for that year. Studies have found that males account for a significantly larger proportion of disease burden in Australia (Mathers, Vos, Stevenson & Begg, 2001; AIHW, 2012), indicating that service providers catering to male-related health concerns may be particularly affected.

Finally, specific health risks and related health service use varies across age groups. Under the predicted population demographic increases outlined in Section 5.8.3, there would be a larger increase in adults aged 45-64 years (34% of total influx, equating to 149 persons under Scenario 1, 75 persons under Scenario 2 and 37 under Scenario 3). This group is at a higher-than-average risk of disease, across a number of health risk factors, such as obesity, heart disease and diabetes when compared to younger age groups (see AIHW, 2019).

When comparing this increase in 45 to 64-year-old residents as noted in the NSW DPE population Projections for the Mid-Western Regional LGA (2016, as described in Section 5.8.1.3), this change represents a large increase in comparison to the annual predicted increase for this age group. Under Scenario 1, the Project could potentially lead to an additional 149 persons aged between 45 and 64 years, equating to approximately 2.3% of the population in 2016. For comparison, the DPE population Projections predict an increase of 50 people aged 45 to 64 years between 2016 and 2021 (0.8% of the 2016 population, see Section 7.1.2).

As such, as is also shown in **Table 7.23** under a worst case scenario (Scenario 1), the Projected population increase of 438 persons associated with the operational workforce would result in the proportion of GP's per 100,000 of the population being reduced by approximately 1.5 (from 87.2 to 85.7).

Table 7.23
GPs Per 100 000 Population

Indicator	Mid-Western Regional LGA	Mid-Western Regional LGA (Scenario 1)	NSW
General Practitioners per 100 000 population (2016)	87.2	85.7	225.3
Source: Tablebuilder 2019			

Given that the best available estimates of the current regional population indicate that there are around 25,086 people residing in the LGA (ABS Estimated Resident Population as at June 2018 (refer to Section 5.8.1), this suggests that a worst case scenario would potentially increase the workload of GPs in the LGA by a factor of 0.4, leading to slightly longer wait times for GP services. At an LGA level, this indicates that the impact of the maximum population increase predicted for the operational phase of the Project (Scenario 1 – worst case) could be mitigated to current levels of service by recruitment of a part time GP role or the provision of a medical officer on site.

As noted in Section 5.11.2 emergency service and hospital care providers indicated that the population influx associated with the maximum workforce migration scenario could place additional strain on the current capacity of emergency departments and emergency response units within the region. The primary impact identified by these providers was an increase in wait times. Furthermore, given the current shortage in specialist services, particularly in specialist mental and allied health services, the influx in new residents under Scenario 1 may also place strain on these health services.

Considering Scenarios 1 and 2, it is possible that the increase in population due to the operational workforce for the Project may result in a minor impact on the capacity of the local health services and is therefore ranked as a moderate social impact (refer to **Table 7.24**). However, the impacts associated with Scenario 3 are considered to be significantly less, should a higher percentage of the workforce be sourced in the local area. The perceived impact on health services was identified as a high perceived risk by the service providers consulted.

However, to mitigate this impact and as required, Bowdens Silver has committed to the appointment of a general practitioner or medical officer on a contract basis, to ease any potential strain on the local community as a result of the presence of the construction and operational workforce. The position would service the mine operation and other residents in the local area.

Table 7.24
Summary of Project Impact – Impact of Operational Workforce on Health Services

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Health Services	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community Health Service Providers	High	Moderate

7.2.3 Childcare Services

Access to childcare was also an issue of concern to service providers in the area. When asked about their capacity to accommodate the workforce influx associated with the Project, seven out of the nine childcare providers consulted, stated that their respective service was at or reaching capacity (refer to **Table 5.33**).

In relation to additional provision, two childcare services have recently opened in Mudgee to accommodate a need in this regard. Childcare service providers also acknowledged that the influx of a workforce population could potentially bring new childcare employees to the area.

As can be seen in **Table 7.25**, under Scenario 1, a potential increase of approximately 38 children aged between 0-4 years may result. Notably, population Projections released by the NSW DPE (2016) predict little change in this age bracket between 2011 and 2036, with a slight decrease anticipated towards the end of this period.

During engagement with childcare providers, while some providers indicated that they were currently at nearing or at capacity (4 out of 6 consulted), others (2 providers) indicated that more children could be accommodated provided they were able to recruit additional qualified staff. Challenges currently being experienced by providers included funding issues for family day care, lack of services for preschool aged children, mixed quality of service across the LGA, increased wait lists due to demand, staff recruitment (as noted) and inadequate accommodation facilities.

Based on information obtained from interviews with providers, it appears that there is some capacity for existing childcare centres in the Mid-Western Regional LGA to absorb a population influx in the specified cohort, particularly given the development of two new centres recently within the LGA. However, capacity appears to be somewhat constrained and the perceived stakeholder concern around childcare provision is *high*.

Consequently, the impact of the Project under Scenario 1 (worst case) is considered *possible* and of *minor* consequence, resulting in a ***moderate*** social impact. However, Scenario 2 would result in a lower impact should a higher proportion of workers be sourced from within the LGA, resulting in a ***low*** social impact for both Scenarios 2 and 3 (*unlikely* with *minimal* consequences) (refer to **Table 7.25**).

Table 7.25
Summary of Project Impact – Impact of Operational Workforce on Childcare Services

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Childcare Services	Mid-Western Regional LGA	Operational period – 15 years	Childcare service providers Regional LGA Community	High	Low

7.2.4 Emergency Services

The main emergency services in the Mid-Western Regional LGA include police, ambulance, fire, State Emergency Services (SES) and volunteer rescue. There are also additional regional emergency services including the Westpac Rescue Helicopter.

It has been determined that there are two main ways in which the Project may impact on the provision of emergency services: either through changes in demand, and/or through changes in access and capacity.

Engagement with emergency service providers within the region indicates that, of those interviewed, providers based in Mudgee typically felt that the impact of the Project would be minimal, even in the case of all workforce employees associated with the Project relocating to Mudgee. However, some emergency service providers held fears/concerns that any population increase may result in an elevated utilisation of emergency services as a result of factors such as a potential increase in the number of motor vehicle accidents and increased domestic violence. Such incidents were perceived to result in increased wait times for emergency department and emergency response services (e.g. ambulance). However, service providers consulted noted that even under Scenario 1, the number of mining workforce personnel required during the construction or operational phases of the Project is not expected to be a large enough increase in population to trigger the recruitment of additional staffing resources.

A further concern raised in relation to the presence of a Project workforce in the area related to participation in smaller volunteer services in rural areas, such as the Lue Rural Fire Service, given mine workforce hours and rosters limiting the ability of workers to participate in these voluntary organisations. In this regard, it should be noted that many mine operations provide employees with corporate volunteering opportunities, allowing selected workers to be on call during work hours should they be needed in the event of a large scale emergency (e.g. SES surge capacity assistance, see SES, 2019). One member of the Bowdens Silver Project team is a current volunteer with the local RFS; with the Company supportive of such volunteering efforts.

While several emergency service providers outlined that they had capacity to accommodate any additional population influx, others suggested that the workforce influx may cause capacity concerns across both construction and operational phases of the Project and increase emergency response wait times for callouts. While emergency service providers indicated that it was easier to plan for servicing additional population numbers in the case of permanent,

compared to more temporary, residents; the general sentiment was that the additional number of new residents associated with the worst case population scenario of 438 people would not be enough to warrant recruitment of additional resources; unless they were disproportionately distributed amongst the smaller communities.

As has been previously noted, Bowdens Silver would commit to the appointment of a general practitioner or medical officer on a contract basis to reduce any strain on local health and emergency services. Consequently, given this commitment and the strong track record of safety within the mining industry, the impact of the influx of the construction and operational workforce on emergency services is *unlikely* to occur with a *minor* consequence resulting in a ***low*** social impact for both construction and operational phases. The perceived stakeholder risk associated with this impact has also been ranked as ***low*** (refer to **Table 7.26**).

Table 7.26
Summary of Project Impact – Impact of Construction and Operational Workforces on Emergency Services

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Emergency Services	Mid-Western Regional LGA	Construction period – 18 months	Emergency Service Providers Regional LGA Community	Low	Low
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of operational workers and families on Emergency Services	Mid-Western Regional LGA	Operational period – 15 years	Emergency Service Providers Regional LGA Community	Low	Low

7.2.5 Youth Services and Recreational Facilities

Approximately 30% of the population within the Mid-Western Regional LGA are aged under 24 years (ABS Census, 2016). There are several youth services within the region that provide services to assist young people with family matters, transitioning from school to work, leadership programs, health and fitness, mental illness, safe driver programs and counselling initiatives. In addition, there are a range of sport and leisure activities conducted across the region and arts and culture programs that are specifically directed at youth.

Using the ABS Census data (2016), it is estimated that the influx of the operational workforce and their families could result in a population influx of around 55 young people (aged between 15 and 24 years), if Scenario 1 (worst case) were to occur. The estimated youth population influx into the region, for the other Scenarios range from 14 young people for Scenario 3 (aspirational) to 35 for Scenario 2 (the most likely scenario)**.** Population Projections released by the DPE suggest that numbers would remain fairly consistent within these age cohorts, with gains in some compensated for by losses in others, particularly as young adults move away in search of employment and educational opportunities (see Section 5.8.2).

Engagement with youth service providers indicated that several services would have the capacity to accommodate additional youth wishing to utilise their service, with these providers also indicating that an influx of families may also increase participation and utilisation of their services.

For those youth services which were currently at capacity e.g. Scouts, challenges again related to attracting volunteers to assist in providing such services to the community; with providers indicating that they would require parents to assist if their children wished to participate. It was also noted that red-tape and excessive paperwork inhibited some volunteers from participating more broadly in community-based activities; however further participation in youth service delivery would be appreciated.

The LGA is also relatively well-serviced in terms of recreation facilities and activities. As highlighted in Section 5.11.1. The LGA is a tourist destination, with a strong reputation for viticulture and food tourism. Furthermore, there are several key recreational destinations in proximity to the Mine Site, including a motorcycle track in Lue (refer to Section 5.11.1) with the MWRC also operating a number of sporting fields, including the Glen Willow sporting complex, which has a ground with a 10,000 seat capacity and various other recreational facilities.

The MWRC has developed a Youth Strategy (2017), a 10-year plan that considers the development of health, social, educational and economic infrastructure to offer youth in the region the best possible chance of success. Key features of this plan include:

- Development of a Youth Council – that provides a forum for consultation between Council and local young people.
- Infrastructure development – including skate parks, a youth room in the Council library, swimming pools, parks, sportsgrounds and playgrounds.

Recreational service providers interviewed, also expressed that an increase in population would result in further access and use of existing recreational facilities in the region. As outlined in Section 4.1.1, Bowdens Silver has sponsored several youth programs, sporting teams, and recreational events in the region. These are outlined in **Table 7.27**, with a full list of company sponsorships outlined in **Table 4.1**.

Whilst the construction workforce may choose to participate in recreational activities during the 18-month construction period e.g. memberships at local gyms, participation in sporting clubs, it is assumed that these activities would be of a more temporary nature. Consequently, it is not anticipated that the construction workforce would significantly impact on recreational services in the region, resulting in a ***low*** social impact (*possible* but *minimal*). This issue was also considered a *low* perceived risk by stakeholders consulted.

In relation to the operational workforce, the impacts on recreational services was also not considered a significant social impact, with again the influx of new population perceived to only enhance the use of such facilities and participation in recreational activities.

Table 7.27
Youth and Recreational Activities Sponsored

Sports/Youth/Recreation	Recipients
Sporting teams / events	Waratahs vs Brumbies Rugby Match in conjunction with Council
	Mudgee Wombats Rugby Union Club
	Mudgee District Netball Association
	Lue Hotel Darts Club
	Mudgee Endurance Riders
Youth programs	Gulgong RFS Junior Firefighters
	Mudgee PCYC – Moto Workshop for Youth in Kandos
Recreational events	Rylstone Kandos Show
	Rylstone Street Feast
	Kandos Garden Fair
	Gulgong Chamber of Commerce – Gulgong Gold & Mining Festival
	Mudgee Reader's Festival
	Mudgee Showgirl
	Rylstone Bull-a-rama
Source: Bowdens Silver, 2019	

Therefore, the perceived stakeholder risk associated with the impact on youth and recreational services associated with the construction and operational Project workforces, have both been ranked as a ***low*** social impact (*unlikely* with *minimal* consequence) (refer to **Table 7.28**).

Table 7.28
Summary of Project Impact – Impact of Operational Workforce on Youth and Recreational Services and Facilities

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of Construction workers on Youth and recreation Services	Mid-Western Regional LGA	Construction period – 18 months	Youth and Recreational Service Providers Regional LGA Community	Low	Low
Operational Workforce (Scenario 2)		Population change – impact of Operational workers and families on Youth and recreation Services		Operational period – 15 years			

7.2.6 Education and Training

Some residents and landholders in the locality expressed concerns that the Project would cause parents to withdraw their children from the Lue School, due to its proximity to the Mine Site. However, others felt that the influx of operational workforce and their families to the region, may see further utilisation of the local Lue Public School, resulting in the need for additional classes and teaching staff. Stakeholders also suggested that the Lue school may benefit further from the Project through Company investment. In relation to training, Aboriginal stakeholders suggested that the Project could result in the provision of traineeships and apprenticeships for Aboriginal youth (refer to Section 6.5.1).

As is shown in **Table 7.29** with the exception of St Matthews Catholic School in Mudgee, both Primary and Secondary service providers interviewed stated an ability to accommodate an increase in school aged children as a result of the influx of the Project's operational workforce and their families into the area. The St Matthews Catholic School in Mudgee will, however, be constructing a secondary campus to accommodate up to 680 secondary students, with the eventual plan to transfer all existing school services to the new campus. This new campus is classed as a State Significant Development and is in the early planning phases. The Lue Public School also stated they would welcome a growth in student numbers, should the operational workforce be situated close to the Mine Site and should workforce families choose to send their children to the local school.

Table 7.29
Summary of Capacity of Consulted Education Providers

Service Provider Sector	Service Provider	Student Enrolments 2019*	Teachers (FTE)	Construction Phase & Operational Phase	
				Perceived Sector Stress / Challenges Faced	Available Capacity (Yes/ No)
Education	All Hallows Primary School (K-6) (Gulgong)	80	6.6	Staff recruitment Families leaving the area to find employment	Yes
	Kandos High School (7-12)	200	27.2	Families leaving the area to find employment	Yes
	Lue Public school (K-6)	22*	1.9	Student fluctuations / dependent on parental employment opportunities/locations	Yes
	Mudgee High School (7-12)	820	67.4		Yes
	Rylstone Public School (K-6)	69	3.8	Families leaving the area to find employment	Yes
	St Matthew's Catholic School (K-12) (Mudgee)	932	59.9	Service Already at Full Capacity (Primary)	No – At full Capacity
				Expansion required to accommodate more students (Secondary campus currently being planned)	Yes

*Student enrolment numbers are sourced from ACARA records for the 2019 calendar year, except for Lue Public School enrolments, which are current as of November 2019

Source: Umwelt Service Provider engagement, June 2019; November 2019; ACARA, 2019

Overall, education service providers were in support of the Project, acknowledging more families in the area would contribute to economic sustainability within the region and would encourage more professional educators to settle in rural communities.

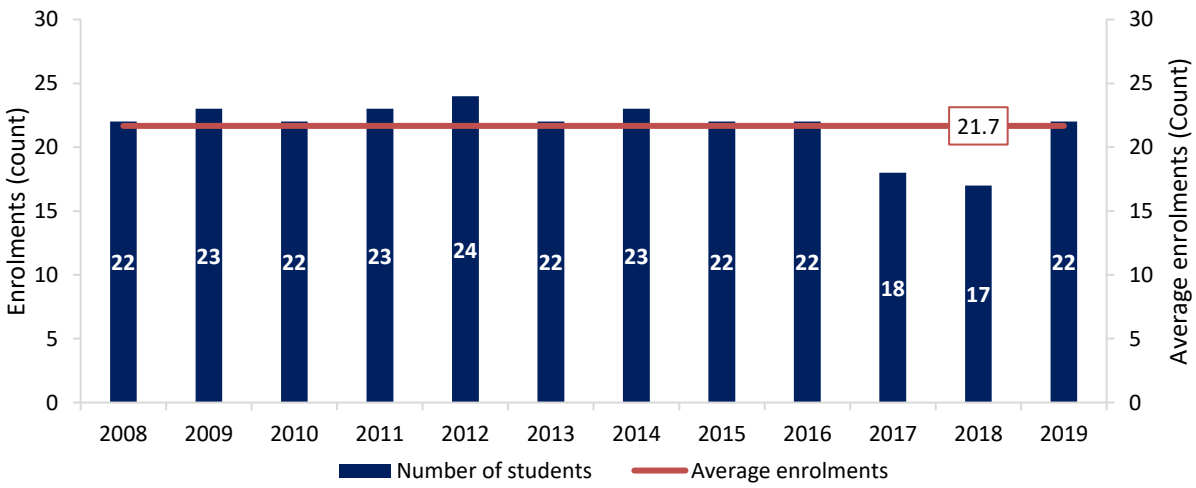
> *Growth in student numbers would provide much needed longevity for the school.*
>
> *It's nice to have small classes but having full classes is more ideal (up to 30 per class), So having more families come to the area would be a benefit for our school.*
>
> *Maybe we would have fewer composite classes and more straight classes, which would be a great thing for us.*

Engagement with education providers, suggests that any changes relating to an influx of school-aged children associated with the families of operational employees is perceived as a *positive* impact. All providers interviewed identified the retention of students as a key challenge for their respective schools, given relocation of families out of the area to seek employment. As a result, additional students were perceived to provide stability for schools in the area and given flexibility in funding from the Department of Education, such schools indicated that they would be able to adapt to an increase in student numbers relatively easily.

Whilst education providers interviewed indicated that they could adapt to increases in student numbers, the potential loss of families in Lue as a result of acquisitions and other families choosing to move away from the area to seek employment, was seen as a perceived threat to the Local school's viability, particularly if a corresponding boost in numbers from workers families was not realised.

Enrolments at Lue Public School (November 2019) currently total 22 students of which 11 are from Lue and 11 come from the broader region, namely the towns of Rylstone (3), Kandos (5), Clandulla (1) and Mudgee (2). Since 2008, enrolments have fluctuated between 17 to 24 students, falling to 18/17 students in 2017 and 2018 respectively (refer to **Figure 7.1**). Given the current low levels of housing availability in Lue (refer to Section 5.11) this may limit the opportunity to increase student numbers at the local Public School, without further housing development within Lue and/or the extension of Company strategies to support the school and school numbers through workforce family participation. Though, it is evident that students are utilising the school from other towns in the region.

Figure 7.1 Student Enrolments at Lue Public School 2008-2018



ACARA, 2019; Lue Public School (consultation), 2019

It should be noted that, in the absence of the Project, the DPIE has Projected that the Mid-Western Regional LGA would not experience an increase in the number of school aged persons between 2016 and 2026 (refer to Section 7.1.2). In regard to training, employment and training service providers from the Mid-Western Regional LGA that were surveyed (refer to Section 6.6.1), these stakeholders showed strong interest in working with the Company to maximise local training and employment opportunities.

Consequently, the impacts on education services as a result of the influx of the operational workforce and their families is classed as a ***low*** social impact (*likely* to occur, with a *minimal* consequence). The perceived stakeholder risk has also been ranked as *low* (refer to **Table 7.30**).

Table 7.30
Summary of Project Impact – Impact of Operational Workforce on Education and Training

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Education & Training Services	Mid-Western Regional LGA	Operational period – 15 years	Education Service Providers Regional LGA Community	Low	Low

7.2.7 Access to Public Utilities

As stated in Section 5.11.1, the provision of public infrastructure and utilities are considered to be relatively sound across the LGA. As highlighted in the Manidis Roberts (2012) report on service capacity, and further articulated in the MWRC operational plan (2018-19), the exception to this is sewerage and waste. Both the 2012 report and current Council documents have noted that there are some capacity limitations related to water treatment plants within the LGA, a landfill that is close to reaching capacity, and issues for smaller communities, such as Lue, that are not connected to the centralised sewer infrastructure.

Under the Council's operational plan (2018-19), the upgrading and installation of dated sewerage systems has been identified as a key goal, under the overarching objective of protection of the environment. Council is currently in the process of connecting Charbon to the central sewerage system. The current landfill is also expected to reach capacity in four years and Council is currently in the process of investigating designs and locations for the new facility (MWRC, 2019).

Additionally, the Mid-Western Regional LGA is currently experiencing drought conditions. As of 9 September 2019, the entire LGA was considered to be in drought, with the exception of four SSCs in the South of the LGA (see DPI, 2019). In June 2019, Council introduced level 1 water restrictions across the Council area, also delaying water transfers to nearby LGAs until 2020. Latest predictions from the Bureau of meteorology indicate that drier than average conditions are expected to continue for the remainder of 2019 (BoM, 2019). Consequently, issues relating to the provision and access to water are currently significantly heightened within the LGA.

During engagement with key stakeholders and service providers, very few impacts were raised in relation to utilities. Where mentioned, responses related primarily to how the Project would source water and electricity. As noted in Section 7.7.1, community stakeholders were pleased to hear that change had been made to the Project in relation to the sourcing of water via a pipeline from the Ulan and/or Moolarben Coal Mines, thus not directly impacting local groundwater levels.

Regarding power supply, the use of renewable energy sources was considered an opportunity for the Company to have a positive impact in relation to the offset of environmental impacts. Opportunities to develop renewable energy Projects onsite and use renewable energy to power components of a Company's operations are being considered and implemented in a number of Projects across Australia.

> *Could use additional power and use solar and/or wind to do it instead of burning more coal – help with other jobs in the area.*

While the Project would involve the influx of a temporary construction and a more permanent operational workforce, it is not envisaged that the predicted population change (1.8% under a worst-case scenario) would impact significantly on public utilities. While it is acknowledged that certain utilities are reaching capacity and require further development; it is likely that the incoming operational workforce would be housed in larger town centres within the LGA such as Mudgee, Rylstone and Kandos, all of which are connected to sewerage and town water systems.

While changes to the mine design have already been processed to reduce impacts associated with water access and use for mining, through the proposed development of a dedicated water pipeline; as noted above, other opportunities may exist to explore whether renewable energy sources could be developed to provide power to the Project and Lue.

The level of community concern in relation to public utilities was perceived to be *low*. Furthermore, the impact of the proposed incoming Project workforce on public utilities is also considered *unlikely* with a *minimal* consequence, resulting in a ***low*** social impact (refer to **Table 7.31**).

Table 7.31
Summary of Project Impact – Impact of Workforce on Utilities

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Public Utilities	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community	Low	Low
Operational Workforce (Scenario 2)		Population change – impact of Operational workers and families on Public Utilities		Operational period – 15 years			

Stakeholder concerns in relation to the use of public roads by the Project workforce are further discussed in Section 7.6.3.

7.2.8 Predicted Impact Summary and Proposed Mitigation and/or Enhancements

In summary, given the above assessment, from a technical social perspective, there is a low risk that the Project would result in significant population change within key communities in the Mid-Western Regional LGA, resulting in additional pressure on local community facilities and services. **Table 7.32** provides a summary of the predicted social impacts on each of the sectors discussed in the sections above.

While it is evident from engagement with service providers that certain community sectors are more stretched than others, with capacity issues evident, a number of strategies were proposed by service providers to address capacity issues. These strategies, and proposed strategies to address Project impacts are summarised in Section 8 below.

In addition, Bowdens Silver have committed to a range of mitigation and enhancement strategies to reduce the impacts of population change as a result of the Project and subsequent impacts to access to and use of community services. These include:

- appointment of a general practitioner or medical officer on a contract basis;
- sponsorship and support for community and youth events;
- provision of Company owned properties for community rental (where possible)
- local training and employment opportunities (refer to Section 7.8.3).

Table 7.32
Summary of Project Impact – Access to and use of Community Services

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Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact / Sensitivity	Mitigated Social Impact Ranking
Construction Workforce							
Construction Workforce – peak of 246 (Scenario 1)	Way of Life Community Culture Fears and Aspirations	Population change – influx of construction workers	Mid-Western Regional LGA	Construction period – 18 months	Locality Residents	High	Low
					Regional LGA Community	High	Moderate
	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Housing and accommodation	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community Tourists Service Providers - Housing / Accommodation	High	Moderate
	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Health Services	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community Health service providers	Moderate	Moderate
	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Emergency	Mid-Western Regional LGA	Construction period – 18 months	Emergency Service Providers Regional LGA Community	Moderate	Low

Table 7.32 (Cont'd)
Summary of Project Impact – Access to and use of Community Services

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact / Sensitivity	Mitigated Social Impact Ranking
Construction Workforce (Cont'd)							
Construction Workforce – peak of 246 (Scenario 1) (Cont'd)	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Youth and recreation services	Mid-Western Regional LGA	Construction period – 18 months	Youth and Recreational Service Providers and Users Regional LGA Community	Low	Low
	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Public Utilities	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community	Low	Low
Operational Workforce							
Operational Workforce influx – peak of 228 workers (Scenario 2)	Way of Life Community Culture Access to and use of infrastructure, and services and facilities	Population change – influx of operations workers and their families	Mid-Western Regional LGA	Operation period – 15 years	Regional LGA Community	High (Positive)	Moderate (Positive)
					Locality Residents	High (Negative)	Low (Negative)
	Access to and use of infrastructure, services and facilities	Population change – impact of operational workers and families on Housing and accommodation	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community Service Providers – Housing / Accommodation	High	Moderate
	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Health Services	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community Health service providers	High	Moderate
	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Childcare Services	Mid-Western Regional LGA	Operational period – 15 years	Childcare service providers Regional LGA Community	High	Low
	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Emergency Services	Mid-Western Regional LGA	Operational period – 15 years	Emergency Service Providers Regional LGA Community	Low	Low

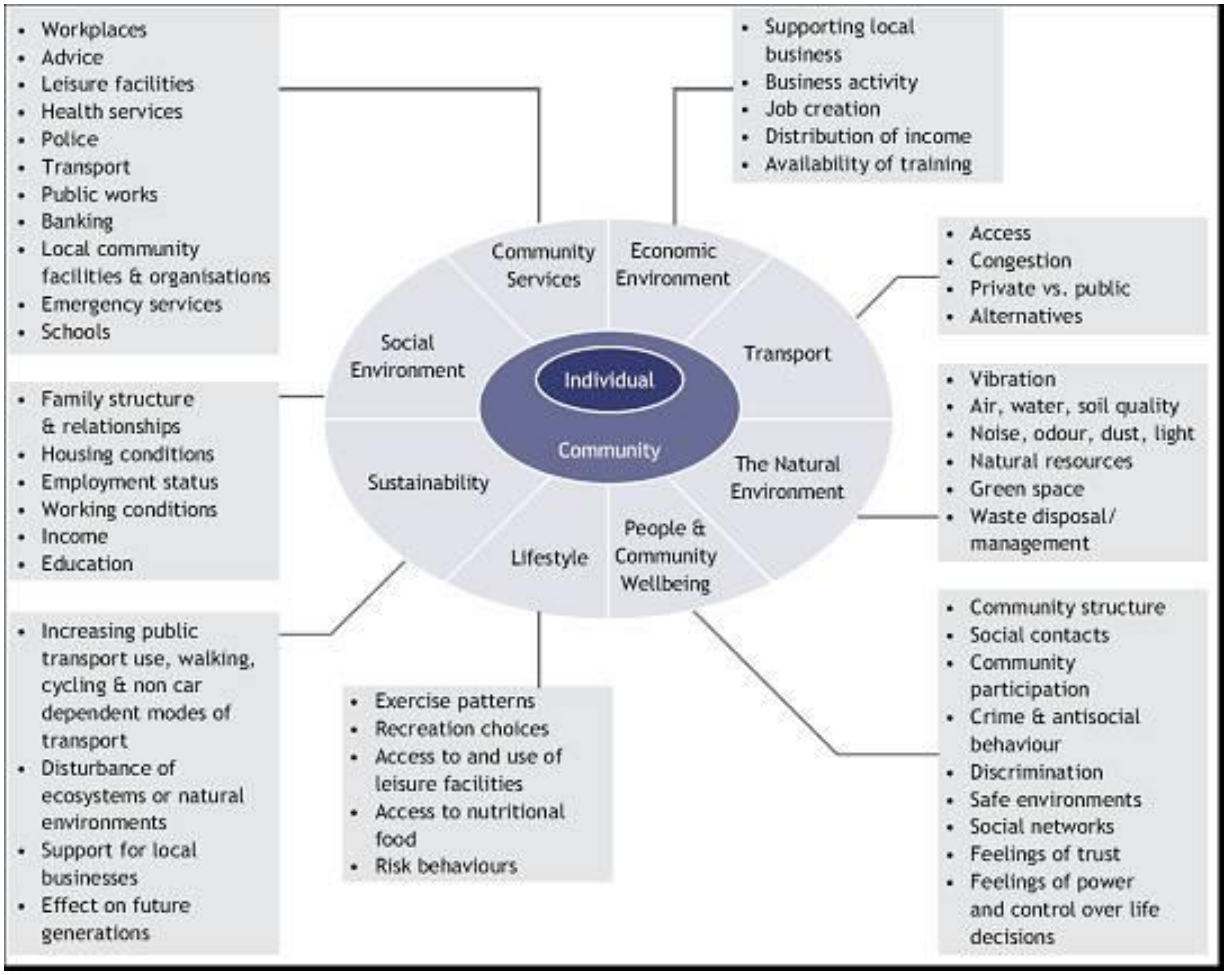
Table 7.32 (Cont'd)
Summary of Project Impact – Access to and use of Community Services

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact / Sensitivity	Mitigated Social Impact Ranking
Operational Workforce (Cont'd)							
Operational Workforce influx – peak of 228 workers (Scenario 2) (Cont'd)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Education & Training Services	Mid-Western Regional LGA	Operational period – 15 years	Education Service Providers Regional LGA Community	Low	Low
	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Youth and recreation services	Mid-Western Regional LGA	Operational period – 15 years	Youth and Recreational Service Providers and Users Regional LGA Community	Low	Low
	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Public Utilities	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community	Low	Low
Acquisition							
Acquisition of properties under the VLAMP and historic purchase	Way of Life Community Culture Health and Wellbeing Personal and property rights Decision making systems Fears and Aspirations	Acquisition	Neighbouring community	Project life	Four properties in the acquisition zone Three properties with purchase agreements since 2016	High	High

7.3 HEALTH AND WELLBEING

The World Health Organisation (WHO) defines health as 'a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity' (World Health Organisation, 2012). The health status of an individual and/or a community is therefore determined by a range of interactions between human biology and the environment. **Figure 7.2** identifies some of the many factors that act within and across these two spheres to trigger negative and positive health outcomes.

Figure 7.2 Determinants of Health



Source: (Department of Health, 2007)

WHO (2009) categorises factors into three key determinants and associated sub-issues, as outlined below:

- social and economic environment
  - income and social status
  - education
  - social support networks
  - health services
  - employment and working conditions
- physical environment
  - safe water and clean air
  - healthy workplaces
  - safe houses, communities and roads
- individual characteristics and behaviours
  - genetics
  - gender.

It is important to note that these determinants of health are interconnected; with the health status of an individual and a community typically due to the combined effect of health determinants and their composite factors. Understanding health determinants can help to identify why certain populations and environments may be healthier than others. This information can then be used to predict health trends within and across populations.

As outlined in Section 6, stakeholders consulted as part of the SIA engagement program, perceived that the Project would impact negatively on the health and wellbeing of the local and regional community in a number of ways, namely through impacts on physical health as a result of potential lead contamination of air, water and soil; and impacts on mental health through psychosocial factors including stress and anxiety.

7.3.1 Physical Health

7.3.1.1 Perception of Impact

Impacts to health and well-being were key concerns raised during engagement across a range of stakeholder groups. These groups were primarily concerned about the potential health impacts of exposure to lead in air/dust, soil and water on members of the local and regional community, including more vulnerable groups such as children and those with existing health conditions The impacts of lead contamination on river systems, was also raised particularly in relation to the potential for TSF failure. For locality residents, the proximity of the mine, and perceived health impacts from lead contamination, were a key concern, particularly in regard to the impact on children in Lue attending the school.

On the LAG website, and in the media, the LAG argues that the buffer zone between the Mine Site and Lue (including the school) is not extensive enough, and that there is no way of preventing lead dust from leaving the site. In this regard, the LAG cited the 2013 Senate Community Affairs Reference Committee Report on 'Impacts on health of air quality in Australia', which outlines that ‘buffer zones are recommended to protect populated areas from large point-source emitters’ (Senate Community Affairs Reference Committee, 2013, p. 25). The report goes on to suggest that buffer zones should take into consideration the local conditions and requirements, rather than recommending what size buffer zone would be sufficient. CCC members, local business and Aboriginal stakeholders also raised issues in relation to the potential impacts of lead contamination on livestock and produce grown locally, and from rainwater collected from the roofs of properties, as well as in groundwater and local waterways.

Considering the above, the impact of the Project on physical health, is ranked as a high perceived stakeholder risk for residents and landholders in the locality, CCC members, Aboriginal stakeholders and local businesses.

The sections below firstly provide an overview of the existing health condition of the study communities and an analysis of secondary data relating to health impacts of other semiprecious metal operations. The impact of the Project on human health is then further discussed considering outcomes of the human health risk assessment.

7.3.1.2 Baseline Health Conditions and Case Studies

As outlined in Section 5.11.2, selected health indicators for the Mid-Western Regional LGA, suggest a number of health risk factors and increased rates of risky behaviours when compared to NSW as a whole. In regard to health indicators associated with smoking during pregnancy, high alcohol consumption and obesity, the Mid-Western Regional LGA is comparable to Country NSW, and is well above the NSW and Urban NSW averages.

Rates of asthma and hospitalisations for respiratory diseases for the LGA are also above the NSW average. Total respiratory related hospitalisations for the Western NSW LHD have decreased since 2001, however with a total of 6977 hospitalisations for respiratory diseases in 2018-2019 the Western NSW LDH has the second highest rates of respiratory disease across NSW, with a rate of 2157.5 per 100,000 population. The NSW average is 1675.2 per 100,000 (Health Stats NSW 2020). These outcomes may have some influence on the susceptibility of the population to environmental stressors (Environmental Risk Sciences, 2020). However, there are lower rates of hospitalisation for cancer in the LGA compared to the NSW average.

In the development of the Mid-Western Regional Council's strategic plan, the community identified the upgrade to the Mudgee hospital as a key priority for the LGA. The hospital redevelopment is a $70.7 million Project that is currently under construction and is expected to be completed by late 2020. This redevelopment would provide a major upgrade to the health service's ageing infrastructure (NSW Health , 2019).

Project Case Studies

As part of the engagement program, a number of respondents associated the proposed Bowdens Silver Project with other semiprecious metal mines, including the Mt Isa Mine in Queensland, and the Cadia Valley Operations (Cadia) located approximately 25km outside of Orange, NSW.

Despite differences in these operations and the current Project, this section provides an overview of community concerns and perceived health impacts relating to these Projects, given that they have been raised by the community in the context of the current Project.

Case Study 1 - Mt Isa Mines, QLD

Mt Isa's first mine was opened in January 1924, with production focused on zinc-lead-silver. In 1953, the parallel production of copper commenced and by 1955, Mt Isa Mines was the largest mining operation in Australia. Glencore acquired the company in May 2013, providing employment for more than 20% of the total Mt Isa population (more than 3200 employees and contractors). Today there are four Mine Sites in the region producing copper and zinc. Since 2004, Mt Isa Mines has invested approximately $35M in community enrichment programs and initiatives across the North Queensland community, contributing around $1 billion annually to the Queensland economy.

Mt Isa has a rigorous air quality monitoring system in place to address the continuing concerns regarding lead contamination in air particles. In 2006 Mt Isa Mines founded the 'Living with Lead Alliance' to deliver health education surrounding the risks of lead for Mt Isa residents (Mount Isa Mines, n.d.) and commissioned the Lead Pathways Study, a comprehensive independent study to investigate the natural and industrial pathways of lead. The study was conducted by the University of Queensland's Centre for Mined Land, in collaboration with the National Research

Centre for Environmental Toxicology. The study investigated the potential implications of lead and other heavy metals on the local environment, and on the health of Mt Isa residents. The report concluded that the:

- the overall risk to residents' health from historical mine sediments was low
- the health risk from heavy metals and metalloids in the Leichardt River Catchment was low
- the potential for exposure to lead from inhaling was low, with the greatest potential for exposure stemming from hand to mouth ingestion.

The report also resulted in several environmental initiatives, including the Leichardt River Remediation Project - which has seen 160,000 tonnes of soil containing historical mine sediment removed from the Leichardt river. The study reinforced the importance of Mt Isa residents being informed about health risks and ways to minimise their exposure to lead. It also recommended monitoring lead levels via regular blood tests, particularly for young children.

In contrast to the Lead Pathways Study, the LAG website cites research from Mark Patrick Taylor, a Professor in environmental science at Macquarie University, Sydney. Taylor (and colleagues) have completed several research papers on the public health impacts of the Mount Isa operations, with one paper concluding that:

- There is considerable evidence showing negative health impacts as a result of childhood blood lead concentrations at values well below the currently accepted guideline of 10 mg/dL. These effects have been shown to delay and limit children's intellectual development and academic achievements. They have also been linked to problematic socio-behavioural patterns including attention deficit hyperactivity disorders, learning difficulties, oppositional/conduct disorders and delinquency (Taylor, Schniering, Lanphear, & Jones, 2011, p. 849).

Other studies by Taylor suggest that:

- Mount Isa Mines are a primary contributor to lead contamination, and the company needs to acknowledge increased responsibility and implement additional strategies to limit lead pollution from the source (Forbes & Taylor, 2015)
- Public acknowledgement of mining's role in lead exposure would lead to improved interventions, ultimately resulting in better public health and environmental outcomes (Munksgaard, Taylor, & Mackay, 2010)
- Recommendations around home cleanliness, to limit exposure to lead, are having limited effectiveness; instead primary prevention by way of reducing lead contamination from the source is preferable (Taylor, Schniering, Lanphear, & Jones, 2011).

While the LAG, through their website and media articles, make a connection to Taylor's research (on the impacts of Mount Isa Mines) and the Bowdens Silver Project, it is important to acknowledge that the operations at Mt Isa are not comparable to the current Project. Taylor et al.'s research, examines towns in Australia where lead smelting does take place and where there is potential exposure to lead from smelting practices, such as lead production from stacks, hot lead fumes, etc.

The Bowdens Silver Project does not include a lead smelter and there is to be no smelting on site. Furthermore, recoverable primary and low-grade ore within the proposed open cut pit is estimated to be approximately 29.9 Mt at an average grade of 69g/t silver, 0.44% zinc and 0.32% lead; with the silver/lead concentrate product to be transported (in sealed containers) to Port Pirie.

Case Study 2 – Cadia Valley Operations, NSW

During SIA engagement, concerns were raised by some stakeholders relating to the contamination of water courses from the failure of, and spillage from, the Project's Tailings Storage Facility (TSF). This was seen to potentially impact on human and environmental health and subsequently affect people's way of life and livelihoods, particularly local farmers and surrounding landholders. In relation to TSFs, the LAG website also states '*the potential risk to water users and water quality is mammoth. All tailings dams leak. It is just a matter of when*.'

In relation to this issue, there were concerns raised that the TSF proposed for the Project, would be constructed using the same method as the Cadia TSF. Cadia Valley Operations is a gold and copper mining operations and is located approximately 25 km from the City of Orange in the Central West of NSW. In March 2018, there was a breakthrough of tailings material through an embankment wall of the Cadia operation's TSF. The spill was contained within a downstream TSF and caused no injury or off-site pollution. However, after the spill was noticed, two nearby residences were evacuated, and the operation was shut down as a precaution.

The Independent Technical Review Board completed a Report on the Cadia North TSF Embankment Failure in April 2019, which found that movements were occurring in the TSF embankment for months prior to the spill, with the most significant controlling factor that led to the spill being the presence of a low-density foundation layer in the vicinity of the slump. This material, which had not been previously identified, is relatively weak, highly compressible, and strain-weakening (brittle) when subjected to load. It was determined that the failure of this weak foundation material, when placed under load accumulated through the construction history, resulted in deformation of the wall. This then triggered liquefaction of part of the tailings behind the embankment, causing it to slump forward. The report noted that this material has to date only been found in close proximity to the area of the slump.

Other factors that were seen to contribute to the TSF embankment failure included the height of the dam, the prevailing phreatic conditions, and excavation at the toe of the structure in the area of the slump. Detailed seismic response analyses were also conducted, with the report concluding that the small seismic events which occurred the day prior to the slump, did not contribute to the slump (ITRB 2019; Australasian Mine Safety Journal, 2019).

During engagement for the SIA, one Aboriginal stakeholder also stated that it was concerning that the Bowdens TSF would be larger than Cadia's. The NSW Dams Safety Committee Annual Report 2017/2018, states that Cadia's TSF (North) is 82 m high with a storage capacity of 93,000 ML, and the TSF South is 69.5 m high with a storage capacity of 75,000 ML (NSW Dams Safety Committee, 2018). The Bowdens Silver TSF Feasibility Study (ATC Williams, 2020) identities that the Project would have a single TSF with a capacity of 30 million tonnes and a height of 56m.

7.3.1.3 Assessment Outcomes

The HHRA has assessed all emissions from the Project, based on the activities proposed at the site and has been prepared in accordance with the enHealth 'Guidelines for Assessing Human Health Risks from Environmental Hazards' (2012) and the DPIE's assessment requirements. The assessment has involved:

- a comprehensive air, soil and water monitoring program, including analyses of metals; and
- detailed testing of soil material to determine how much lead may come off the soil and be available to be absorbed by humans, where exposure occurs.

Consideration and assessment have also been undertaken in relation to:

- emissions dust to air including lead and other metals;
- noise emissions; and
- impacts on water quality.

The overall objective of the HHRA presented in this report is to provide an assessment of the impacts of the proposed mining operations on the health of the community. More specifically, the HHRA has been undertaken to address impacts to human health as outlined in the SEARs, which include:

- air quality (particulates from crustal materials and heavy metals, in particular);
- noise and vibration (including blasting); and
- drinking water quality (surface and/or groundwater).

The HHRA concludes that in relation to the analyses for metals (including lead), risks to the community from the proposed operations are considered negligible. Further detail is provided in the sections below.

Air Quality Impacts on Health

The assessment of health impacts has focused on dust emissions from the Project, and more specifically the presence of lead and other metals in dust emissions from the Project.

As metals are ubiquitous in the environment, and all members of the population are exposed to these metals in dust, soil, water and dietary sources, it is important that the assessment of impacts of dust emissions from the Project addresses existing exposures as well as exposures that may occur as a result of the Project (construction and operation).

The health assessment takes into consideration existing occurrences of metals in the environment, including lead, to determine the pre-existing exposure; and then models the impact of the Project on these levels. Consequently, the assessment has considered the following:

- Acute (or maximum short-term) inhalation exposures to metals present in dust emissions
- Chronic (or long-term) inhalation exposures to fine particulates (including silica) as well as lead and other metals bound to these dust particles

- Chronic (or long-term) intakes of lead and other metals as a result of dust generated from the Project, and then:
  - depositing onto the roof of homes/buildings and accumulating and affecting water quality in rainwater tanks used as drinking/household water
  - depositing onto soil and dust on other surfaces where the community may come into direct contact and incidentally ingest dome of the dust
  - accumulation of lead and other metals into home-grown produce (fruit and vegetables, eggs, meat and milk) and consumption of this produce by the community

All these exposures have been evaluated at all private residences as well as other key locations such as the Lue Public School. Intakes of metals by all members of the public are dominated by existing exposures to metals in the environment. Dust emissions from the Project make a negligible contribution to these intakes and there are no Project related exposures that are considered to result in any health impacts for any member of the community.

As can be seen in **Figure 7.3** and **Figure 7.4**, while there are existing levels of metals in the environment, the Project is not considered to significantly increase the risk of exposure. The acceptable risk index for children and adults is less than 1, according to the National Environment Protection Measure guidance (refer to Environmental Risk Sciences, 2020). For children, the rate of risk for lead remains below half of the 'acceptable risk'.

The HHRA therefore concludes that:

For young children:

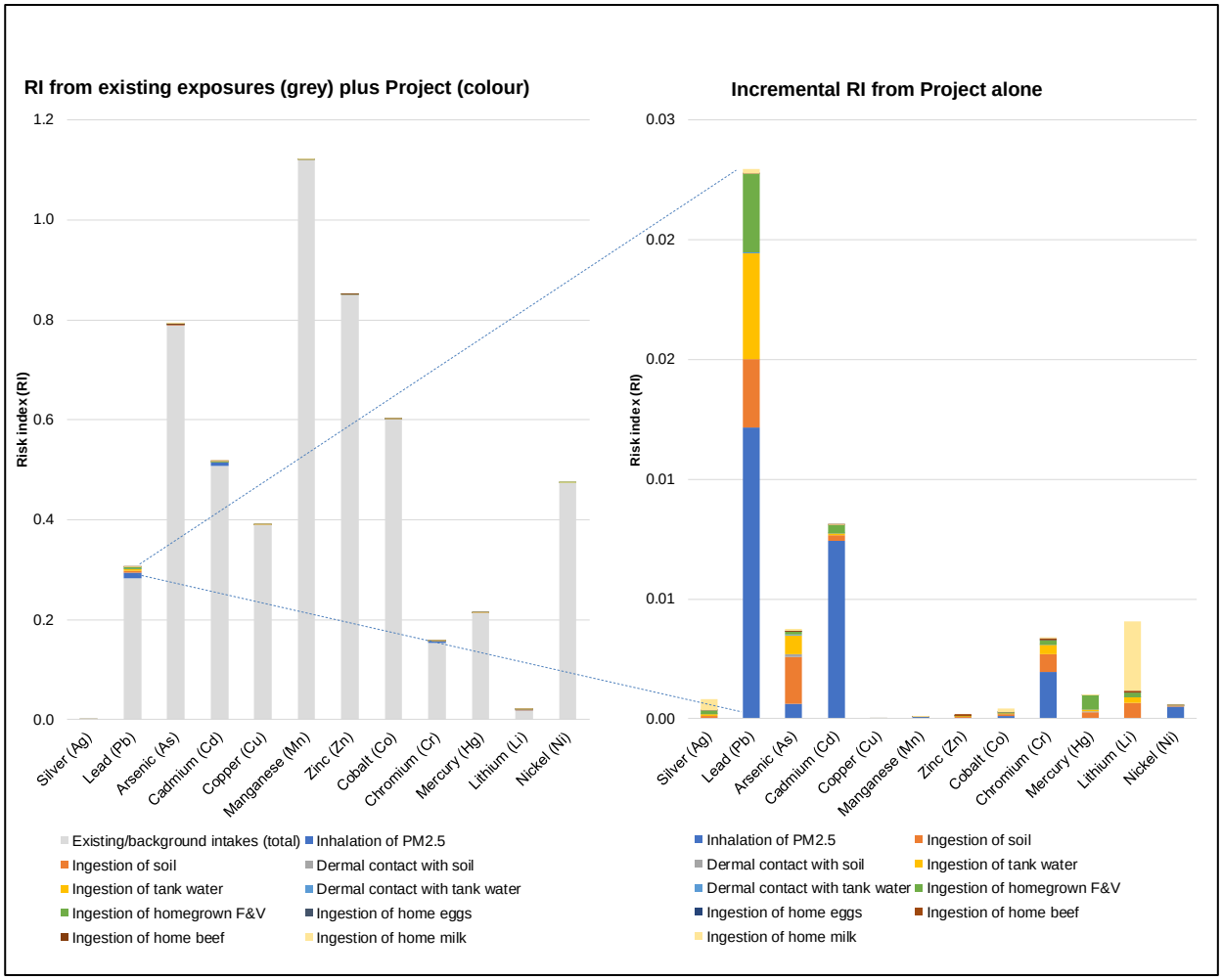
- For manganese exposures, where existing intakes are already elevated (due to dietary intakes), any incremental exposure from the Project is negligible
- For lead exposures, the Project would contribute a small amount to the total risk index. The total risk index associated with existing and Project related exposures is below the target risk index of 1
- For exposure to all other metals, the Project contribution to the total risk index is negligible and no total risk index (existing plus Project) results in the risk index exceeding the target of 1.

For adults:

- For lead exposures, the Project would contribute a small amount to the total risk index. The total risk index associated with existing and Project related exposures is below the target risk index of 1
- For exposure to all other metals, the Project contribution to the total risk index is negligible and no total risk index (existing plus Project) results in the risk index exceeding the target of 1.

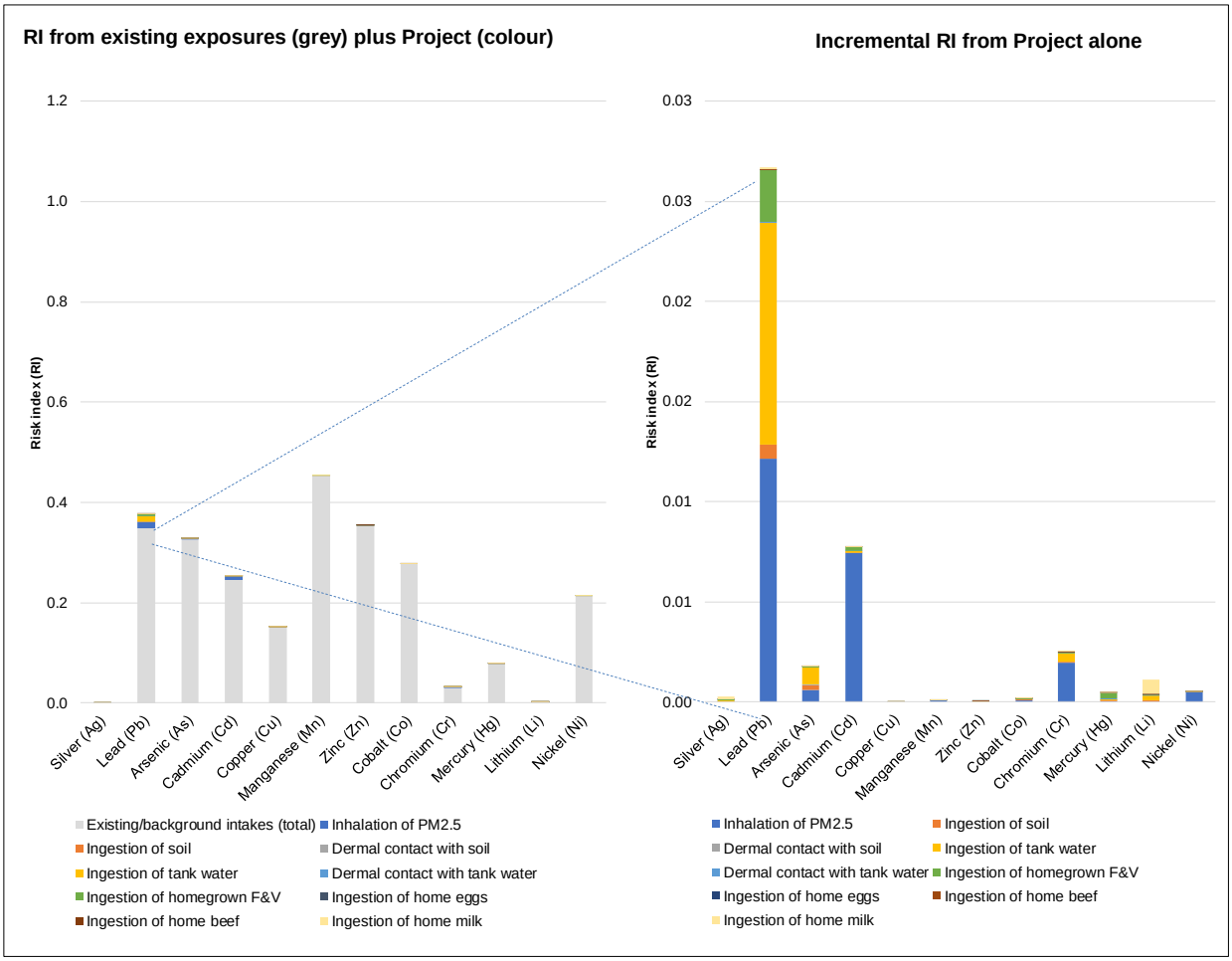
The assessment states that based on the above, which has focused on the maximum impacted private residential property, there are no health risk issues of concern in the community in relation to emissions of metals in dust from the Project.

Figure 7.3 Calculated Risk Index for existing and Project exposures (Scenario 3 – Year 8) – Young children



Source: Environmental Risk Sciences, 2020

Figure 7.4 Calculated Risk Index for Existing and Project Exposures (Scenario 3 – Year 8) – Adults



Source: Environmental Risk Sciences, 2020

The HHRA also outlines that the emissions in air differ significantly from other lead mining operations (i.e. Mount Isa). The key differences include:

- Mt Isa is a large mine that has been operating for an extended period, with the community) located directly adjacent to the Mine Site and smelting operations. Historically, operations have employed less rigorous environmental practice, resulting in the community being exposed to both naturally elevated levels of lead and dust deposition. In contrast, best practice dust management measures, consistent with current technology/methods and expectations, are to be used for the Bowdens Silver Project.
- The inclusion of lead smelting at Mt Isa, is also a key difference. The Project would have no smelting operations within the Mine Site. An Air Quality Management Plan is expected to be developed prior to commencement of operations at the Project that would outline the measures to manage air emissions (consistent with those considered and outlined in the Air Quality Impact Assessment, Ramboll 2020).

Considering the outcomes of the HHRA, the impacts of air quality on human health are considered *unlikely* to occur with a *minor* consequence and is therefore ranked as a ***low*** social impact.

However, it should be noted that the perceived impact of exposure to lead on physical health is considered a very *high* perceived risk to those stakeholders consulted, particularly those living in proximity to the Mine Site. Therefore, it would be important for Bowdens Silver to further communicate with community stakeholders, should the Project be approved, in relation to the outcomes of the HHRA and in relation to the ongoing monitoring of lead in air and water.

Water Quality Impacts on Health

The HHRA has involved a qualitative review of the available information to determine if there is the potential for the Project to result in changes to surface water or groundwater quality or quantity, and where such changes may occur; and if these may adversely affect the health of the community that may access and use these water resources.

The assessment has not identified any impacts to groundwater or surface water that has the potential to adversely affect community health; and therefore, the quantity and quality of water that may be accessed by the community is not expected to be significantly affected by Project activities.

A Water Management System is expected to be developed prior to commencement of operations at the Project that would outline the measures to manage water quality.

In relation to the potential contamination of local creeks and water courses as a result of failure of the TSF, an Australian Mining Tailings Communique released by the Minerals Council of Australia, has highlighted a commitment to safe and responsible management of TSFs during and post mining to ensure human and environmental health (Gluyas, 2019).

In relation to the current Project, the TSF Feasibility Study, conducted for the EIS, states that the TSF would be a down-valley storage facility located to the west of the pit and plant. The catchment for the TSF is relatively small at about 3.0 km^2 with the impounded tailings taking up 1.2 km^2 of this area (ATC Williams 2020). The TSF also includes impoundment foundation treatment to reduce seepage within the area of the operating decant pond. This includes using in-situ clay where the existing thickness is less than 0.5 m, or clay would be placed and completed to a depth of 0.45 m. There would be no additional clay placed outside this area.

Seepage is also controlled at the TSF embankment by a reinforced Bituminous Geomembrane Liner fitted to the upstream face, a concrete plinth connecting the foundation grouting and seepage collection at the embankment downstream toe. Steady state seepage at the end of life of mine is estimated to be 3.2 L/sec. This would be collected by the seepage collection system, drained to the seepage collection ponds and subsequently pumped back to the TSF. Seepage would gradually diminish over time as the store-and-release cover achieves its design objectives. Further work would be carried out to confirm the assumptions made in this approach during detailed design. A contingency has been made for further foundation treatment and underdrainage in the area 150 m upstream of the embankment beneath the area of the operating pond.

Seepage monitoring would be undertaken using a combination of vibrating wire piezometers to measure the pressure gradient across the grout curtain beneath the embankment and standpipes to allow the collection of water quality samples beyond the seepage collection ponds. Settlement monitors would also be installed during each raise of the embankment. This seepage monitoring would be undertaken on a weekly basis along with a record of tailings discharge

tonnages, return water volumes from the seepage pond and the decant as well as water levels on the tailings and in the seepage collection ponds. Settlement monitors would be surveyed once a month.

Regular inspections would be made of the TSF facility and an annual audit would be carried out by a Dams Engineer. Every second year, the audit by the Dams Engineer would be comprehensive commencing one year after the start of filling.

Considering the assessment, the impact to human health and safety as a result of the Project's TSF is considered *unlikely* to occur and of *major* consequence and is therefore ranked as a ***high*** social impact.

Considering the assessment, the impacts of exposure to lead dust and lead in water on human health is considered *unlikely* to occur with a *minor* consequence and are therefore ranked as a ***low*** impact.

7.3.1.4 Proposed Mitigation and Predicted Impacts (Mitigated)

In order to address community concerns relating to health impacts, a number of Project design changes and mitigation strategies have been proposed. As discussed further in Section 7.6.4, to reduce air quality impacts there are a number of dust suppression measures and air quality monitoring and management strategies that would be implemented as part of the air quality management plan. In addition, a water management plan would also be developed and implemented that outlines measures to limit potential impacts to surface and groundwater.

As part of the engagement program for the SIA, residents and landholders in the locality and regional community members were asked to indicate their level of satisfaction with the decrease in capacity (46 to 30 Mt capacity) and relocation of the TSF (relocated to the west), as a Project design change. Residents and landholders in the locality were less satisfied with this change (average rating of 3.58) than regional community members (6.65). Respondents stated that while the relocation of the TSF would make it less visible, stakeholders still held concerns about the potential risk of the dam leaking into nearby waterways.

> *Less visible if it's in the west.*
>
> *Much of a muchness, doesn't really matter, it will be constructed to a design that doesn't fail, or you hope will not fail.*
>
> *A tailings dam is a tailings dam. They're not very nice places, you certainly wouldn't want to go swimming in one. Not sure reducing its size is going to make much difference.*
>
> *The location is outside the mine, so if it fails, they can't capture it in their waste bunds, and it will flow directly into Lawsons Creek.*

In addition to the change to the design of the TSF, a number of other mitigation strategies are proposed to be implemented to minimise any risk to human health and wellbeing (refer to **Table 7.33**), with strategies identified by the community through the engagement process also noted.

Table 7.33
Summary of Mitigation and Enhancement Strategies – Health and Wellbeing

Health and welling – lead exposure in air, soil and water	Publish accurate and consistent information regarding lead levels	Development of regular newsletter summarising soil, water and air quality monitoring outcomes
	Site visit for residents and landholders to view the TSF post construction	Site visit for residents and landholders to view the TSF post construction
	No blasting in unfavourable weather conditions	Scheduling of blasts to avoid adverse weather conditions
	Dust control and suppression	Watering of all internal haul roads Commitment to seal sections of the relocated Maloneys Road
	Lead risk management	Implement a comprehensive air, soil and water monitoring program, including analyses of metals
Health and welling – water quality (TSF)	Lined dams	The TSF would be constructed with design features to control seepage through the embankment and floor, via installation of: a low permeability compacted clay liner that would control seepage of TSF from the stored tailings a low permeability bituminous geomembrane liner on the upstream face of the TSF embankment a low permeability grout curtain, to a depth of 40m beneath the TSF embankment and tied into the bituminous geomembrane liner Vibrating wire piezometers and standpipe piezometers would provide data which would be used to assess the effectiveness of this design. TSF design and construction would include measures to control seepage through the TSF embankment and floor

Considering, the mitigation strategies above, the Project is assessed as *unlikely* to have an impact on human health through exposure to lead in air and water, with a *minor* consequence and is therefore ranked as a ***low*** social impact.

Impacts to human health and safety as a result of TSF spillage are considered *unlikely* with a *moderate* consequence and is therefore ranked as a ***moderate*** social impact (refer to **Table 7.34**). However, perceived health impacts have been ranked as *high*, based on engagement outcomes.

Table 7.34
Summary of Project Impact – Physical Health Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Health and wellbeing Surroundings Way of life	Exposure to lead in dust	Lue SSC MWRLGA	Mine life (approx. 16.5 years)	Locality residents	High	Low
	Health and wellbeing Surroundings Way of life	Exposure to lead in water	Lue SSC MWRLGA	Mine life (approx. 16.5 years)	Locality residents Water users	High	Low
	Health and wellbeing Surroundings Way of life	Impact on Water quality as a result of TSF failure	Lue SSC MWRLGA	Mine life (approx. 16.5 years)	Locality residents	High	Moderate

7.3.2 Mental Health

Mental health issues were also frequently noted by residents and landholders in the locality in relation to the Project. Issues raised included experience of stress and anxiety as a result of having to think about and discuss the Project. Respondents cited the uncertainty regarding the future of the Project and how the Project may impact on their quality of life, sense of community and rural lifestyle / amenity. Sleep disruption, as a result of noise from the Project was also raised. The prolonged period, since the Project commenced under Kingsgate, was also noted by some stakeholders as having heightened their levels of stress and anxiety.

Consequently, it is *likely* that the discussion around the Project is contributing to mental health issues for some residents and landholders in the locality, with a *moderate* consequence, resulting in a ***high*** social impact. This risk is directly applicable to residents and landholders in the locality, and those in greater proximity to the Project.

To mitigate against potential impacts to mental health, Bowdens Silver is proposing to implement the following strategies (further described in Section 9.0).

- Provision of access to community members through the company's Employee Assistance Program and/or dedicated contracted general practitioner/medical officer
- Provision of environmental monitoring results relating to lead in air and water
- Support for health service programs in the region as part of the company's Community Investment Program
- Maintaining an open-door policy and implementing a good neighbour program - regular and ongoing community engagement in relation to impact monitoring and management

Considering the above, the impacts on mental health as a result of the Project are considered *possible*, with a *minor* consequence and are therefore assessed as a ***moderate*** social impact. This impact was also rated as a *moderate* perceived risk by locality residents (refer to **Table 7.35**).

Table 7.35
Summary of Project Impact – Mental Health Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Health and wellbeing Way of life	Health and wellbeing – stress and anxiety	Lue SSC	Mine life (approx. 16.5 years)	Locality residents	Moderate	Moderate

7.4 SENSE OF PLACE AND COMMUNITY

This section describes the potential impacts that the Project may have on sense of community, social cohesion and sense of place as a result of population change and impacts on areas of community value.

In general terms, sense of community relates to '*the extent to which individuals in a particular location have a notion of being part of a community, and of helping out in the community by participating in community activities, and being a good neighbour (i.e. having neighbourliness)*' (Vanclay, Esteves, Aucamp, & Franks, 2015, p. 77). Key elements of sense of community therefore can include membership (belonging, emotional safety, personal investment, social conventions); influence; integration and fulfillment of needs; and a shared emotional connection.

A sense of community is also seen to be connected to place, with Vanclay (2008) stating that place is '*the coming together of the biophysical, social and spiritual worlds. Simply put, place is space that is special to someone. The personal meanings that turn space into 'place' become embedded into people's memories and in community stories; and can be associated with positive and negative feelings*'. Sense of place is therefore seen to be about the personal and collective connections that individuals have with where they live, work and play (Vanclay, 2008).

People who have a strong sense of place frequently have a high sense of belonging and community connection – meaning they have ties to a place and feel like they belong there. A shared sense of belonging and a collective consciousness 'acts as an adaptive community resource and helps develop resilience and social cohesion, especially in times of hardship and disaster' (Abbott-Chapman, Johnstone and Jetson, 2014: 298).

Coakes (1995) discusses many different elements of sense of community including the need for shared value, social interaction, and connection to a common structure (e.g. geography, gender, culture). The IAIA SIA Guidance also states that sense of belonging to a social group, is an important human emotional need with the consequence of many Projects being a reduction in the sense of belongingness, either because of the physical and social changes that take place, the presence of newcomers, but also because of alienation-inducing processes, that may occur (Vanclay, Esteves, Aucamp, & Franks, 2015, p. 74)

The following sections, outline the potential impacts that the Project may have on:

- the composition, character and cohesion of the community; and
- the sense of place and rural lifestyle experienced by locality residents.

The introduction of new groups of people to an area and/or the outflux of a proportion of the population, can alter existing values and sense of community. While most communities are generally resilient to natural population change, a rapid or significant change can often have adverse social impacts.

As discussed in Section 7.1 population change associated with the Project, may be as a result of:

- an influx of construction workers (temporary impact during construction only)
- a new operational workforce moving into the area (during operations of the Project) and;
- acquisition of residential land in proximity to the proposed Project (permanent change).

During engagement, locality residents frequently noted perceived fears relating to a loss of population and sense of community and the erosion of local community networks, associations, cohesion and sense of place and as a result this impact has been ranked as a *high* perceived stakeholder risk for locality residents, and a *low* perceived stakeholder risk for the regional community.

Sentiment relating to sense of community appeared heightened as a result of the outcomes of several other Projects in the broader region, which had resulted in significant loss of local populations due to Project approvals. For example, the Wilpinjong Coal Mine Project, developed by Peabody Energy, the recently refused Bylong Coal Project by KEPCO and the NSW Land and Environment Court Ruling on the Rocky Hill Coal Project near Gloucester, are all examples of Projects where loss of sense of community has been highlighted as a critical social impact of proposed project development.

The Wilpinjong Coal Mine was the first Project to be conditioned to develop a Social Impact Management Plan (SIMP), after the 7th expansion of the coal mine in 2017, due to the reduction in private dwellings experienced within the Wollar community; from 175 in 2011 to 25 in 2015. In the most recent SIA for the operation (Elliot Whiting, 2015), community members consulted reported a significant strain on those left within the community to keep the village alive, due to the loss of population, community relationships and local businesses and services.

A similar situation was seen to result in the application for the Bylong Coal Project by KEPCO. During the Project assessment process, KEPCO purchased a number of properties, including a number of significant heritage properties in the locality. According to the response to submissions, received as a result of the EIS exhibition, 336 of 364 residents were opposed to the coal mine development; reportedly due to community concern relating to the cumulative impact of property acquisitions in the Bylong Valley (by KEPCO and other mining companies). The SIA for the Bylong Coal Project (Hansen Bailey, 2015) also reports that the main cause of negative socio-economic impacts, stemmed from the change from agriculture to mining and the associated property acquisition, causing stress and family tension due to uncertainty relating to the acquisition process and the subsequent social divide and loss of community cohesion.

In September 2019 the IPC rejected the Bylong Coal Project, citing that 'the Project had already impacted on the size and interconnectedness of the community through its current and previous land acquisition process' (Independent Planning Commission NSW, 2019). The report also quotes public comments which outline that:

> *Repopulating the valley with mineworkers cannot replace a rural community, because they're not invested, demonstrated clearly in Wollar where there is no engagement in social activities and very little voluntary support by mine workers (Independent Planning Commission NSW, 2019, p. 129).*

In this way, a loss of established community and 'organically grown community networks' and the resulting loss of community cohesion and connection was identified as a significant negative social impact of the Bylong Coal Project (Independent Planning Commission NSW, 2019, p. 125). While strategies were proposed by the proponent to mitigate this social impact, through the documentation of an oral history of the community; the IPC did not believe that such strategies were sufficient, as noted in the following quote.

> *The oral history you propose is no substitute for the ongoing life of a community. A village is more than just its buildings. It is people and their connections. I holds the history of the surrounding rural region of gatherings, of families with generations, of past good members, different futures hope to call (Independent Planning Commission NSW, 2019, p. 129)*

The recent Rocky Hill Coal Project, near Gloucester, which was not recommended for approval by the NSW DPIE and the IPC, will not proceed as a result of a judgement in the NSW Land and Environment Court; with social impacts generally and the impacts on sense of community, cited as one of several reasons for refusing consent. The Land and Environment Court Decision Report, states that impacts to sense of community were already being experienced, with a loss of community members through acquisition or through people moving out of the area due to the threat of mining. In addition, it was noted that social divisions have emerged between those that support and oppose the Project (NSW Land and Environment Court, 2019).

Population change as a result of property acquisitions relating to the Project were noted by some locality residents, with some noting that members of the community had already relocated, or were considering relocation, due to the presence of the Project and the fear of potential impacts on local properties. In investigating this issue, the long-term impact of population change since 1989 when the Project was first discussed, has totalled approximately 25 fulltime residents and a further 12 more temporary residents with holiday homes/weekenders in the area.

Four further property acquisitions are anticipated, in accordance with the VLAMP, as a result of predicted noise impacts relating to the Project, with contracts of sale being exchanged for two of these properties. The outcome of this process is anticipated to result in a further 0.4% decline in the existing full-time resident population (one full-time resident, three weekenders) within the Lue, Pyangle, Monivae and Bara SSCs.

An appropriate assessment of population changes in the area (from 2006 to 2016) is problematic, given recent SSC boundary alterations, which occurred prior to the last ABS census (2016). However, a review of mobility data indicates that in the Lue SSC, 20% of the population were living at a different address five years ago which was the lowest mobility across all of the assessment communities and significantly lower than the Mid-Western Regional LGA total of 37%. Mobility across the other study communities was 45% for Mudgee, 34% for Gulgong, 33% for Rylstone and 28% for Kandos. Except for Mudgee, these lower rates of mobility (compared with the NSW average of 39%) suggest more stable and established communities.

In addition, across the LGA and in the Lue SSC, there are higher than State average proportions of unoccupied dwellings (16% and 18% respectively) (ABS 2016). This was reinforced during the engagement program, as a number of landholders in the locality, live elsewhere and use their properties as weekenders or holiday homes. As a result, since the onset of the Project in the late 1980s, around 20 temporary residents have also been affected. Bowdens Silver is proposing, where possible, to lease back a number of the properties that they own to the local community.

The Project would also trigger population change through the influx of the Project's construction and operational workforces. The influx of the workforce is only likely to result in approximately a 1.0% population change in the Mid-Western Regional LGA (under the worst-case Scenario 1) for the construction workforce and approximately a 1.8% change for the operational workforce under the same Scenario. While population change was perceived by community members to be a *high* social risk, the relatively low assessed population changes, relating to the Project, are not expected to have a major impact on the regional population.

Other stakeholders, and regional community members, did highlight that the Project may see a renewed sense of community for Lue and other towns in the LGA; as a result of an increase in population (due to an influx of new community members) and flow on benefits to local businesses and services (e.g. Lue Hotel and Lue Public School).

However, it is evident that social impacts of mining are being experienced over time, at a local community level. While mining Projects can result in significant positive economic benefits; the negative impacts experienced such as a reduction in sense of community, community cohesion and participation, due to population change and displacement over time, and increased Company ownership of land, need to be equally considered.

The presence and discussion of the Project in the community, was also seen to be influencing community cohesion and raising fears around potential impacts on sense of place.

Community cohesion refers to:

> *the sense of harmony in a location (rural area, town or city), which can be established by the levels of: acceptance and valuing of social diversity; a shared sense of belonging across all groups; a broadly accepted vision and image of the location; reasonably similar life opportunities and access to services; and positive social relationships between people from different backgrounds (Vanclay, Esteves, Aucamp, & Franks, 2015, p. 76).*

While some residents have responded to the Project by forming a dedicated community group - the Lue Action Group – which is opposed to the proposed Project development; other residents expressed concerns that the development of this group had also served to divide the community.

> *I have been quite involved with the community and the dialogue is pretty good, but it might not be the friendly place it used to be, as people change, and there has always been a small group of people anti this Project going ahead and I believe they have caused a lot of trouble in the community.*

Aboriginal stakeholders also raised concerns about the existing divisions that exist between the Aboriginal and non-Aboriginal community within the region more broadly; with some Aboriginal stakeholders outlining that the Project could increase social cohesion, through providing employment opportunities for Aboriginal people; with others suggesting, that the Project may cause conflicts due to differing opinions on mining.

In addition, residents and landholders in the locality value the rural amenity (peace, tranquillity) and lifestyle the area affords. Residents were also concerned that the presence and proximity of the Mine Site would change the nature of Lue and its surrounding localities.

> *A mine will change the village whether we like it or not.*

Therefore, changes in land use (refer to Section 7.7 and impacts on social amenity as a result of the potential to experience noise, visual and dust impacts from the Project (refer to Section 7.6), were perceived by a number of locality resident to result in a loss of sense of place. Regional community members also raised similar concerns, but mainly spoke of the impact to Lue, rather than on other towns and villages in the LGA.

During consultation and engagement, stakeholders identified that there were key assets that were important to the community in Lue, namely the Lue Hotel and the Lue Public School. The heritage of Lue was also noted, particularly the old railway station building and cottage.

As outlined in Section 5.4, the Lue Railway Station was opened in 1884, with the line used for both passenger and freight travel until 1986 when passenger services were suspended, and the station was formally closed. The MWRC's Central West Regional Transport Plan 2014-15 Update (2017) outlines support for proposals to investigate a Rail Trail that links Gulgong, Mudgee, Lue and Rylstone, Kandos, Charbon and Clandulla. This rail trail has community support, as well as being likely to increase the number of cycling tourists to our region. The MWRC states that the trail would improve connectivity within towns (where the rail line is currently a barrier to pedestrian and cycle flow) and between towns. While such a Project has not been initiated it highlights community and Council support to promote the rail heritage of the area and encourage movement between villages and towns in the LGA.

The Lue Hotel has been a community hub since the late 1890s. During engagement, residents in the locality identified the Lue Hotel as a key asset for the community. The Lue Hotel has subsequently been purchased by Lue Hospitality, who are affiliated with Bowdens Silver.

> *The Pub is an icon. Money needs to be put into that. All the locals get their information from the grapevine down there.*
>
> *The Hotel is the community centre. Once you close the Hotel, the village dies.*
>
> *They also bought the pub … They said they will put a coffee shop, it's a smart move if you ask me, I think it's great… I can see that 50% of the town thinks it's a good idea.*
>
> *The pub has always been a hub. The pub brings people together, darts on the Friday nights. The previous managers would only open when he wanted to but that has changed now with the new manager.*

The Lue Public School was also identified as important to Lue and its sense of community. Some respondents were concerned that the Project could cause the school to close, either as a result of population decline as people relocate away from the area, or through parents removing their children from the school due to health concerns (refer to Section 6.3.1). However, other respondents stated that they felt the Project would benefit the school through an increase in children attending (due to workforce population influx) or through Bowdens Silver providing the school with increased financial support.

Considering the above, the perceived stakeholder risk is ranked as *high* for locality resident; *moderate* for the Aboriginal community and *low* for the regional community.

7.4.1 Assessment Outcomes

The section above has highlighted a number of factors that may impact on sense of community as a result of the Project namely population change due to acquisition of properties in a local area, population change associated with the influx or outflux of Project workforces, the nature/type of Project proposed and conflict that may emerge/develop at a community level.

As a result of acquisition of properties over time in the local area, it is estimated that there would be a historic (25 residents) and proposed (one resident) reduction of the permanent resident population in the proximal localities surrounding the Project; and the historic and proposed loss in temporary residents (families using the eight weekender properties);. However, some of the properties acquired by Bowdens Silver are now leased to the public (approximately 17 persons), and there may also be some population increase in Lue due to workforce influx if opportunities for rental and purchase of properties in Lue are further developed. While the net population change is not expected to be significant, this change still has the potential to result in changes to the existing rural amenity and sense of place due to the loss of permanent residents.

The MWRC Land Use Strategy (2017) emphasises that extensive and intensive agriculture, mining, tourism and rural living would continue to be the key land uses across the LGA; and that sufficient land, services and facilities need to be available to support these industries. While agricultural land is not likely to be compromised as a result of the Project; it should be noted that to date Lue and its proximal localities have largely had an agricultural and rural lifestyle focus.

As has been noted above, the Project is not expected to affect population change in the MWR LGA significantly, resulting in a 1.0% and 1.8% increase in population for the construction and operational workforces respectively under a worst-case scenario.

Also as noted in Section 7.4.3, the proposed Project is consistent with proposed land uses within the region as articulated in the MWRC Strategic Land use Plan.

7.4.2 Proposed Mitigation and Predicted Impacts

To address the issues raised by the community relating to the perceived impacts on sense of community, Bowdens Silver proposes to develop a Community Investment Program (CIP) with a focus on Lue and other key communities in the region (refer to **Table 7.36**). As is discussed in Section 8, projects/programs initiated under the CIP would be developed in conjunction with community needs and aspirations. Specifically, a key objective of the CIP would be to maintain sense of community, through enhancing Lue and its key community assets, including the Lue Hotel, the Lue Public School and heritage buildings. This strategy attempts to incorporate some of the enhancement measures identified by the community through the engagement program. As noted, further detail of the CIP is provided in Section 8.2.2.

For those stakeholders that expressed that the Project may enhance the sense of community in the local area, a further key Project design change has involved removing consideration of a worker's camp on site, which was originally proposed (by Kingsgate) as part of their original Project proposal.

Table 7.36
Summary of Mitigation and Enhancement Strategies – Sense of Community

Impact Theme	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Sense of community and sustainability	• Ensure sustainability of Lue • Explore mine based tourism opportunities • Local investment Projects (for Lue, Rylstone and Kandos) • Entry statements and beautification for Lue • Upgrade of the Lue Hall • Lue School – support for gardens, rock climbing wall, basketball hoop, pizza oven, class programming • Support for local residents /businesses in Lue	Community Investment Program • Local investment in key Projects to assist in Lue, Rylstone, Kandos sustainability through engagement and collaboration with residents and key stakeholders
Sense of community – sense of place and culture	• Support for the restoration and conservation of heritage buildings • Gallery/Museum to showcase history of the area e.g. potential site, the Old Railway Station • Restoration of heritage sites e.g. railway / heritage trail • Aboriginal Artefact Keeping Place • Local Heritage Projects – alignment with regional heritage initiatives e.g. heritage trail	• Aboriginal keeping place would be used to store displaced artefacts throughout the life of mine • Community Investment Program – heritage program

During engagement for the SIA, locality residents and regional community members were asked about their level of satisfaction with the Project no longer proposing to have a worker's camp on the Mine Site, with an average rating of 3.52 (out of 7) and 6.51 obtained respectively.

Those who saw this as a positive Project design change, suggested that it would be better for the workers' health and wellbeing not to be housed on site and that this would also create opportunities for local business and accommodation providers in the LGA.

> *The Pub in Lue could put them up? There is accommodation available and would rather them use that.*
>
> *Probably a good change, there's houses around to rent in Lue.*
>
> *More money for the town with accommodation for the construction workers. The farm stay/accommodation people might see some benefits.*

Others, who rated this change more negatively, stated that by not housing the workers on site this would lead to increased traffic on local roads, and less business for local businesses in Lue, especially the Lue Hotel. As outlined in Section 6.3.5.

> *I would have preferred onsite facilities rather than travelling in/out.*
>
> *They would have to locate in Rylstone and Mudgee creating more traffic on the roads.*
>
> *More people commuting from local surrounds may mean more traffic.*
>
> *So where will they be staying then? So, they will probably go outside Lue, which I don't think is a good thing for Lue. It means less people going to the pub and being in the area outside work hours.*

Bowdens Silver is proposing a bus service for workers to help reduce the traffic congestion caused by construction and operation traffic.

Considering the above strategies, the impact of the Project on sense of community is considered:

- *Likely* with a *minor* consequence, for the locality, resulting in a ***high*** social impact ranking
- *Unlikely* with a *minor* consequence for the region, resulting in a ***low*** social impact ranking (refer to **Table 7.37**)

Table 7.37
Summary of Project Impact – Sense of Community

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Community Culture Way of life Surroundings	Sense of community – Cohesion, character, sense of place, rural lifestyle	Lue SSC	Project Life	Locality residents	High	High
			Mid-Western Regional LGA		Regional LGA community	Moderate	Low

7.5 ENGAGEMENT AND DECISION MAKING

This category of social impact refers to the extent to which stakeholders and community members can have a say in the decisions that affect them and have access to complaint, remedy and grievance mechanisms.

As highlighted in Section 6.3.8, residents and landholders in the locality expressed concerns in relation to trust in government assessment and development processes and their ability to provide input. In this regard, there was a desire to see Bowdens Silver communicate accurate and consistent information about the Project and for the Company to keep the community informed of Project progress. In this regard, newsletters and community information sheets in relation to the Project were considered beneficial, with more regional community stakeholders identifying local media as a more useful communication mechanism. Aboriginal stakeholders also raised issues in relation to community engagement, with a desire to see more reporting of operational information, technical assessment outputs and proposed mitigation measures.

As previously outlined (refer to Section 3.7), the Bowdens Silver's community engagement program has involved a range of mechanisms including regular newsletters, attendance at community events, direct communication and meetings with local residents and key stakeholders and community sponsorships.

A CCC was also established early in the Project to provide information about the Project at key phases. When asked about the effectiveness of the CCC, as a mechanism for the provision of Project information, the majority of responses from residents and landholders in the locality and the regional community, as part of the engagement program for the SIA, stated that they felt the CCC was not effective in providing information to the broader community. In addition, some respondents also expressed that community representatives on the CCC should be changed, with a wider representation of community members.

As outlined in Section 3.5, the SIA for the Project has also involved extensive engagement with key stakeholders and has utilised a range of engagement and communication mechanisms including personal meetings, workshops, community information sessions and forums, site visits, telephone surveys and the provision of community information sheets, outlining key outcomes of the SIA and broader EIS phases.

Uncertainty in relation to Project decision making was further raised by community stakeholders in relation to the extended length of time in which the Project has been discussed at a community level, first commencing in the late 1980s, with residents outlining how this extended period has contributed to increased uncertainty and anxiety at a community level and has contributed to the community questioning the economic viability of the Project, given changes in Project scope and ownership.

Since the inception of the Project, a number of changes have been made to the Project design, one of which has involved reducing the overall extraction (53 Mt of ore and 79 Mt of waste rock to 30 Mt of ore and 47 Mt of waste rock) and processing rates (4 to 2 Mtpa) of the Project; with some stakeholders suggesting that the proposed extraction and processing rates, were now again more consistent with what had originally been proposed in the early days of the Project. For instance, when Silver Standard operated the Project (prior to Kingsgate), they had originally proposed an extraction rate of 2 Mtpa. Levels of satisfaction with these proposed design changes averaged 3.48 (extraction rate) and 3.57 out of 7 (processing rate) for locality residents and 6.32 (extraction) and 6.58 (processing) for regional community residents.

> *It's much less, it's a big reduction and is a positive.*
>
> *I think everything is fine, before and now.*
>
> *Not sure it needed to change. I suppose it keeps the footprint small.*
>
> *Less means less impact, I guess.*
>
> *It's less, which may mean a shorter mine life.*
>
> *To be honest, once you've started mining, you've started mining. You've already impacted people and what's to stay that they won't apply to request more to extract in the future. I take this with a cynical grain of salt.*
>
> *Silly that they went down in size, if the silver is there, then get it out.*
>
> *If it runs 24 hrs it doesn't matter how much they're taking out does it?*
>
> *Would prefer the increased amount, why not. The impact would be the same, processing less won't* change the impact.

Other residents felt that if the resource was there, then the Company should be able to access it.

Table 7.38 outlines community identified mitigation measures and the measures that Bowdens Silver proposes to adopt to further enhance engagement relating to the Project and provide information to the community.

As noted in the table above, Bowdens Silver has committed to continuing to engage proactively with local and regional community representatives, providing information regarding Project updates and assessment and monitoring of environmental results. Since 2016, Bowdens Silver has appointed a dedicated community liaison officer to develop relationships with local landholders and other stakeholders, with this role to continue should the Project be approved.

Table 7.38
Summary of Mitigation and Enhancement Strategies – Engagement and Decision Making

Impact Theme	Community identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Decision-making systems – community engagement and information provision	• Provide more visual aids, 3D modelling and pictures to communicate Project information • Development of a community register for interested community members to receive outcomes of the CCC Meetings • Consideration of wider CCC membership for Aboriginal and other stakeholder groups • Regular Site tours during construction and operations • Publication of regular newsletters and monitoring results	• Development of a SIMP for the Project • Good neighbour program • Evaluation of the CCC process • Community Investment Program • Development of a quarterly environmental monitoring report • Ongoing engagement and communication

Bowdens Silver would also develop and implement a formal complaints line. Having a formal grievance mechanism in place, provides an additional back-up procedure to ensure that rights-holders have access to remedy. Apart from signalling that the Project is compliant with its conditions and responsibilities, a genuine commitment to the proper functioning of grievance mechanisms would build trust, maintain and grow the Project's social licence to operate, reduce harm in the community, and reduce business risk (Vanclay, Esteves, Aucamp, & Franks, 2015, p. 54).

Bowdens Silver would also commit to the development of a Social Impact Management Plan (SIMP), that would outline a framework for monitoring and managing the social impacts of the Project. Further detail on the elements of the SIMP can be found in Section 8.

Considering the above mitigation measures, the perceived lack of trust in decision-making and engagement processes, is assessed as *possible* with *minor* consequence, and has been ranked as a ***moderate*** social risk (refer **Table 7.39**).

Table 7.39
Summary of Project Impact – Community Engagement and Information Provision

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Project assessment and development process	Decision making systems	Community engagement and information provision	Lue SSC	Mine life (approx. 16.5 years)	Locality residents	Moderate	Moderate
			Mid-Western Regional LGA		Regional LGA community	Low	Low

7.6 IMPACTS ON SURROUNDINGS AND SOCIAL AMENITY

This section provides an assessment of the social impacts of the Project on surroundings and social amenity. As outlined in Section 3.2 impacts to surroundings relate to people's access to and use of ecosystem services, public safety and security, access to and use of the natural and built environment, and its aesthetic value and or amenity; thus impacting on people's way of life – how they live, work and play.

7.6.1 Operational Noise

7.6.1.1 Perception of Noise

Noise was a key issue raised by residents and landholders in the locality. Impacts on social amenity as a result of noise largely related to concerns around the potential audibility of the operation, particularly at night and blasting noise. For these respondents, the valued rural nature of the area around Lue and its tranquillity heightened concerns relating to noise. There were concerns that the audibility of noise from mining operations would change the sense of place and rural amenity (refer to Section 6.3.4). In addition, the impact of noise on health and wellbeing e.g. sleep quality was also raised. As a result, the perceived impact of noise, on social amenity, for residents and landholders in the locality, is ranked as a high perceived stakeholder risk.

Impacts of operational noise, especially noise at night and the monitoring of noise, should the Project be approved, were also discussed by members of the CCC. While service providers and local businesses also raised operational noise as an impact of the Project, these concerns were raised in a more general way, with perceived impacts discussed in relation to those residents living in proximity to the Mine Site.

7.6.1.2 Assessment Outcomes

An assessment of noise and associated impacts has been undertaken as part of the EIS and in accordance with the Noise Policy for Industry (SLR Consulting, 2020). This assessment takes into consideration noise modelling over four stages of the Project, representing the progression of operations over the proposed life of mine. The noise modelling methodology accounts for the effects of noise enhancing meteorological conditions during the day-time, evening and night-time periods.

Predicted noise levels depend upon:

- the sound power levels from all the fixed and mobile equipment operating concurrently
- the distance between the noise sources and residences
- the intervening topography
- weather conditions, e.g. wind, temperature inversions
- the presence of intermediate barriers and other controls

According to outcomes of the noise assessment, a total of four properties fall within the acquisition zone due to noise impacts, and are expected to experience exceedances of the evening / night-time criteria of 35dB(A) averaged over a 15 minute period by more than 5dB(A) during some stages of the Project, with some moderate exceedances also predicted during the day. In accordance with the voluntary acquisition rights outlined in the government's VLAMP (2018), contracts of sale have been exchanged for two of these four residences. As previously noted, one of these properties has a full-time resident, with the remaining properties used for holiday or weekend visits. It is anticipated that residents of one of these properties would experience these noise impacts under current agreements, should the project be approved.

There are an additional four residences in the management zone due to noise impacts, where the Project noise trigger level may be exceeded at various times by between 3dB(A) and 5dB(A) – marginal/moderate impact zone; and an additional six residences in the negligible impact zone that are predicted to receive noise levels of 1dB(A) or 2dB(A) above the Project noise trigger level. The owners within the marginal/moderate impact zone would be offered mitigation measures that include air conditioning and potentially architectural treatments. The architectural improvements required would be determined during an inspection of the residence by an acoustic specialist and experienced builder.

Whilst the VLAMP does not provide for landholders within the negligible impact zone to request noise mitigation works, Bowdens Silver has advised each of the six landowners within this zone that the Company would enter into an agreement to install relevant mitigation measures by paying for an acoustic specialist and experienced builder to undertake an inspection of their residence to identify the most effective manner in which to reduce noise levels generated by the Project and to undertake nominated works once agreed by the landowner.

Engagement with these residents/landholders, following the provision of noise results, has indicated that stakeholders felt that consultations with Bowdens Silver representatives have been amicable and open in relation to the communication of outcomes of the noise assessment and discussion of noise mitigation and acquisition rights. However, two stakeholders felt further clarification of the differences between each noise impact zone was required. Additionally, noise modelling was criticised by some stakeholders as inaccurate, due to the perception that properties located proximal to the Project would experience sustained noise levels for the Project life and that meteorological conditions would amplify impacts associated with noise, subsequently questioning acquisition rights afforded to landholders in each zone.

There are no major existing and approved industrial developments located in the vicinity of the Mine Site. The existing Ulan Mine Complex, Moolarben Coal Mine and Wilpinjong Coal Mine, together with the proposed Bylong Coal Project, are located between 29 to 38 km from the Mine Site. It should be noted that the Bylong Coal Project has just been refused approval by the Independent Planning Commission (September 2019) and at this stage will not proceed. As a result, the noise assessment has indicated that cumulative noise impacts associated with other operations in the area would be negligible.

The noise attributed to the proposed additional traffic volumes on the local road network, during both the site establishment and construction stage and during operations, is also not expected to exceed the relevant traffic noise criteria.

Noise Impacts on Health

Sound is a natural phenomenon that only becomes noise when it has some undesirable effect on people or animals. Unlike chemical pollution, noise energy does not accumulate either in the body or in the environment but can have both short-term and long-term adverse effects on people. These health effects include (WHO 1999, 2011, 2018 as referenced in Environmental Risk Sciences 2020):

- Sleep disturbance (sleep fragmentation that can affect psychomotor performance, memory consolidation, creativity, promote risk-taking behaviour and increase risk of accidents)
- Annoyance
- Cardiovascular health
- Hearing impairment and tinnitus
- Cognitive impairment (effects on reading and oral comprehension, short and long-term memory deficits, attention deficit).

The Human Health Risk Assessment (HHRA) has examined the health impacts of noise from the Project and has predicted that all noise levels during the day, evening and night, are considered below the health-based thresholds for any adverse health effects. Some minor exceedances during worst-case meteorological conditions may occur at four properties. These properties have been identified in the noise assessment, with mitigation measures offered to these households to reduce noise levels to below the relevant thresholds.

The assessment of noise impacts from the Project has also not identified noise levels within the community that exceed health-based WHO guidelines for the protection of health, during the day, evening or night.

Notwithstanding the above, a Construction Noise Management Plan, Blast Management Plan and Operational Noise Management Plan would be developed prior to commencement of the Project for managing and minimising noise and blasting impacts from the Project.

Therefore, in relation to noise, it is likely that a number of residents of Lue and the area around the Mine Site would hear Project operations under adverse weather conditions (light winds and and/or temperature inversions) although the levels predicted would be within the NSW Environment Protection Authority (EPA) Noise Policy Industry criteria

7.6.1.3 Proposed Noise Mitigation and Predicted Impacts (Mitigated)

In order to minimise impacts on social amenity as a result of noise, Bowdens Silver have undertaken significant Project design changes and identified noise mitigation measures to help reduce potential noise impacts associated with the Project. These changes have also taken into consideration mitigation and enhancement strategies identified by stakeholders during consultation and engagement.

Key Project design changes include:

- Relocation of the processing plant further north on the Mine Site, further away from Lue and at a lower elevation
- Noise and visual barrier in the southern part of the Mine Site

- Strategically placed barrier walls in proximity to noise sources at various locations
- Offer of acoustic treatments to residents in both marginal/moderate and negligible impact zones

In relation to acquisition of the four properties that fall within the acquisition zone, to date contracts of sale have been exchanged in regard to two residences.

For those residents whose properties fall within the marginal/moderate impact zone (total of four landholders), discussions have been undertaken with three property owners (due to one being unable to be contacted) to outline the suite of mitigation measures that are available to them should the Project proceed. Monitoring of noise would also be offered to be undertaken at these properties.

Table 7.40 summarises mitigation measures, as identified through engagement with community members, and proposed noise management strategies for the Project.

Table 7.40
Summary of Mitigation and Enhancement Strategies – Social Amenity Noise

Impact Theme	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Social amenity - noise	Development of noise bunds or barriers	• Constructing a southern barrier to reduce noise to the south of the proposed Site • Building barriers and bund walls at various locations on the Mine Site
	Effective noise management	• Adopting a number of noise controls including noise attenuation on plant and equipment, including the mining fleet • Movement of processing plant further north of Lue and at a lower elevation
	Noise monitoring (especially at night)	• Monitoring of noise in real-time (24/7)
	Appropriate mitigation e.g. double glazing	• Implementation of a suite of mitigation measures at residences in the management zone (noise impacts)
Social amenity – traffic noise	Truck curfews to limit trucks at night	• Adjustment to equipment, fleet and mining schedule to reduce noise at night

To ensure that noise is minimised during Project operations, Bowdens Silver would also prepare a Noise Management Plan that affords:

- adoption of a range of noise controls, including noise attenuation on most items of fixed plant and equipment and the entire mobile mining fleet;
- flexibility in mine operations in noise enhancing weather conditions;
- monitoring noise in real-time (24 hours/7 days a week), with alarms to identify when elevated noise levels are or the restricting/shutting down of equipment if required;
- adjustments to the mining schedule to reduce truck movements at night; and
- quarterly provision of monitoring results to residents in the acquisition and management zones.

During the engagement process for the SIA, residents and landholders in the locality and regional community members were asked about their level of satisfaction with the relocation of the processing plant, as a Project design change, to mitigate noise and dust impacts. Residents and landholders in the locality were less satisfied (scale of 1 to 7, with 7 indicating high satisfaction) with this change (n=60, Mean = 3.84) than regional community residents (n=59, Mean = 6.7) as reflected in the following quotes.

> *I look at it from Lue village. The further away the better, whatever you can do to screen yourself from the village the better.*
>
> *It's still close but it's better.*
>
> *It's going to be tucked in pretty well to reduce noise and dust.*
>
> *It's closer to us now. I didn't want it close to the village either but it's closer to us.*
>
> *It's not that big of a change, it will still be 4kms from the pit.*
>
> *I don't think half a kilometre is an improvement. They are still going to have the same impacts.*

Landholders suggested that the Project was still too close to Lue, despite relocation of the processing plant further north, and that potential noise and dust impacts, would not be successfully reduced by the change in location.

To inform residents and landholders in the locality, and the broader regional community, of the outcomes of noise modelling and the strategies to be employed to reduce noise impacts associated with the Project, Bowdens Silver have held face-to-face meetings (where possible) with residents/landholders whose properties fall within the acquisition and management zones.

A Project information sheet summarising the key results of key environmental studies (including the noise study outcomes) was distributed to approximately 1600 households and uploaded to the Bowdens Silver website. In addition, an Open Day was held at the Bowdens Silver site to provide further information on the outcomes of key environmental studies and to provide opportunities for community members to meet with the relevant study specialists.

It should be noted that residents surrounding the Mine Site, and in Lue, are likely to hear the mine operation at times, despite noise levels being within the guidelines. The potential impact on rural lifestyle and sense of community are further explored in Section 7.4.1.

With the above proposed mitigation measures in place, operational noise from the Project is:

- *Likely* to have an impact at properties in the acquisition zone, with a *major* consequence (with these residents triggering the NSW Government's VLAMP process)
- *Likely* to have an impact at properties in the management zone with a *moderate* consequence
- *Likely* to have an impact on properties in Lue with a *minor* consequence
- *Unlikely* to have an impact on properties in the regional community with a *minimal* consequence.

Considering the above, the Project is assessed as having an ***extreme*** impact on the four properties in the acquisition zone, given these property owners have been provided an option to relocate; a ***high*** impact on properties in the management zone and in Lue and a ***low*** impact on the regional community (refer to **Table 7.41**). However, as previously noted, contracts of sale have been exchanged with landholders of two of the four residences in the acquisition zones.

Table 7.41
Summary of Project Impact – Social Amenity Operational Noise

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Way of Life Health and Wellbeing Surroundings	Social amenity - noise	Lue SSC	Mine life (approx. 15 years)	Four properties in acquisition zone	High	Extreme
					Locality residents (10 properties in the management zone)	High	High
					Lue SSC and Lue	High	High
					Wider Regional community	Low	Low

7.6.2 Construction Noise

7.6.2.1 Perception of Impact

Impacts of construction noise were not specifically identified by stakeholders during the engagement process. However, given other concerns raised in relation to noise in general, the perceived stakeholder risk has been ranked as *moderate*.

7.6.2.2 Assessment Outcomes

During construction, it is expected that noise criteria levels (45dB(A)) would be exceeded marginally(i.e. up to 5dB(A)) for short periods of time at one residence (R82); and moderately (i.e. >5dB(A)) for short periods of time at four residences. The duration of construction noise impacts would be approximately 1 to 2 months and relates to construction of the southern section of the relocated Maloneys Road and its intersection with Lue Road.

As mentioned in Section 7.6.1.2, the noise attributed to the proposed additional traffic volumes on the local road network during both the site establishment and construction stage is not expected to exceed the relevant traffic noise criteria.

7.6.2.3 Proposed Construction Noise Mitigation and Predicted Impacts (Mitigated)

Construction noise from the Project would be managed by Bowdens Silver in accordance with an approved Construction Nosie Management Plan, based on the requirements of noise guidelines and any Project approval requirements, to ensure that any potential construction noise impacts (particularly from the off-site Road Network activities) are minimised in terms of magnitude, duration and character.

With proposed mitigations in place, the likelihood of noise impacts during construction are considered *likely*, and of *moderate* consequence, resulting in a ***high*** social impact for those properties affected and a ***moderate*** social impact (possible and minor) for Lue residents (refer to **Table 7.42**).

Table 7.42
Summary of Project Impact – Social Amenity Construction Noise

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Construction	Way of Life Health and Well-being Surroundings	Social amenity - noise	Lue SSC	Construction period (18 months)	5 residences (marginally / moderately)	High	High
					Lue SSC	High	Moderate

7.6.3 Traffic

This section provides a summary of the social impacts relating to the use of heavy vehicles during the construction and operational phases of the Project and the increase of light vehicles as a result of the construction and operation workforce traveling to and from the Mine Site.

7.6.3.1 Perception of Impact

The impacts of traffic on social amenity, as a result of the Project, were raised frequently by residents and landholders in the locality, local businesses and service providers. Respondents raised concerns that additional mine-related traffic may cause increased disruption and safety concerns for road users, residents and pedestrians. Respondents also raised concerns relating to the suitability of road infrastructure, with a number of stakeholders outlining that given the current condition of local roads, road upgrades would be required.

Traffic was also raised as a cumulative issue, with respondents suggesting that roads in the region are already congested due to other traffic in the area associated with other mining operations (e.g. Ulan). Social amenity impacts in relation to traffic disruption, is discussed in this section, along with potential impacts to health and wellbeing (safety concerns) and road infrastructure as a result of traffic movements.

Not surprisingly, residents and landholders in the locality were particularly concerned about the potential for increased heavy vehicle movements through Lue, and associated traffic disruptions and safety concerns for Lue residents and students, parents and staff of the Lue Public School. Local business stakeholders and service providers were more concerned with the cumulative impacts of the Project on traffic on the Lue Road and other key roads in the LGA. Local businesses also raised safety concerns relating to mine personnel driving after long shifts, with a perception that this may cause accidents as a result of fatigue.

Lue Road acts as one of the main thoroughfares between Kandos/Rylstone and Mudgee, and it is likely that this road would be utilised by construction and operational workforce travelling from both Kandos/Rylstone and Mudgee.

Considering the above, the perceived impact of traffic on social amenity, public safety and access and use of road infrastructure, has been ranked as a *high* perceived stakeholder risk for both residents and landholders in the locality and stakeholders in the broader regional community.

7.6.3.2 Assessment Outcomes

The region relies heavily on private road transport with approximately 72% of those employed within the LGA traveling to work by car (as driver or passenger) (ABS, 2016). The Council's Road Asset Management Plan (Mid-Western Regional Council, 2016) outlines that a key challenge for the Council is the limited funding available for the upgrade and maintenance of regional roads. Within the LGA there is also a large percentage of unsealed roads. Improving transport infrastructure to alleviate congestion on roads is a key focus in the Mid-Western Region Council's strategic plan. This Plan identifies that congestion is an existing issue in the LGA, exacerbated by the lack of public transport options.

There are currently three large operational coal mines (Ulan, Moolarben and Wilpinjong) operating within the LGA, with the MWRC estimating that over the next 2-5 years there may be an additional six large mines developed within the LGA. This is expected to correspond with significant population growth and a corresponding increase in traffic burden on all roads (Mid-Western Regional Council, 2019c).

In addition, tourism brings approximately 280,000 visitors to the LGA each year, and while some visitors may fly to Mudgee or come by bus, the primary mode of transportation is by private vehicles (Mid-Western Regional Council, 2019c).

Statistics for traffic incidents involving mine workers is scant. However, the Coal Services (2013) report stated that in NSW three mine worker fatalities had occurred in the financial year, as a result of fatigue and/or poor road conditions, either heading to work or returning home.

There have been three fatalities in coal mining from 2012-2013 in NSW. None of these accidents occurred on a Mine Site, but on roads, as a result of mine personnel either driving to work or returning home; with fatigue, poor road conditions and other road users, being considered contributing factors. Road safety is now viewed as an important component of corporate social responsibility, particularly as it relates to the workforce and the community.

A review of the road crash history of potential routes, proposed to be utilised by Project-related traffic, found no specific accident history that may suggest an inherent concern with the road geometry, or controls that may be exacerbated by increased use of the road system, as a result of the Project. However, a road safety audit on Lue Road has identified deficiencies and assigned risk ratings to these deficiencies (The Transport Planning Partnership [TTPP], 2020), which include:

- insufficient centre line and edge line delineation, particularly at night;
- inconsistent treatments for guiding drivers through curves;
- unprotected roadside hazards within the clear zone, including substantive trees and slopes that are not traversable;
- pavement damage; and
- fretted seal edge.

Road safety for all users is likely to be improved if these safety deficiencies are addressed. It is understood that since the road safety audit was undertaken, some upgrades to Lue Road have already been completed. Recently the Ulan Road upgrade was also completed to assist in mitigating increased congestion and road condition deterioration caused by workforces associated with the presence of large mining operations in the LGA. The upgrade constituted an $18.7M Project jointly funded by the Restart NSW Resources for Regions Program and the local mining industry (Moolarben, Ulan and Wilpinjong mines). The Project involved widening existing traffic lanes, the construction of new overtaking lanes and turning bays, along with intersection safety and drainage works. While all operations transport product via rail, the Ulan Road Upgrade recognises the impact of the approximately 3,500 car movements from workers to these operations daily. The road is a major arterial thoroughfare for trucks and workers entering and exiting the LGA's three coal mines; and was initiated as a result of a community petition, to improve the road, gaining over 10,000 signatures.

As outlined in **Table 7.43**, during the site establishment and construction stage, the Project would generate traffic as a result of the workforce travelling to and from the Mine Site each day, deliveries and visitors, and construction of the Stage 1 TSF embankment. Estimates in **Table 7.43** are based on a busy weekday during key stages of the Project. As outlined in the table, the Project would generate traffic through Lue, however, as discussed below, the relocation of a section of Maloneys Road has been included in the Project design to reduce traffic movements through Lue. Furthermore, proposed workforce buses travelling through Lue, a proposed mitigation to reduce mine workforce traffic, to and from the east, are proposed to be typically smaller capacity 'Coaster' style buses rather than full size coaches.

Table 7.43
Trip Generated per Day as a Result of the Project

Trips per day (Trips through Lue)	Peak Initial Phase of the Site Establishment and Construction Stage in Month 6 (prior to Commissioning of the Relocated Maloneys Road)	Peak Site Establishment and Construction Stage in Month 13 (following Commissioning of the Relocated Maloneys Road)	Operation
Light vehicle	120 (78)	200 (82)	150 (70)
Bus	8 (8)	12 (4)	28 (12)
Heavy vehicle	50 (36)	50 (14)	16 (2)
Heavy vehicles for TSF construction*	0 (0)	265 (0)	Up to 102 (0)

* Restricted to that part of relocated Maloneys Road between the mine access road and the entrance to the TSF construction or embankment area

In relation to cumulative impacts, according to the Traffic Impact Assessment, which considers the combined effects of changes to major developments in the region, background traffic growth to 2021 and Project-related traffic:

- During the peak site establishment and construction stage, the Levels of Service on Lue Road, Ulan Road and Castlereagh Highway would remain acceptable.
- During the operational stage peak hours for Project-related traffic generation, acceptable levels of service are anticipated on Lue Road, Ulan Road and Castlereagh Highway. No additional midblock road capacity is required as a result of the Project-generated traffic.

All vehicles involved in mineral concentrate transport would travel from the Mine Site to Lue Road without passing through Lue.

The roads through Mudgee which would be used for the transport of mineral concentrates as part of the Roads and Maritime Services (RMS) approved B-double route, and the small number of additional B-double movements generated by the Project, would have negligible impact on the amenity of local residents or the operation of key intersections.

Product despatch to Newcastle would utilise semi-trailers which would travel via Ulan Road north of Lue Road to access Golden Highway and New England Highway.

7.6.3.3 Proposed Traffic Mitigation and Predicted impacts (Mitigated)

A technical traffic assessment has been undertaken as part of the EIS which assesses the impact of traffic as a result of the Project, in accordance with DPIE's assessment requirements including traffic counts, and impact to local and regional road users as a result of Project-related traffic (TTPP, 2020). Bowdens Silver would also develop and implement a Project Traffic Management Plan which would apply to all light and heavy vehicles operated on the public road network by employees or contractors engaged by Bowdens Silver for transport tasks associated with the Project.

Subject to some travel restrictions, B-double access is permitted on Ulan Road and Lue Road, and on the designated route through Mudgee (Short Street, Duoro Street, Horatio Street and Sydney Road). School bus services are also provided along Lue Road (TTPP, 2020).

In order to minimise impacts on social amenity and safety as a result of traffic, Bowdens Silver have undertaken significant Project design changes and identified traffic mitigation measures to help reduce potential impacts on residents and road users in the LGA, and particularly for residents in Lue. These changes have also taken into consideration mitigation and enhancement strategies identified by stakeholders during engagement.

In response to community concerns relating to traffic amenity and safety impacts in Lue, Bowdens Silver has committed to the design of a new road that would be constructed to provide access to the Mine Site from the west of Lue, by relocating a section of Maloneys Road. Whilst it is recognised that some mine personnel would reside in areas to the east of Lue, during operations, the new road would reduce light vehicle traffic, and almost all the truck traffic, through Lue and past the Lue Public School. The new road would also include a new intersection (with full safety measures e.g. turning lanes), a new railway bridge overpass; and a new crossing at Lawsons Creek. Mine traffic would also be minimised at peak times, with no concentrate truck movements through Lue or Rylstone at any time.

The primary vehicular access to the Mine Site would be via the mine access road, which would extend from the relocated Maloneys Road and follow the general alignment of the existing Maloneys Road within the Mine Site. During construction of the TSF embankment, vehicular access to the TSF construction area would be via a haul road which would intersect with the relocated Maloneys Road south-west of the mine access road. Following commissioning of the relocated Maloneys Road at the end of Month 6 of the site establishment and construction stage, the existing access from Maloneys Road would be closed to the public and used by only a small number of Project exploration personnel.

The conceptual design of the new intersection of Lue Road and the relocated Maloneys Road would be developed in accordance with Austroads design requirements. The relocated Maloneys Road and mine access road would be constructed to a general carriageway width of 11.0 m, consistent with Austroads requirements for rural roads, carrying more than 15% heavy vehicles, and would be designed to meet the Austroads sight distance requirements for both cars and trucks.

To accommodate the short-term use of Pyangle Road and Maloneys Road for site access, during the initial six months of the site establishment and construction stage, localised widening of the carriageway would be undertaken to provide suitable passing opportunities for heavy vehicles.

B-doubles and semi-trailers would be used to transport silver/lead and zinc concentrates in sealed containers from the Mine Site. Silver/lead concentrate would be transported by road to either Parkes or Kelso, from where it would be transferred by rail to Port Pirie. Zinc concentrate would be transported from the Mine Site to either Port Botany or the Port of Newcastle.

To further reduce traffic impacts, Bowdens Silver would also provide a bus service operating from the Rylstone/Kandos and Mudgee areas, for the construction and operational workforce during the site establishment/construction and operational stages of the Project. There is also the potential to relocate the existing waste transfer facility off Lue Road, onto a site accessible from the relocated Maloneys Road. This activity would be discussed with the Mid-Western Regional Council in the event the Project is approved.

Regional community members and residents and landholders were in favour of the changes to the site access road proposed, to the West of Lue, to reduce traffic impacts through the town, with an average rating of 6.7 (n=59) and 4.2 (n=60) out of 7 obtained respectively..

> *I think that's a positive as the roads are not conducive to it.*
>
> *That's good, that it's not going through Lue.*
>
> *That's a good idea, the big trucks won't be going through Lue*
>
> *There will still be much increased traffic along the Lue to Mudgee road. Already a dangerous road which has seen many accidents, the greater traffic movements must lead to surface damage and increased accident rates.*

With proposed mitigation measures in place, impacts to social amenity due to the construction workforce and associated traffic volume and disruption, is *likely* to have an impact on:

- locality residents, with a minor consequence; and
- road users in the LGA with a *minimal* consequence.

summarises suggestions identified by stakeholders and proposed strategies to mitigate the impacts of increased light and heavy vehicle traffic as a result of the Project.

Table 7.44
Summary of Mitigation and Enhancement Strategies – Social Amenity Traffic

Impact Theme	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Traffic – through Lue	No trucks through Lue Alternative transport route Implement speed zones through Lue	• Design of a new road to access the Mine Site from the west of Lue removing most mine-related traffic that would otherwise pass through Lue and the school • The new road would relocate a section of Maloneys Road and provide a new intersection, new railway bridge overpass and new crossing of Lawsons Creek • No concentrate truck movements allowed through Lue or Rylstone • Minimise mine traffic at peak times • New intersection constructed with full safety measures e.g. turning lane • Provision of a bus service for construction and operational workers
Traffic – safety	Driveway entrance signs	• Erection of driveway entrance signage
Traffic – noise	Truck curfew to limit trucks at night	• Deliveries and despatch of heavy vehicles limited to daylight periods (no nights or morning and afternoon peak hours)

The community were informed about the impact of traffic and proposed Project design changes at the June 2019 Open Day and in Project Information Sheet No. 3. In addition, during Round 2 of engagement, residents and landholders in the locality and regional community members were asked about their level of satisfaction with the new access road which removes the need for product to be transported through Rylstone and Lue.

Regional community members and residents and landholders were in favour of the changes to the site access road proposed, to the West of Lue, to reduce traffic impacts through the town, with an average rating of 6.7 (n=59) and 4.2 (n=60) out of 7 obtained respectively..

> *I think that's a positive as the roads are not conducive to it.*
>
> *That's good, that it's not going through Lue.*
>
> *That's a good idea, the big trucks won't be going through Lue*
>
> *There will still be much increased traffic along the Lue to Mudgee road. Already a dangerous road which has seen many accidents, the greater traffic movements must lead to surface damage and increased accident rates.*

With proposed mitigation measures in place, impacts to social amenity due to the construction workforce and associated traffic volume and disruption, is *likely* to have an impact on:

- locality residents, with a minor consequence; and
- road users in the LGA with a *minimal* consequence.

Considering the above, the Project is assessed as having a *high* (mitigated) impact on residents in the Lue SSC and a *moderate* (mitigated) impact on road users in the wider LGA.

In relation to the operational workforce, and considering the above mitigations, it is *possible* that increased traffic as a result of the Project may impact the social amenity of:

- locality residents, with a minor consequence; and
- road users in the broader LGA with a *minimal* consequence.

The impact of operational traffic associated with the Project is therefore assessed as having a ***moderate*** (mitigated) social impact on residents in the Lue SSC and a ***low*** (mitigated) social impact on road users in the broader LGA (refer to **Table 7.45**).

Table 7.45
Summary of Project Impact – Social Amenity Traffic

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce	Way of life Surroundings Access to and use of infrastructure, services and facilities Community	Social amenity – traffic volume and disruption	Lue SSC Mid-Western Regional LGA	Construction period – 18 months	Locality residents	High	High
					LGA road users	High	Moderate
Presence of the operation	Way of life Surroundings Access to and use of infrastructure, services and facilities Community	Social amenity – traffic volume and disruption	Lue SSC Mid-Western Regional LGA	Mine life – approx. 15 years	Locality residents	High	Moderate
					LGA road users	High	Low

7.6.4 Air Quality/Dust

7.6.4.1 Perception of Impact

The impacts of dust, raised by stakeholders, in relation to the Project centred on social amenity and health and wellbeing. Key Project aspects perceived to be the key determinants of dust included dust relating to construction and operational activities, such as blasting, mining and transport of mineral concentrates.

This section focuses primarily on the social amenity aspects of dust/air quality, with health and wellbeing aspects previously explored in Section 7.3 due to the community's specific concerns relating to the health impacts of lead in dust.

Dust issues were most commonly raised by residents and landholders residing in proximity to the Mine Site, with concerns relating to the potential dust impacts of the Project on their way of life, that is their ability to spend time outside and have their doors and windows open.

It should be noted that at the time of the SIA (May 2020), 90% of NSW is also considered to be affected by drought, with dust levels considered more extreme than usual given these circumstances (Department of Primary Industries, 2020).

7.6.4.2 Assessment Outcomes

As part of the EIS, an air quality impact assessment has been conducted in accordance with the EPA's prescribed methods and guidance for the modelling and assessment of air pollutants in NSW. This assessment has included the collation of meteorological data in the Lue area and background emissions from the existing environment. In addition, the assessment has modelled Total Suspended Particulates (TSP), PM_{10}, $PM_{2.5}$ and depositional dust for the Project and compared these to relevant government criteria.

The modelling results, compiled by Ramboll (2020), indicate that there are no private residences where the cumulative annual average PM_{10} concentration is greater than the air quality criteria of 25µg/m³ or where the cumulative 24-hour average PM_{10} is greater than the air quality criteria of 50µg/m³. There are also no private residences where the cumulative annual average $PM_{2.5}$ concentration is greater than the 8µg/m³ criteria or where the cumulative 24-hour average $PM_{2.5}$ concentration is greater than the 25µg/m³ criteria. The predicted cumulative annual average TSP concentrations and dust deposition levels indicate that no private receptors would experience exceedances of the respective impact assessment criteria.

No exceedances of the impact assessment criteria are predicted at Project-related or private residences for metal dust concentrations, respirable crystalline silica or hydrogen cyanide (HCN) (Ramboll, 2020).

7.6.4.3 Dust Mitigation and Predicted Impacts (Mitigated)

Outcomes of the technical air quality assessment have suggested a range of management measures to minimise dust generated by the Project; with air quality impacts to be managed in accordance with an approved Air Quality Management Plan that would include:

- controlling dust on haul roads by using water trucks
- progressive rehabilitation - stabilising and partially revegetating exposed areas to minimise wind erosion
- sealing the section of the relocated Maloneys Road
- implementing a proactive air quality management system that utilises meteorological forecasts and real-time meteorological and air quality monitoring, to modify operations (if required) such as stopping operations during adverse dust conditions and rescheduling of blasts in adverse weather conditions or high winds
- provision of monitoring results.

Results of the air quality assessment were communicated to the community through the Project information Sheet No. 3 and at the Community Open Day in June 2019.**Table 7.46** summarises mitigation measures proposed by stakeholders during engagement and outlines proposed strategies to mitigate the impacts on social amenity as a result of dust from the Project.

With proposed mitigation measures in place, impacts on social amenity due to dust / air quality may *possibly* have an impact on locality residents, with a *minor* consequence; and *unlikely* to have an impact on the regional community with a *minimal* consequence.

Therefore, the Project is assessed as having a ***moderate*** (mitigated) social impact on locality residents and a ***low*** (mitigated) social impact on the regional community (refer to **Table 7.47**).

Table 7.46
Summary of Mitigation and Enhancement Strategies – Social Amenity Dust

Impact Theme	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Social amenity – dust along road	Dust suppression e.g. use of water carts Sealing of roads	• Watering of all actively used internal haul roads • Sealing a section of the relocated Maloneys Road
Social amenity – dust	Dust modelling and monitoring Publish environmental data	• Implement a proactive air quality management system utilising – meteorological forecasts – real time meteorological and air quality monitoring – proactive response based on alerts • Continue to sample and monitor air quality and build on the existing robust dataset – based on regular monitoring since 2011/12. • Development of a regular newsletter summarising environmental monitoring outcomes – uploaded to Bowdens Website
Social amenity – blasting dust	No blasting in unfavourable conditions	• Scheduling of blasts to avoid adverse weather
	Blast alerts	• Provision of blast notifications to all local residents

Table 7.47
Summary of Project Impact – Social Amenity Dust

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Way of life Health and well-being Surroundings Community	Social amenity – dust	Lue SSC	Mine life (approx. 16.5 years)	Specified Locality residents	High	Moderate
					Regional LGA community	Low	Low

7.6.5 Visual Impacts

7.6.5.1 Perception and impact

The visual character of an area, at a local or landscape scale, can influence the ways in which people use and value their area. Visual character can include day-time views as well as night-time views and may be influenced by artificial lighting. Visual amenity is derived when visual character is valued by a community and contributes to a sense of well-being and quality of life (EPA, 2008).

Impacts to visual amenity may occur to some extent as a result of Project activities. The attractiveness of a view is highly subjective, as it depends on an individual's perception. Therefore, although it is possible to document the potential scale of change that may occur, it is difficult to assign a meaningful risk ranking to visual amenity.

The area surrounding the Mine Site comprises land of a rural and partly natural character, northeast of Lue on the western margins of part of the Sydney Basin Bioregion. There are areas of steep topography, native woodland and forest vegetation. The valley floor landscapes are of rural use, largely cleared for grazing; however significant stands of vegetation are present on steeper residual hills and rocky outcrops to the south and southeast of the Mine Site (Richard Lamb & Associates, 2020).

The MWRC's Comprehensive Land Use Strategy (2017, 21) states that 'ridgelines are visually important elements of the rural landscape and valued by the community'. It is important to note that the Mine Site also falls within the Dark Sky Region which consists of the land within a 200km radius of the Siding Spring Observatory at Coonabarabran.

Through the engagement process, concerns raised by stakeholders relating to visual amenity impacts of the Project included the potential for:

- Disruptions to natural views and changes to landscape
- Light spill at night.

Residents and landholders in the locality noted that they valued the natural views and rural aesthetic of the area and did not want to be able to view the proposed operations and associated infrastructure. In addition, concerns were raised in relation to the potential for light spill / glow at night from the operations. Visual impacts were a less frequently identified issue for other stakeholder groups. Consequently, considering the above, the perceived stakeholder risk is considered *high* for locality residents and *low* for regional community members.

7.6.5.2 Assessment Outcomes

A Visual Impact Assessment (Richard Lamb & Associates, 2020) was conducted as part of the EIS, to assess the potential visibility and visual impacts of the Project over its life and to recommend strategies to manage and minimise any significant visual impacts. The Visibility Assessment involved: observations of the Mine Site from 53 private and public viewing locations; development of cross-sections to analyse views from key viewing locations towards the Mine Site; development of a 3-Dimensional interactive model; detailed review of all Project components; and the development of photomontages to show the sequence of visual changes throughout the mine life.

The assessment concluded that the Project:

- would not be visible from Lue;
- would be visible from sections of Pyangle Road and Powells Road, and distant sections of Lue Road;
- would be directly visible from six privately-owned residences within 5km of the Mine Site.

Visual impact on character and quality of the views of the Project would largely be caused by landform construction rather than removal of topography caused by extraction of the ore and waste rock in the open cut pits. The temporary but long-term southern barrier, oxide ore stockpile and WRE would be the most prominent structures, constructed with materials of a generally similar, light-coloured rock.

The most visible features would be the light-coloured rock exposed on the WRE (sometimes up to 60m above the natural ground level), southern barrier and TSF embankment. Progressive rehabilitation would be required to reduce the potential visibility. Only one rural residence was identified that has a view of the western part of the Mine Site, where part of the TSF embankment and part of the waste rock stockpile may be visible.

The Project also includes establishment and construction, relocation of a 3.5 km section of a 500 kV power transmission line, mining and processing operations and road traffic and transportation; aspects of which would be visible in certain circumstances from public and private areas. The Visual Impact Assessment concludes that the re-aligned power transmission line would be through country of a similar character and appearance to the existing line and be carried on similar lattice towers, it would be unlikely to have significant visual impacts compared with the existing towers.

Other infrastructure changes associated with the Project include a proposed water supply pipeline from the Ulan Coal Mine and/or Moolarben Coal Mine, with no visibility from Lue; and the relocation of part of Maloneys Road. The road relocation would minimise the visual impacts of heavy traffic within Lue once establishment work is completed and after the new road is constructed (after approximately 6 months). The relocated road would include a new intersection and railway crossing, west of Lue, a crossing on Lawsons Creek and a new section of road linking west of the proposed TSF to a new Mine access road and the existing Maloneys Road; all of which would not be significantly visible from the residential area of Lue.

An analysis of the visibility of the Project from private rural residences outside of Lue showed that only six properties have direct visibility of any of the components of the Project, one with no view of the eastern section of the Mine Site. Of the other five, one property would have close views that may be significantly affected in character and quality. This residence would also be impacted by noise impacts, with Bowdens Silver currently in discussion with the landowner as part of the VLAMP process.

In addition to the visual assessment, a lighting and sky glow assessment was also undertaken as part of the EIS (Lighting, Art & Science 2020). Some construction and operational activities are expected to be carried out 24 hours per day and lighting would be required to provide safe working conditions. The Australian Standard, AS/NZS4282:2019 Control of the obtrusive effects of outdoor lighting, which the lighting assessment considers, addresses the lighting requirements for dark rural environments. Based on the analysis carried out, the lighting assessment considers that the Project would have minimal impact on the residents of Lue and the surrounding district.

The proposed lighting of the Mine Site would fully comply with the limits imposed by AS/NZS4282:2019 for and A1 Environmental Environment, (A1- Dark Environment - Relatively uninhabited rural areas) with the exception of the luminous intensity limit which it slightly exceeds, however, it is suggested that residences are too far from the Mine Site to be affected. The vertical illuminance increase in Lue is also considered too low to be measurable.

As outlined in the assessment, there would be no perceivable increase in the sky glow except when there is low cloud, in which case there would be a slight glow over the Mine Site. While the effect may be visible, the lighting and sky glow assessment concludes that it would not constitute a reduction in amenity for proximal residents.

7.6.5.3 Mitigation and Predicted Impacts (mitigated)

The visual assessment outlines a number of recommendations to mitigate the impacts on visual character and quality of the Mine Site, which include:

- Progressive construction and rehabilitation of the southern barrier and WRE, to limit the area of light-coloured material that would be visible from the public road network and affected local residences
- Maximise retention of existing natural vegetation on the Mine Site
- Protect and maintain areas of natural vegetation between the main open cut pit and crushing and processing area,
- Include in the Vegetation Management Plan, control of weeds and enhancement planting of buffers to the south of the processing plant, crusher/ROM pad and at the perimeter of the WRE, oxide ore stockpile and southern barrier.
- Continue and expand the existing buffer tree planting program
- Adopt planting schedules that maximise the use of appropriate indigenous native tree and shrub species
- Upgrade existing fencing of buffer plantings to rabbit-proof status and provide rabbit-proof fencing to new vegetation buffer areas, to ensure higher establishment rates and to control incidental damage to vegetation.
- Provide irrigation for at least two years to buffer plantings to assist in initial establishment.
- Re-plant or replace dead or unhealthy plants on a two-year cycle.
- Advance plant a permanent tree buffer to the east, south and southwest of the southern barrier and WRE.
- Paint buildings and structures within the Mine Site in appropriate colours to integrate them into existing view contexts.

To inform residents and landholders in the locality and regional community of the outcomes of the visual and lighting assessment, Bowdens Silver and relevant technical specialists have held face-to-face meetings (where possible) with landholders where the Project would be visible. During these meetings, photomontages have been used to illustrate the extent of the visual impact that may be experienced, with proposed mitigation measures discussed.

A Project information sheet summarising the key results of key environmental studies (including the visual results) was distributed to approximately 1600 households and uploaded to the Bowdens Silver website. In addition, an Open Day was held at the Bowdens Silver site to provide further information on the outcomes of key environmental studies and to provide opportunities for community members to meet with the relevant study specialists.

Table 7.48 summarises the mitigation strategies identified by stakeholders in relation to visual impacts, along with proposed strategies to address the visual impacts of the Project.

Table 7.48
Summary of Mitigation and Enhancement Strategies – Visual Amenity

Impact Theme	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Visual amenity	Tree planting / screening	• Progressive revegetation on interim and final areas • Further tree planting adjacent to Pyangle Road and Powells Road
	Visual bunds or barriers	• Set back the waste rock emplacement north of Hawkins Creek • Design the waste rock emplacement to a natural landform • Prepare cross-sections to analyse views from key viewing locations towards the Mine Site • Select a suitable colour for all buildings and noise barriers
Visual amenity – light spill at night	Strategic location of operational lighting to reduce light spill	• Ensure that the lighting used on site has the least impact through its colour (luminance), orientation and shielding

Considering community values relating to rural amenity and view, the lighting and visual assessment outcomes and proposed mitigation measures, the visual amenity impact of the Project is

- *Likely* to have an impact on six properties in the locality, with a *moderate* consequence
- *Unlikely* to have an impact on residents and landholders in the locality with a *minimal* consequence
- *Unlikely* to have an impact on properties in the regional community with a *minimal* consequence.

Considering the above the Project is assessed as having a ***high*** (mitigated) impact on the six proximal properties; a ***low*** (mitigated) impact on properties within the locality and a ***low*** (mitigated) impact on properties in the broader region (refer to **Table 7.49**).

Table 7.49
Summary of Project Impact – Visual Amenity

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Surroundings Way of life	SIA Category Visual amenity due to: Change to landscape Light spill (at night)	Lue SSC Mid-Western Regional LGA	Permanent change – but reduced with rehabilitation	Locality residents where Project is visible (n=6)	High	High
					Locality residents	High	Low
					Regional LGA Community	Low	Low

7.7 ACCESS TO AND USE OF ECOSYSTEM SERVICES

As outlined in Section 3.2, impacts to surroundings also relate to the access to, and use of, ecosystem services which include concerns raised by stakeholders in relation to impacts of the Project on water and ecology, including flora and fauna.

7.7.1 Water access and use

7.7.1.1 Perception of impact

Residents and landholders in the locality, CCC members and Aboriginal groups, all raised concerns regarding the Project's impact on both surface water and groundwater and potential impacts on other users, including agricultural users. Most of the issues raised related to where the water for the Project would be sourced, and concerns about the impact of the Project on local creeks, local aquifers and private bores. Such concerns were also reiterated by members of the wider regional community, with access issues particularly heightened given current drought conditions in the region. Mine design satisfaction scores obtained during SIA engagements with these stakeholder groups, reflected an average of 3.92 (out of 7) for residents and 6.43 for the regional community.

Stakeholder groups also raised concerns about the impact the Project may have on health and wellbeing, including impacts to water quality, with fears expressed in relation to the potential for lead contamination.

The Mine Site is located within the Lawsons Creek catchment, in the eastern headwaters of the Macquarie River basin. Lawsons Creek flows in a north-westerly direction and drains to the Cudgegong River near Mudgee. The Cudgegong River flows in a north-westerly direction from Mudgee, before turning to the southwest and eventually draining to Lake Burrendong. Lawsons Creek has a catchment area of approximately 507 km^2 to the Cudgegong River confluence (near Mudgee). Lake Burrendong has a catchment area of approximately 13,900 km^2 (WRM, 2020).

The MWRC's Comprehensive Land Use Strategy outlines a number of strategies to ensure adequate management of surface and groundwater within the LGA. The Strategy suggests that incompatible land use and intensification of development in water supply catchment areas should be avoided, and all creeks and rivers should have a 40 m buffer zone surrounding them to help minimise surface water impacts (as per the *Water Management Act 2000*). In term of groundwater, the Strategy also recommends that recharge to groundwater should be protected and maintained in elevated areas, vegetation corridors be retained on ridgelines, and incompatible land uses be avoided in area identified as potential groundwater sources (MWCR, 2017).

7.7.1.2 Assessment Outcomes

Technical assessments have been undertaken for both groundwater and surface water i.e. as presented in Section 4.6 and 4.7 of the EIS and Part 5 and Part 6 of the Specialist Consultant Studies Compendium, with results explained in detail in the respective sections of the EIS. Both assessments have considered Project design changes including the pipeline and reduced water requirements (refer to Section 7.7.1.3).

Groundwater

A Groundwater Impact Assessment has been completed as part of the EIS (Jacobs, 2020), which provides an assessment of the potential impacts of the Project on groundwater and has been made against the Minimal Impacts Considerations of the NSW Aquifer Interference Policy. The assessment has included:

- development of a numerical groundwater model that is based on extensive testing in and around the Mine Site that has been calibrated to local and regional groundwater levels
- provision of the groundwater model and report to an independent, industry recognised peer reviewer for assessment to ensure that it meets with the criteria of the Australian Groundwater Modelling Guidelines

The assessment suggests that, with the exception of one groundwater user located to the north of the Mine Site, the Project is demonstrated to meet the Level 1 Minimal Impact Considerations, including potential water level and water pressure impacts to other groundwater users and to groundwater dependent ecosystems, and water quality impacts.

It is noted however, that the modelled groundwater drawdown at the one residence is considered conservative and it is unlikely that the predicted drawdown at this location would eventuate. The groundwater assessment considers that in accordance with the Aquifer Interference Policy, the predicted impacts of the Project are considered to be acceptable.

The Groundwater Impact Assessment considers the reduction to the streamflow, as a result of the Project, of both Hawkins and Lawson Creek to also be of relatively low impact.

Surface Water

As part of the EIS, a surface water assessment (WRM, 2020) was undertaken in accordance with the DPIE's assessment requirements and includes:

- development of a water balance model that has been calibrated to recorded local conditions;
- developed hydrologic and hydraulic models that have been calibrated to local conditions, to identify the magnitude and extent of potential impacts; and
- independent, industry recognised peer review of models and assessment.

In summary, the results suggest that the Project would not impact on Hawkins Creek upstream or the cone of groundwater drawdown, which extends approximately 3.5 km upstream of the Mine Site, or Lawsons Creek upstream of the Hawkins Creek confluence.

During operations, the maximum impact of the Project on downstream flow would be a decrease of flows in:

- the downstream 3.5 km of Hawkins Creek from its confluence with Lawsons Creek by up to 4.4%;
- Lawsons Creek downstream of Hawkins Creek and the Mine Site and upstream of the Walkers Creek confluence by up to 1.2%;
- Lawsons Creek downstream of the Walkers Creek confluence by up to 2.2%.

Post-mine closure:

- the flow in Hawkins Creek for a distance of 3.5km from its confluence with Lawsons Creek would decrease by 1.4%.
- the flow in Lawsons Creek between the confluence of Hawkins and Walkers Creeks would decrease by 0.4%; and
- the flow in Lawsons Creek downstream from its confluence with Walkers Creek would decrease by 0.4%.

The relative impact on flow in Lawsons Creek would reduce significantly with increasing distance downstream, due to the contribution of other tributaries to total streamflow in Lawsons Creek.

WRM (2020) established, from a review of simulated daily flows in Lawsons Creek at its confluence with Walkers Creek, that flows are on average greater than 1ML/day for approximately 80.5% of the time. As a result of the predicted reductions in flows attributable to the Project, flows greater than 1ML/day would occur for approximately 80.2% of the time, i.e. a reduction of 0.5% of the time or up to 2 days per year on average.

In light of this prediction, there would be a negligible change in availability of surface water for downstream users adjacent to Lawsons Creek. Similarly, the impact on cease-to-flow periods would be minimal, with flows greater than 0.1 ML/d reducing in frequency from 90.2% to 89.8% of the time during operations, and 89.6% of the time post-mine closure.

7.7.1.3 Mitigation and Predicted Impacts (Mitigated)

In response to concerns raised by the community regarding where water for the Project would be sourced, Bowdens Silver is proposing to source between 70% and 85% of its water requirements from water recycled from tailings, groundwater inflows to the open cut pits and potentially sediment-laden runoff collected on site that doesn't meet the EPA's discharge quality parameters. In addition, the Project has been amended since its inception, based on stakeholder feedback obtained through the scoping phase of the SIA, to include the construction of a proposed water pipeline from Ulan Coal Mine and/or Moolarben Coal Mine to the Mine Site.

The pipeline would negate the need to pump water from any creeks or groundwater bores outside the Mine Site and would have capacity to supply up to 5.5ML/day. Along the pipeline, isolation valves would be installed at 2 to 4 km intervals and off-take hydrants at valve locations, permitting access to water for firefighting purposes.

With regard to the proposed development of a water pipeline, as part of the Project, residents along the pipeline raised concerns about the impact the pipeline would have on their respective properties. Issues relating to the pipeline included:

- Property access – the need to ensure continued access to properties and paddocks;
- Use of pipeline easement for continued agricultural use – ability to use the pipeline easement;
- possibility of subsidence, given that the pipeline would be buried in a dedicated trench; and
- the need for appropriate rehabilitation works to be undertaken.

In relation to the above issues, appropriate access, construction and rehabilitation plans would need to be developed with each landholder along the pipeline route to facilitate the construction of the pipeline. Given outcomes of the engagement with landholders, changes to the pipeline route have been adopted, with discussions with landholders ongoing.

In addition, the Project design has been altered to reduce the average annual water requirements (from 3.5 GL per year to 1.9 GL per year) and remove the need for large water storage on site.

As a result, the Project would place no additional demand on local and regional water resources. However, in relation to water use, some further concerns were raised, by some regional and locality community residents, that water impacts also existed in relation to moving water from one catchment (Goulburn River catchment where the Ulan and Moolarben Coal Mines are located) and for use in another (Macquarie River catchment where the Mine Site is located).

During Round 2 of engagement residents and landholders in the locality, and regional community members, were asked to score their level of satisfaction with key design changes associated with the Project relating to water access and use, namely changes in water requirements (3.5GL to 1.9GL per year), the proposed water pipeline and no major water storage on site. On average resident and landholder satisfaction ranged from 3.85 (out of 7) in regard to reduced water storage on site, 3.87 for reduced water requirements and 3.98 in relation to the proposed water pipeline. Average satisfaction ratings for these changes from regional community members were much higher at 6.73, 6.73 and 6.76 respectively. The following quotes summarise stakeholder sentiment in relation to the proposed changes.

> *Water is an issue out here, so that's good (that the pipeline is proposed)*
>
> *I think that will have less impact on other landholders in the area*
>
> *I know that's wasted water out there, so I'm happy about that*
>
> *This is still a very large amount of water taken out of a small catchment*
>
> *It sounds proportional to the quantities of ore being processes/extracted, so makes sense, but we're in a bad drought and its tough enough as it is with creeks drying up. I'd prefer no water being used for the mine.*

While landholders were pleased to understand that make-up water for the Project would be accessed via a water pipeline from the Ulan Coal Mine and/or Moolarben Coal Mine, and that local groundwater and private bores would not be substantially affected by the Project, concerns were reiterated regarding impacts on water catchments in the region more broadly.

Considering the above, the impact of the pipeline development on the way of life and livelihood of residents along the pipeline is ranked as a *high* perceived stakeholder risk. The impact of the pipeline development on access to and use of water in the catchment is considered a *moderate* perceived stakeholder risk.

In addition to the pipeline, there have been several other Project design changes and mitigation strategies proposed to help minimise the impact of the Project on water access and use. Additional strategies relating to the TSF and water quality are discussed in Section 7.3. These strategies have considered community concerns and identified strategies raised during engagement for the SIA, as outlined in **Table 7.50**.

Table 7.50
Mitigation and Enhancement Strategies - Water Access and Use

Impact Theme	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Water access and use – Pipeline	Further information about where water would be sourced Project to have no impact to local water supplies	Bowdens Silver recognises that water is a key resource for the whole community and is proposing to source (in priority order) from recycled water from the TSF, groundwater inflows to the open cut pits; contaminated surface water collected and water from the water supply pipeline from the Ulan Coal Mine and/or Moolarben Coal Mine.
	Community access to water from pipeline	The water pipeline has been designed to provide access for firefighting along the extent of the pipeline
Water access and use – Groundwater	Supply of water for local farmers if water table declines	Make-up water required for the Project would be sourced from the Ulan Coal Mine, enabling Bowdens Silver to minimise the impact on groundwater around the mine site.
	Rigorous and robust assessment	Compilation of a high quality, robust data set based on regular monitoring conducted on the Mine Site and in Lue, since 2011-2012. The data set comprises surface water and groundwater quality and meteorological data Groundwater assessment has determined there would be limited impacts to groundwater surrounding the Mine Site.
	Groundwater monitoring and management	Continue to sample and monitor the local and regional groundwater system and build on the currently held dataset. Dataset based on regular monitoring since 2011-2012 on the Mine Site and Lue relating to groundwater, surface waters and meteorological data Mining operations would involve pit dewatering Infrastructure designed to reduce impacts on the local groundwater system e.g. liners. Company to secure water access licences to account for all groundwater inflows to the open cut pits
Water access and use – surface water	Rigorous assessment process	Commissioning of a comprehensive surface water assessment that is subject to independent peer review
	Surface water management and monitoring	Continue to sample and monitor surface water and build on our robust dataset. This dataset is based on regular monitoring since 2011-2012 at the Mine Site and Lue of groundwater, surface water and meteorological data TSF and WRE runoff captured for use in processing Maximise the diversion of runoff from undisturbed areas of the Mine Site to help maintain flows in Hawkins and Lawsons Creeks Capture and treat all runoff with high sediment levels and subsequently release it to help maintain flows in Hawkins and Lawsons Creeks Capture all runoff, seepage and leachate from areas that are in contact with potentially reactive material and re-use in processing operations

Considering the above mitigation strategies and Project design changes, the impact of the Project on access to and use of water by locality residents, private bore owners and the broader regional community, is considered *unlikely* to occur, with a *minor* consequence and is therefore assessed as a ***low*** social impact (mitigated).

However, given the need to construct a pipeline to access make-up water as part of the Project, the pipeline is considered to impact on the personal and property rights of landholders along the proposed route, as outlined in Section 7.8. However, these landholders would be compensated for the pipeline presence on their properties.

Table 7.51
Summary of Project Impact – Water Access and Use

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Surroundings Way of life Personal and property rights	Access to and use of water	Macquarie River Catchment	Mine life (approx. 16.5 years), possibly ongoing	Locality residents Private bore owners	High	Low
					Regional LGA Community	High	Low

7.7.2 Environmental impacts

During the SIA engagement program, respondents raised a number of concerns relating to environmental impacts more generally. Locality residents and CCC members were more likely to raise concerns about impacts of the Project on flora and fauna, in particular impacts to threatened and endangered species. Other stakeholder groups (community service providers, local businesses, company employees) raised more general issues relating to the impact of the Project on the environment. Some stakeholders also identified that the Project may have a positive impact on the environment through the utilisation of the product (silver) in renewable energy.

7.7.2.1 Assessment Outcomes

Terrestrial Assessment

In relation to ecological impacts, a terrestrial biodiversity assessment report was completed as part of the EIS (EnviroKey, 2020), and takes into consideration the NSW *Framework for Biodiversity Assessment,* the NSW *Biodiversity Offset Policy for Major Projects,* the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The assessment identified the following within the Study Area:

- 370 flora species, of which 267 are native flora species and 103 are exotic flora
- 168 fauna species including
- 123 species of bird
- 21 species of mammal

- 18 species of reptile
- six species of frog
- 11 biometric vegetation types

In relation to the above, the study found several species and communities that are classified threatened according to NSW legislation (NSW *Biodiversity Conservation Act 2016*) and critically endangered according to federal legislation (EPBC Act), including:

- two flora species
- 14 fauna species
- three biometric vegetation types:
- White Box-Yellow Box Grassy woodland
- Blakely's Red Gum Grassy Woodland
- Derived Native Grassland

Of the recorded threatened species, two classify as credit species, and have been recorded within the Project disturbance footprint, namely the Ausfeld's Wattle (*Acacia ausfeldii*) and Koala (*Phascolarctos cinereus*). Two other credit species are also predicted to occur within the disturbance area, namely the Squirrel Glider (*Petaurus norfolcensis*) and Regent Honeyeater (Anthochaera phrygia).

A significance assessment was completed for each of these species listed under the EPBC Act. In summary, EnviroKey (2020) concluded that the Project would not impact on the Rainbow Bee-eater, White-throated Needletail, Latham's Snipe, Cattle Egret or any migratory species. It was also concluded that the Project is unlikely to result in a significant impact upon the Koala, Large-eared Pied Bat, Spotted-tail Quoll or Swift Parrot.

For both the Box-Gum Woodland and Regent Honeyeater[45], despite all reasonable attempts to avoid impacts, the Project has the potential to have a significant impact in the absence of suitable biodiversity offsets. Consequently, both Box-Gum Woodland and the Regent Honeyeater are key considerations in the proposed Biodiversity Offset Strategy.

Aquatic Assessment

An aquatic ecology study has also been completed as part of the EIS (Cardno, 2020), with the following identified in the study area:

- four native fish species and three introduced fish species, none of which are threatened;
- sub-optimal habitat for potential threatened species (none of which were identified); and
- limited stygofauna.

[45] EnviroKey (2020) records that some potential habitat for the Regent Honeyeater is within areas to be disturbed throughout the Mine Site, however, no observations or records of observation of the Regent Honeyeater have occurred.

The assessment concluded that the Project would have no more than minor impacts to aquatic ecology with no impacts to key fish habitat and potential threatened species in either Hawkins or Lawsons Creeks.

The Aquatic Assessment concludes that there would be no direct impacts to Hawkins and Lawsons Creeks and these creeks would not be displaced or re-aligned during construction, operation or decommissioning. Sections of several un-named and ephemeral watercourses would be displaced and re-aligned within the Mine Site. These watercourses have limited aquatic habitat and their loss/disturbance is expected to result in very minor to negligible associated impacts to aquatic ecology in the context of the local and regional area, within which comparable habitat is abundant. Further, these would be replaced by newly created watercourses resulting in no net-loss of watercourse habitat.

Predicted groundwater drawdown in alluvial aquifers associated with Hawkins and Lawsons creeks would be expected to result in a localised reduction in the availability of stygofauna habitat. Given the predicted drawdown is smaller than the thickness of the alluvial aquifers there should not be a complete loss of stygofauna and their habitat associated with Hawkins and Lawsons Creek alluvium. There would be a minor (a small percentage) reduction in surface flow in Hawkins and Lawsons creeks as a result of the Project.

The greatest potential impact to aquatic habitat and plant life presented by the Project would occur in the unlikely accidental release of poor quality water, potentially elevated suspended sediments following mobilisation of sediments from disturbed areas during rainfall containing toxicants in chemicals and hydrocarbons used on site or with low pH, due to interaction with waste rock or following processing of mined material.

7.7.2.2 Proposed Mitigation and Predicted Impacts (Mitigated)

A number of mitigation measures would be put in place to manage ecological impacts and protect relevant ecological habitat.

According to the terrestrial study, appropriate mitigation measures and a biodiversity offset strategy would be applied should the Project proceed, that meets the requirements of the NSW offset policy for major projects. Further, a range of avoidance measures have been implemented during the planning phase to minimise the level of impact, where possible.

A revegetation program is proposed, in addition to the biodiversity offset strategy, using native species consistent with the existing plant communities. These areas rehabilitated to native vegetation would further reduce impacts to biodiversity.

The aquatic study concludes that impacts to aquatic plant and animal life can be effectively managed by the successful implementation of the inherent components of mine design and ongoing monitoring aimed at preventing the release of water to watercourses. Controls aimed at preventing release of sediment-laden water during construction and operation of the Project would be incorporated as part of the Erosion and Sediment Control Plan to manage impacts to key fish habitat. As such, a referral under the EPBC Act is not required.

Rehabilitation would provide adequate environmental offsetting for the relatively minor impacts that would occur to ephemeral watercourses and associated vegetation. Assuming third order and higher sections of re-aligned watercourses provide a similar amount and quality of watercourse habitat, associated environmental offsets are unlikely to be required.

Although no more than minor impacts to aquatic habitat and animal and plant life are expected, as a precautionary approach, it is recommended by Cardno (2020) that monitoring of aquatic ecology in surface waters should be undertaken well before, during, and if necessary, after, the operation of the Project.

Table 7.52 summarises the mitigation measures that Bowdens Silver proposed to adopt relating to ecology, along with proposed strategies to address the ecological impacts of the Project.

Table 7.52
Ecological Impacts – Mitigation and Enhancement Strategies

Impact Theme	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Ecological impacts – flora and fauna	Robust assessment and protection of flora and fauna – aquatic	• Commissioned comprehensive terrestrial ecology studies • Identified areas of high biodiversity value to inform Mine Site layout • Commissioned comprehensive Aquatic Ecology studies including: – survey of Hawkins and Lawsons Creeks – inspections and assessment of Walkers Creek, Blackmans Gully & Price Creek – inspection and assessment of nine springs – sampling of 24 groundwater bores for stygofauna • Altered the route of the water pipeline corridor, to avoid areas of high biodiversity value
	Robust assessment and protection of flora and fauna – aquatic	• Implement a biodiversity offset strategy if approved by the DPIE • Prepare and implement a biodiversity management plan • Undertake progressive rehabilitation

With proposed mitigation measures in place, it is predicted that ecological impacts from the Project would occur with *minimal* consequence and are therefore considered a ***low*** social impact. Ecological impacts relating to the Project were also ranked as a *low* perceived stakeholder risk (refer to **Table 7.53**).

Table 7.53
Summary of Project Impact – Ecological Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Surroundings	Ecological impacts – terrestrial and aquatic	Lue SSC	Mine life (approx. 16.5 years)	Locality residents Regional LGA Community	Low	Low

7.7.3 Land Use and Intergenerational Equity

Intergenerational equity is the idea of applying fairness or facilitating distribution of well-being between/across generations, preserving natural resources and/or caring for the environment for the benefit of future generations. 'A sustainable world is one in which human needs are met equitably without sacrificing the ability of future generations to meet their needs' (Summers and Smith, 2014: 718).

Land use conflict can often materialise through impacts of differing land uses (e.g. noise, dust, lighting and visual impacts) or more indirectly through having to share scarce resources (e.g. water, workforce, transportation infrastructure). Land use conflicts can sometimes have intergenerational components which are associated with equity considerations for project development.

Consideration of intergenerational equity is emerging as a key theme in Project development processes, having been raised in assessment reports of the Independent Planning Commission (IPC) for the Rocky Hill and Bylong Valley assessment processes. In both these Project contexts, the IPC has noted significant concerns relating to environmental impacts, including climate change and the costs to future generations as primary reasons for the Projects to be rejected.

7.7.3.1 Perception of Impact

Issues identified by community members in relation to the proposed land use, related largely to concerns regarding conflicting land use and rehabilitation of land both during and post mining.

The Mid-Western Regional LGA comprises a number of different land uses, namely:

- Agriculture/viticulture
- Tourism
- Residential settlements (including villages)
- Residential 'lifestyle' blocks (i.e. large blocks primarily used for residential recreation and/or hobby farming)

During engagement, residents and landholders in the locality identified the agricultural, rural residential and tourism uses of the area as valued land uses, which are considered important to the locality's sense of place (as discussed further in Section 7.4). Some respondents stated the Project was not compatible with these existing land uses and had the potential to compete with these land uses for resources such as fertile land, water, workforce; and detrimentally impact on rural residential and tourism through operational impacts such as dust and noise.

Given the perceptions outlined above, the impact of the Project on other land uses in the Mid-Western Regional LGA is ranked as a *moderate* perceived risk from a locality resident perspective and a *low* perceived impact by the broader regional community.

7.7.3.2 Assessment Outcomes

As outlined in Section 5.4**,** Lue and the LGA has a long history of agriculture. The Lue Station has been a prominent farm used for sheep grazing since the early-1800s; and before the establishment of the railway, was the largest employer of labour in the locality; contributing to the development of Lue. The Lue Station was sold in 1923 to the Combes family, who currently

own the property; with the property today still used to run sheep and cattle, with livestock numbers dependent on changes in the market. In a media article in 2017, Tom Combes is quoted as stating '*We bought 1200 ewes […] but we're trying to take that up to 2000 breeding ewes… In the past we haven't really had much success as far as generating a profit, but the market has come up and it's a good opportunity to get back into fine wool sheep*' (The Land, 2017). The property has also diversified to now incorporate the Louee Enduro and Motocross Complex and accommodation facilities. A number of other working properties in the locality have also diversified their interests in developing their properties for farm stay and bed and breakfast accommodation. For example, the Wyuna property is a working farm that currently offers farm stay accommodation (Airbnb, 2019). Other guesthouses and B&Bs within the locality include Elephant Mountain House, Odd Frog Lodges, the Old Bara Guesthouse, Rokbara Cottage and Camphill Cottage.

Other agriculture and viticulture-based tourism activities in the LGA also include cellar doors, wineries and wine tours, farm tours, agricultural shows and community and farmers markets.

The MWRC's Comprehensive Land Use Strategy (2017) states that mining and agriculture are major employers in the LGA, with approximately 9% of the working population in 2016 employed in agriculture (including forestry and fishing) and 15% employed in mining (refer to Section 5.10.1). Employment in mining has increased since 2011 by around 1.2%, with employment in agriculture declining slightly (0.6%) across this same period.

Within the strategy, tourism is also considered an important and growing industry within the LGA. Mudgee is the primary visitor destination within the LGA; however, Rylstone and Gulgong are also receiving large visitor numbers. Gulgong for example, attracts visitors due to its heritage character - originally a 19th Century gold mining town home to a population of around 20,000, the town has over 130 heritage buildings. Lue also has a number of old heritage buildings, including the old railway station and cottage, providing potential for Lue to also be incorporated in the defined heritage trail through the region.

The MWRC's Land Use Strategy suggests that extensive and intensive agriculture, mining, tourism and rural living continue to be the key land uses across the LGA; and that sufficient land, services and facilities need to be available to support these industries. The Strategy also states that while mining currently has a relatively small percentage of land use (1%), exploration titles and applications[46] currently cover two-thirds of the LGA.

As part of the EIS, an assessment of Biophysical Strategic Agricultural Land (BSAL) has been completed. BSAL is land with a rare combination of attributes that are highly suitable for agriculture including high quality soil and water resources capable of sustaining high levels of productivity.

This assessment involved the following.

- A site soil survey of the Mine Site was conducted in accordance with the DPE's Interim Protocol for Site Verification and Mapping of Biophysical Strategic Agricultural Land 2013
- The site soil survey comprised a total of 39 soil test pit locations and was conducted by accredited soil scientists

[46] Exploration licences are issued by the NSW Government to mineral exploration companies to explore for minerals that could potentially identify a mineral resource that could be mined, subject to the receipt of the necessary approvals.

- 35 (90%) of the test pits did not meet BSAL criteria
- Four of the test pits did exhibit BSAL qualities, however, these test pits were isolated and did not form a single contiguous area greater than 20ha
- A Site Verification Certificate was issued by DPE on 8 November 2017 which confirms that there is no contiguous BSAL within the boundary of the Mine Site[47]

Considering the limited availability of BSAL land, and other factors including the decrease in agriculture-based employment, the increase in the tourism industry and the objectives outlined in the MWRC's Comprehensive Strategic Land Use Strategy, it is unlikely that the Project would impact on the productivity of current agricultural land in the area. Bowdens Silver has also committed to continue to operate the Bowdens Farm throughout the Project life, with a focus on grazing of livestock including sheep and cattle.

However, as highlighted in Section 7.7.3.3, from a social perspective the likelihood of the Project contributing to land use conflict, particularly in the Lue locality, is considered a possibility, even with relevant mitigation measures in place.

In relation to future land use, the main legacy the Project would leave for future generations would be a final landform, post closure; of which only 5% of the Mine Site (the main open cut pit) would be unable to support other land uses.

Based on the results of Bowdens Silver exploration activities, associated with the Project, there may also be sufficient additional resources in proximity to the proposed site for further expansion, subject to further technical definition and future approvals. Whilst a future expansion may exacerbate the final landform impacts outlined above, it could also provide a positive impact on intergenerational equity in the form of sustained employment and community investment.

Furthermore, given current drought conditions, the diversification of local industry may provide a measure of resilience to economic pressures and afford those working in other industry sectors the opportunity to supplement their income with additional employment (for further details, see Section 5.10.1.2).

7.7.3.3 Proposed Mitigation and Predicted Impacts

During the engagement program for the SIA, respondents raised concerns about final land use and rehabilitation of the Mine Site post-mining. There was a desire from the community to see the area rehabilitated to a pre-mining state or used for farming or grazing, consistent with current land use in the area. Rehabilitation was of most concern to Aboriginal stakeholders, with a number of participants stating that rehabilitation needs to be both effective and progressive and involve the Aboriginal community where possible to ensure the protection of Country.

Community members were asked to identify what they would like to see in terms of rehabilitation and final land use. Responses primarily centred around rehabilitating to a state that is viable for farming or grazing, or for recreational use. Other potential post-mining land use ideas included educational tourism to demonstrate the mining process and rehabilitation, renewable energy generation, a fun park.

[47] The Site Verification Certificate is included as Annexure E of SMD (2020).

The EIS outlines that rehabilitation would be progressive and would involve landform construction and either temporary or permanent revegetation. Final slopes would be designed to be stable with watercourses re-instated. Temporary revegetation would focus on the use of exotic pastures to ensure rapid growth whereas emphasis would be placed upon native vegetation (trees, shrubs and ground covers) on all permanently vegetated areas. Both temporary and permanent revegetation would be undertaken progressively.

In addition, if the Project is approved, Bowdens Silver would continue to operate a farm on the mining lease. The farm comprises approximately 1,000 ha and is used to run both Merino Sheep and Black Angus cattle.

Table 7.54 provides a summary of the mitigation strategies identified by the community, through the engagement program, and proposed strategies in relation to the Project.

Table 7.54
Summary of Mitigation and Enhancement Strategies – Conflicting Land Use

Impact Theme	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Conflict as a result of competing land uses – mining, agriculture, rural villages	• Sustainable land use – no impact to agricultural land • Agriculture to continue to be a key land use and economic contributor • Maintain rural lifestyle	• The Bowdens Farm would continue to operate throughout the Project life to the greatest extent practicable. Farming operations would continue to focus on grazing of livestock including sheep and cattle. • The implementation of air quality, water and noise mitigation and monitoring measures to minimise any potential impacts to agricultural enterprises and general rural amenity.
Conflict as a result of competing land use – tourism	• Mine based tourism • Enhance local heritage buildings • Contribute to the development of a heritage trail through the region in consultation with the MWRC	• Community Investment Program
Rehabilitation and final land use	Progressive rehabilitation	• Progressive rehabilitation • Establishment of a nursery and conducting trials of cultivation of locally collected native vegetation seed for rehabilitation
	Backfilling	• Two small satellite pits would be backfilled to the pre-mining landform
	Regeneration of the area to its natural state	• Establishment of a nursery and conducting trials of cultivation of locally collected native vegetation seed
	Consideration of other land uses e.g. • a public / recreation area • fishing / water sports • a tourist centre – interactive visitor's centre showing how extraction was undertaken • pastoral grazing	• Engagement with key stakeholders to obtain feedback on rehabilitation and final land uses
	Ongoing consultation with Aboriginal stakeholders regarding rehabilitation Involvement of Aboriginal groups in seed propagation and rehabilitation activities	• Engagement of Aboriginal Stakeholders in rehabilitation initiatives

A conceptual closure plan has been developed as part of the EIS. The conceptual closure plan provides a sustainable land use plan and rehabilitation for the mine; with opportunities for alternative land uses to be considered. Preparation of a conceptual closure plan, from the onset of the Project, provides an assurance that the site would, at a minimum, be returned to a sustainable land use, to ensure that future generations are not left with any environmental costs associated with the Project.

In addition, as mentioned in Sections 7.7.1.and 7.7.2, the surface and groundwaters impacts have been assessed as minimal. A range of mitigation measures, including the water pipeline, have been identified to minimise impacts on current and future land use and ensure long term sustainability and intergenerational equity,

Furthermore, the Project could be considered to provide sustainability for the region in the provision of additional economic, human and social capital. According to Hart (1999), natural, human, social, and built/physical capitals are the key assets to defining community resilience and sustainability over time. Hart stresses the importance of optimising a community's utilisation of its key capitals and discusses the inter-relationship and linkages across different community capitals and assets, such that where one capital is depleted, other community capitals and assets are also likely to be correspondingly compromised. For example, should human capital be depleted, in terms of a potential deterioration in levels of education or health, the subsequent maintenance of built capitals (e.g. economic infrastructure) are likely to also become affected, thus compromising the overall sustainability of the community (Coakes and Sadler, 2012).

Areas of vulnerability within the region, based on the capitals analysis (outlined in Section 5.10) include limited employment opportunities and high unemployment, decreasing capacity in certain infrastructure areas (e.g. roads and housing), low levels of post-secondary education opportunities and limited access to particular community services (e.g. specialist health services).

The Project is also considered to have a positive impact on future generations through providing an important precious metal that is used in major industry, from biocides (pesticides and antimicrobials e.g. germicides, antibiotics) and electronics to solar panels and batteries.

Therefore, in summary, considering the mitigation strategies above, the potential for the Project to increase land use conflict in the locality and the region is considered *possible*, with a *minor* consequence resulting in a ***moderate*** predicted social impact more locally; and a minimal consequence more regionally, resulting in a ***low*** predicted social impact. The Project is also considered to have a ***low*** impact on agricultural land use in the region (refer to **Table 7.55**).

Table 7.55
Summary of Project Impact – Conflicting Land Use

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Surroundings Community Culture	Conflict as a result of competing land use	Lue SSC	Mine life (approx. 16.5 years)	Locality residents	Moderate	Moderate
			Mid-Western Regional LGA		Regional LGA community	Low	Low
	Surroundings Community Culture	Impact on agricultural land	Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality Residents Regional LGA Community	Low	Low

7.8 LIVELIHOOD IMPACTS AND PERSONAL AND PROPERTY RIGHTS

According to the SIA Guidelines (DPE, 2017), impacts to personal and property rights include whether people's economic livelihoods are affected, and whether they experience personal advantage or disadvantage and/or have their civil liberties affected. During engagement, concerns relating to this category included employment, procurement of local businesses, community investment, costs of living, economic sustainability and property damage (due to blasting) and general property value, given proximity to mining operations.

7.8.1 Property damage (Blasting)

A Blast Impact Assessment has been undertaken for the Project which addresses the impacts of the Project in terms of ground vibration, overpressure and fly rock on the surrounding environment, including private residential landholders, cultural heritage sites, rock formations and infrastructure.

Ground vibration and air blast levels, which may cause human discomfort, are lower than recommended structural damage limits. Therefore, compliance with the lowest applicable human comfort criteria generally ensures that the potential to cause structural damage is negligible.

The assessment found that operational blast designs

- Would exceed human comfort criteria at three residences surrounding the Mine Site (two of which are in the acquisition zone.)
- Would comply with human comfort criteria at all properties in Lue, including places of interest (Lue Public School, Lue Pottery, Lue Hall and Lue Railway Station)

The Blast Impact Assessment considers there is negligible potential for structural damage as a result of blasting.

While, blasting and vibration is not expected to cause property damage, Bowdens Silver would implement a Blast Management Plan which would ensure that ground vibration and potential blast emission impacts are minimised. The community also identified a number of potential mitigation strategies which included providing blast notifications to all residents in Lue and surrounding localities and publishing the outcomes of blast monitoring (refer to **Table 7.56**). Bowdens Silver has also committed to undertaking structural inspections for properties within a 2km radius of the open cut pits prior to the first blast, subject to landowners'/occupant's permission.

Considering the above mitigation measures and technical assessment, property damage as a result of blasting is *unlikely* to occur with *minor* consequences and is therefore ranked as a ***low*** social impact (refer to **Table 7.57**).

Table 7.56
Summary of Mitigation and Enhancement Strategies – Property Damage (Blasting)

Impact Theme	Community Identified Mitigation Measures	Existing or Proposed Mitigation and Enhancement Strategies
Property damage - Blasting	• No property damage from blasting • Publish blast monitoring data • Blast notification for Lue and surrounds • Undertake property inspections prior to commencing operations • Bowdens Silver would commission structural inspections of properties within a 2km radius of the open cut pits prior to the first blast.	• Designing blasts to satisfy ground vibration, air blast limits and monitoring blasts to verify the blast design. • Development of a Blast Management Plan • Development of a regular newsletter summarising environmental monitoring outcomes – distributed to locality residents and uploaded to the Bowdens Silver Website • Provision of blast notifications to local residents and via the notification board in Lue • Acquisition rights and/or property specific mitigation measures provided to residents in the acquisition and management zones

Table 7.57
Summary of Project Impact – Property Damage (Blasting)

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Personal and property rights	Property damage and access	Lue SSC	Mine life (approx. 16.5 years)	Locality residents – 4 properties identified as impacted	Low	Low

7.8.2 Decline in Property values

7.8.2.1 Perception of Impact

Residents in the locality and regional community members raised concerns that the Project may affect their property values. While some respondents suggested that towns in the LGA would be affected, the majority of concerns were that the property prices for property in Lue and surrounding the Project may decline due to the presence of the Project. Other landholders in the locality, however, suggested that property prices in the Lue locality and other towns in the LGA could increase as a result of the Project, due to a greater demand for houses in the area.

In the absence of up-to-date and specific information relating to property values proximal to the Project, it is difficult from a social impact perspective, to ascertain the risks of the Project on property values.

However, outcomes of recent assessments of property value (Tew, 2019; Knight Frank Newcastle, 2019), in other Project assessment processes e.g. Mangoola Continued Operations Project (MCOP EIS/SIA), has indicated that:

- Whilst it is difficult to determine the impact that a mining Project would have on the saleability of a specific property, there is no evidence of a discernible change in market value of rural lifestyle properties surrounding the MCO Project (and outside the VLAMP area) which could be attributed to the proximity of the mine.

- Market data and discussions with local real estate agents indicates that the market for rural lifestyle properties in the area is liquid, with no known evidence of unsaleable properties as a result of the presence of mining operations.
- Residential sales in the Muswellbrook LGA appear to be somewhat tied to changes in the mining industry, with increases in commodity prices and production linked to increased prices and demand (and vice versa for decreasing prices).
- There is evidence to suggest that detrimental impacts on property prices occur as a result of mining operations; however, this impact appears to be limited to the areas where factors such as noise and air quality exceed environmental standards and criteria, thus necessitating acquisitions by the relevant company under the VLAMP. No evidence outside these areas was determined through analysis of available market sales data.

The VLAMP provides voluntary acquisition rights for those properties identified as adversely impacted by noise or dust (the acquisition zone). Those properties that are impacted to a lesser degree but still fall within the marginal/moderate impact zone are afforded a range of mitigation rights that they can choose to receive to mitigate the impacts of a Project. This may include measures such as air conditioning and electricity subsidies; double-glazing of windows and other noise and dust mitigation measures, such as the cleaning and provision of water filters on drinking water tanks and pool cleaning. Those properties that are in the negligible impact zone are not required to be afforded these mitigation rights, however, Bowdens Silver would extend these controls to properties located within the negligible impact zone. Together, these two impact zones are referred to as the management zone.

In addition, some concerns were raised by landholders along the pipeline that related to the perceived potential for a decrease in property values due to an easement crossing their land. Also raised, were concerns about disruption to their farming activities during construction and the need for reasonable compensation to be paid for not only the pipeline but for relevant rehabilitation.

Impact on property values is considered a *high* perceived stakeholder risk for residents and landholders in the locality and landholders along the pipeline, and a *low* perceived stakeholder risk for the broader regional community.

7.8.2.2 Assessment Outcomes

A review of land values in the Mid-Western Regional LGA assigned for rating and taxing purposes by the NSW Valuer Generals Office in the years 2015 to 2019 indicates that during the years 2015/2016 and 2016/2017 there was little movement in residential land values in the Mid-Western Regional LGA (NSW Valuer General, 2019). However, the LGA has experienced a strong increase in values from 2017 to 2018, including a 11.5% increase for residential properties and 19.8% increase for rural properties. From 2018 to 2019 rural properties saw a further 13.7% increase while residential properties remained stable (NSW Valuer General, 2019). The 2018 Valuation Report states that the market generally has been very active with all agents reporting good demand across all market sectors, particularly rural land in the Rylstone area and green timbered blocks to the north of Mudgee. Resurgence of coal mining activities and a boost in tourism has combined with historic low interest rates and a buoyant economy to support real estate investment in the area (Opteon, 2018).

The 2018 Valuation Report states that residential values were somewhat mixed in their outlook with demand increasing land values in Kandos and sectors of Gulgong, on a very strong basis. A general supply sufficiency in Mudgee saw only slight increases in values but overall increases in the LGA were considered to be strong (Opteon, 2018). The 2019 Valuation Report, states that residential values remained stable since 2018 (Aspect, 2019).

Rural values have seen a strong increase overall in 2017-2019, again with a very strong increase in Rylstone's rural land values and recreational green timber blocks to the north of Mudgee. Absentee owners featured well in many transactions, both for hobby farm/recreational blocks as well as mainstream rural holdings. Similarly there has been local demand for rural holdings for both hobby farms on the outskirts of Mudgee, Gulgong and all villages together with Rylstone and Kandos (Opteon, 2018; Aspect, 2019). As discussed in Section 5.11.3, house prices in Kandos, Gulgong, Rylstone and Mudgee have risen gradually since 2010. House prices for Lue, however, have fluctuated from year to year since 2010, with low number of sales contributing to these fluctuations.

7.8.2.3 Proposed Mitigation and Predicted Impacts (Mitigated)

To address the issues raised relating to the perceived impacts of the Project on property values, Bowdens Silver proposes to develop a Community Investment Program for residents and landholders in the locality and other key communities in the region. An objective of the program would be to address perceived issues through the development and implementation of enhancement projects for key localities, for example town beautification projects or local infrastructure upgrades. Further detail of the Community Investment Program is provided in Section 8.2.2. Further strategies that Bowdens Silver proposes to adopt and proposed mitigation and enhancement strategies to address these impacts are noted in **Table 7.58.**

Table 7.58
Summary of Mitigation and Enhancement Strategies – Property Values

Impact Theme	Community Identified Mitigation Measures	Existing or Proposed Mitigation and Enhancement Strategies
Personal and property rights – Property values	• Property value protection (pre mining valuation) should landholders wish to move/relocate • Enter into agreements with affected landholders to purchase their properties	Community Investment Program • Local investment in key community enhancement Projects in Lue, Rylstone, Kandos
Personal and property rights - Property values and land access (Water Pipeline)	• Provide adequate compensation to landholders along the pipeline route • Minimise disruption to private property, including waterways	• Pipeline to be buried, with an approximately 10m wide disturbance footprint. Ongoing engagement with landholders along the proposed pipeline route • Relocation of pipeline to avoid private property (where possible) • Provide compensation to landholders through which the pipeline traverses

To address concerns relating to property access and the impact of the development of the water pipeline on property values, Bowdens Silver has engaged with the landholders along the proposed route, to provide them with information regarding the proposed pipeline development, to discuss potential compensation, easement creation and the process of pipeline approval and construction.

During consultation with landholders, a number of landholders have been reluctant to allow the initial surveys to occur, with some refusing access completely. The proposed preliminary pipeline route has been relocated to road reserves, where possible, to avoid properties where landholders have refused land access for conduct of assessment surveys.

Considering the above mitigation strategies, the impact of the Project on property values of locality residents is considered *possible* with a *minor* consequence, resulting in a ***moderate*** social impact ranking.

The impact of pipeline on property values and land access, for those landholders on which the pipeline is located, is also considered *possible* with a *minor* consequence, resulting in a ***moderate*** social impact ranking.

The impact on the broader regional community is considered ***low*** (*unlikely* and *minimal*) (refer to **Table 7.59**).

Table 7.59
Summary of Project Impact – Property Values

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Personal and property rights	Declining property values	Lue SSC	Mine life (approx. 16.5 years)	Locality residents	High	Moderate
			Pipeline route	Permanent Change	Landholders along the pipeline	High	Moderate
			Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Regional LGA Community	Low	Low

7.8.3 Employment, Procurement of Local Business and Community Investment

7.8.3.1 Perception of Impact

The positive economic impacts associated with the Project i.e. local employment, workforce expenditure, procurement of local businesses and services and community investment, were raised extensively across differing stakeholder groups during the SIA engagement program. Participants were interested in seeing the economic benefits of the Project maximised through local employment and limiting of both FIFO and DIDO employees. In addition, it was understood that the Project could benefit the local economy through maximising procurement of local businesses and services.

For Aboriginal stakeholders, while the employment of Aboriginal people was seen as a positive impact of the Project, responses were divided between those stakeholders that believed that employment of Aboriginal people should be limited to involvement in cultural heritage assessments only; while others saw the Project as being able to offer a variety of job opportunities to Aboriginal people, particularly Aboriginal youth.

Locality residents also suggested that the employment generated by the Project would not be enough to outweigh the negative impacts of the Project, with some suggesting that the residents of Lue and surrounds were mainly retired and therefore not in need of employment. However, this sentiment was not shared by members of the regional community, local businesses and service providers who suggested that the Project would bring in much needed employment for the LGA. Respondents also noted there was a current lack of employment opportunities in the LGA, specifically for youth, resulting in younger people relocating out of the area. In addition, the Project was also seen to be able to provide training for, and upskilling of, the regional workforce.

A further positive economic impact, identified by those consulted, included the opportunity for increased procurement of local businesses and use of local community services; thus, impacting positively on the region's economy. As noted by regional community members, the region has experienced a number of shocks due to closure of other businesses in the area e.g. cement and lime works and the recent rejection by the IPC (September 2019) of a proposed coal mine in the Bylong Valley. These respondents saw the Bowdens Silver Project as an opportunity to further develop and diversify the mining industry in the region into commodities other than coal.

Respondents also outlined that the Project would have a positive economic benefit to the local and regional community through the potential for community investment, funding and sponsorships.

The perceived stakeholder ranking is considered a *moderate* positive impact for locality residents and a *high* positive for Aboriginal stakeholders, members of the regional community, local businesses and services providers.

7.8.3.2 Assessment outcomes

The NSW Mineral Councils' latest (February 2020) release of its annual NSW Mining Industry Expenditure Impact Survey 2018/19 provides an overview of the impacts of mining in the region more generally. The survey indicates that the 28 mining companies surveyed across NSW, directly spent an estimated $13.7 billion in the NSW economy in 2018/19, comprised of:

- $2.5 billion in wages and salaries paid to approximately 18,820 full-time equivalent residing employees (including contractors); representing an average salary level of $0130,374 per annum across the sector;
- $8.9 billion in purchases of goods and services from approximately 7,003 local businesses, community contributions and payments to local government (including rates, developer contributions and other payments); and
- $2.3 billion in state government payments (including royalties, stamp duty, payroll tax and land tax).

In terms of an annual trend, total spending in NSW by companies surveyed was 27.9% higher than 2017/18. There was also significant annual growth in total direct wages (up 15.6%), contract payments (up 22.3%), contributions to community organisations (up (30.9%), local government payments (up 55.9%) and state government payments (up 17.1%).

At a regional level, the report has identified that there are 1,582 FTE employees of mining companies residing in the Mid-Western Regional LGA. The direct contribution to the LGA totalled $376.0 million, including $195.4 million in wages; with purchases with local businesses totalling approximately $180.7 million (NSW Minerals Council, 2020).

In this regard, stakeholders consulted as part of the SIA emphasised that economic activity associated with the Project should have maximum benefit for locals, with as much employment and commercial opportunity retained within the Mid-Western Regional LGA.

Outcomes of an employee survey undertaken by Umwelt (2019) has revealed that most of the Bowdens Silver Project team currently live within the LGA and make a contribution to the regional economy through:

- employment (direct impact)
- business expenditure (direct impact)
- employee household expenditure (indirect impact) (refer to Section 4.1).

As part of the EIS, an economic assessment has also been undertaken which indicates that, using a conservative Local Effects Analysis (LEA), the Project has the potential to:

- provide a net benefit to NSW of up to $146 million in net present value (NPV) terms, comprised of a net production benefit of $44 million NPV after mitigation, compensation and offset, and a possible market & non-market benefit of employment estimated at $103 million NPV
- contribute an estimated 31 to 52 local area jobs and $2.5 to $4.3 million in local area income for existing residents annually during construction, including an estimated 20 to 33 net direct local jobs associated with the Project ($1.8 million to $3.0 million in income)
- contribute an estimated 147 to 260 local area jobs and $10.3 million to $18.2 million in local area income for existing residents annually during operation, including an estimated 73 to 129 net direct local jobs associated with the Project ($6.2 million to $11.0 million in income)

The EIS also provides a supplementary LEA, that utilises Input-Output analyses to relax the assumptions of the LEA and allow divergence from full employment, job chains effects, and in-migration of labour to the region. Using this approach, the total average annual impact of construction on the local area economy is estimated at up to:

- $113M in annual direct and indirect output or business turnover;
- $49M in annual direct and indirect value added;
- $20M in annual direct and indirect household income; and
- 131 direct and 79 indirect local jobs.

The Project operation is estimated to comprise the following average contribution to the local area economy throughout the life of the Project:

- $185M in annual direct and indirect output or business turnover.
- $94M in annual direct and indirect value-added.
- $37M in annual direct and indirect household income.
- 210 direct and 214 indirect jobs.

The actual local area impact of the Project operation is likely to lie between that assessed in the LEA and the Supplementary LEA.

7.8.3.3 Proposed Mitigation and Predicted Impacts (Mitigated)

To enhance the positive economic impacts of the Project, Bowdens Silver proposes to develop a Local employment and procurement program, that seeks to utilise existing local workforce and local suppliers and businesses where possible. A range of other strategies are also proposed in **Table 7.60**, with strategies that Bowdens Silver proposes to adopt also noted. Further detail of the local employment and procurement program is provided in Section 8.

Table 7.60
Summary of Mitigation and Enhancement Strategies – Economic

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Impact Theme	Community Identified Mitigation Measures	Existing or Proposed Mitigation and Enhancement Strategies
Employment	• Local employment • Support for local businesses • Support for community groups in completing Indigenous grant applications • Liaison with employment agencies to facilitate local employment • No FIFO workforce • Limit DIDO workforce • Subsidised medical checks for Aboriginal people applying for employment • Development of Aboriginal and non-Aboriginal local employment targets	• Local employment and procurement policy • Development of a Regional business register
Education and training	• Provision of local traineeships and apprenticeships, especially for disadvantaged groups, e.g. young people, Aboriginal people, local income earners, unemployed • Pathway programs with local secondary schools and TAFE • Night schooling • On-site work experience • Youth training facilities – trades	• Undertake discussions with local schools and TAFE in relation to the development of employment pathways

Table 7.60 (Cont'd)
Summary of Mitigation and Enhancement Strategies – Economic

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Impact Theme	Community Identified Mitigation Measures	Existing or Proposed Mitigation and Enhancement Strategies
Community investment	• Continued sponsoring of local events and community groups • Local Business Support • Sponsorship of Aboriginal Events e.g. NAIDOC • Small business startup and investment in Lue e.g. sponsor small coffee shop, general/grocery store, takeaway shop, petrol station • Support for groups completing Indigenous grant applications • Local infrastructure improvements and provisions – Lue and key towns e.g. Kandos, Rylstone	• Community Investment Program

Considering the above mitigation strategies, the impact of the Project on economic livelihood is considered a ***high*** positive social impact (*likely* to occur with a *moderate* consequence) for all stakeholder groups (refer to **Table 7.61**).

Table 7.61
Summary of Project Impact – Economic Livelihood

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Personal and property rights Way of life Community	Economic livelihood	Lue SSC	Mine life (approx. 16.5 years)	Locality residents	High (Positive & Negative)	High (Positive)
					Regional Community	High (Positive)	High (Positive)
			MWR LGA		Local business	High (Positive)	High (Positive)
					Service providers	High (Positive)	High (Positive)
					Aboriginal Community	High (Positive)	High (Positive)

7.9 COMMUNITY CULTURE AND HERITAGE

7.9.1 Perception and impact

During consultation and engagement, impacts to culture and heritage were the most frequently raised negative impact of the Project by Aboriginal stakeholders; with stakeholders suggesting that appropriate care and cultural responsibility would be needed (particularly through the construction phase of the Project) to minimise the impact on Aboriginal sites of significance.

Considering the above, the impact of the Project on Aboriginal cultural heritage, is ranked as a high perceived stakeholder risk for Aboriginal stakeholders. Impacts relating to Aboriginal cultural heritage were not raised by any of the other stakeholder groups during consultation and engagement and is therefore ranked as a low perceived stakeholder risk.

However, some key stakeholders did identify the heritage values associated with a number of buildings in Lue including the Lue Hotel and Lue Railway Station and cottage. These impacts are further discussed in Section 6.3.3.

7.9.2 Assessment outcomes

An Aboriginal and historical cultural heritage assessment has been undertaken as part of the EIS and in accordance with:

- Aboriginal Cultural Heritage Community Consultation Requirements for Proponents (DECCW, 2010)
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011)
- Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010)

Using a predictive model of Aboriginal cultural heritage site locations, surveys have been undertaken across the Mine Site and along the water supply pipeline corridor, with the assistance of Registered Aboriginal Parties (RAP).

Forty-five Aboriginal cultural heritage sites have previously been recorded in and adjacent to the Mine Site. These include a rock shelter with rock art comprising 26 stone artefact scatters and 18 isolated finds of stone artefacts. The location of the rock shelter is poorly defined from historical records (1899) and the site was unable to be re-identified in any field survey. A further two sites have already been salvaged in consultation with the then OEH and members of the Aboriginal community.

Additional assessment and survey by Landskape (2020) identified an additional 31 Aboriginal cultural heritage sites, comprising 19 stone artefact scatters, nine isolated finds of stone artefacts, two scarred trees and a rock shelter with potential archaeological deposits and stone artefacts. Three historical heritage features were also identified on the Mine Site. These include the ruins of a possible gold prospector's dwelling and two nearby shallow gold mining shafts.

7.9.3 Proposed Mitigation and Predicted impacts

Twenty-six Aboriginal cultural heritage sites are located within the proposed disturbance area and would be impacted by the Project. The cultural heritage assessment has concluded that these sites are not of high scientific significance but are of high cultural significance. These sites, including artefacts found at the rock shelter and the scarred tree, would be salvaged and artefacts stored in an on-site 'Keeping Place' throughout the Project life. Approximately 50 sites are located outside the areas to be disturbed during the Project life and would be protected, through measures such as avoidance and physical barriers. The assessment recommends that during closure and rehabilitation activities, the Aboriginal artefacts and scarred tree, that have been stored in the on-site 'Keeping Place', should be re-placed within rehabilitated areas in consultation with local Aboriginal groups and the NSW Biodiversity and Conservation Division.

Both the salvage and storage strategy as well as the rehabilitation strategy have been discussed with the Aboriginal community, with the majority of Aboriginal stakeholders agreeing to the approach.

Bowdens Silver would co-ordinate and implement these recommendations through the development and implementation of a Heritage Management Plan (HMP). The HMP should remain active for the entire Project life and define the tasks, scope and conduct of all Aboriginal cultural heritage management activities. The HMP would be developed in consultation with the local Aboriginal community.

The parts of the water supply pipeline corridor, and relocated Maloneys Road, not previously assessed would be subject to detailed cultural heritage assessment and any Aboriginal or historical cultural heritage sites also appropriately documented and managed in accordance with the HMP.

Bowdens Silver would provide training to all on-site personnel regarding the HMP strategies relevant to their employment tasks.

Bowdens Silver would continue to involve the registered Aboriginal stakeholders, and any other relevant Aboriginal community groups or members, in matters pertaining to the Project. In particular, the recording, collection, curation, storage and re-placement of Aboriginal objects should occur with the invited participation of local Aboriginal community representatives.

Table 7.62 summarises the mitigation measures identified through consultation with Aboriginal community members, with proposed strategies for the Project also outlined.

Table 7.62
Summary of Mitigation and Enhancement Strategies – Aboriginal Cultural Heritage

Impact Theme	Community Identified Mitigation Measures	Proposed Mitigation and Enhancement Strategies
Aboriginal Cultural Heritage	Ensure cultural heritage surveys are conducted appropriately	• Assessment has involved members of the Aboriginal community to: – identify items of Aboriginal cultural heritage significance – discuss the recovery, management and return of any artefacts that would require salvage – recognition and management of items of Aboriginal cultural heritage significance in collaboration with the Aboriginal community
	Keep all salvaged artefacts in a safe place	• Provide a ‘keeping place’ for salvaged artefacts • Develop Heritage Management Plan
	Return all artefacts to their original site post mining	• Return all salvaged artefacts to the final landform as close as practicable to their original location
	Provision of apprenticeships, training and employment opportunities for Aboriginal youth and community members	• Development of a dedicated Aboriginal Training and Employment Program

Considering the mitigation measures outlined above, the Project it is considered *likely* that the Project would have an impact on Aboriginal cultural heritage, with *minor* consequence and is therefore ranked as a ***high*** social impact. With the proposed strategies in place, including the development of a dedicated 'Keeping Place' and engagement of Aboriginal parties in salvage and rehabilitation efforts, as well as the development of a dedicated Aboriginal pathways and employment program, then the impact (mitigated) may be reduced to a ***moderate*** impact (refer to **Table 7.63**).

Table 7.63
Summary of Project Impact – Aboriginal Cultural Heritage

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/ Sensitivity	Social Impact Ranking (Mitigated)
Presence of the operation	Culture Community Surroundings	Aboriginal cultural heritage	Lue SSC	Mine life (approx. 16.5 years)	Aboriginal community	High	Moderate

7.10 IMPACT SUMMARY

The following table provides an overall summary of the impacts identified in relation to the Project as discussed in the sections above. As noted in the table, impacts outlined within **Table 7.64** are considered the most significant in relation to the Project and are therefore those requiring management and/or enhancement.

Table 7.64
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce							
Construction	Way of Life Health and Well-being Surroundings	Social amenity - noise	Lue SSC	1 to 2 months	5 residences (marginally / moderately)	High	High
					Locality residents	High	Moderate
Construction	Way of life Surroundings Access to and use of infrastructure, services and facilities Community	Social amenity – traffic volume and disruption	Lue SSC Mid-Western Regional LGA	Construction period – 18 months	Locality residents	High	High
					LGA Road Users	High	Moderate
Construction	Way of Life Health and Well-Being Surroundings	Social amenity - noise	Lue SSC	Construction period – 18 months	Locality residents	High	Moderate
Construction Workforce (Scenario 1)[48]	Way of Life Community Culture Fears and Aspirations	Population change – influx of construction workers	Mid-Western Regional LGA	Construction period – 18 months	Locality residents	High	Low
					Regional LGA Community	High	Moderate
Construction Workforce (Scenario 1)	Access to and use of Infrastructure, Services and Facilities	Population change – impact of construction workers on housing and accommodation	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community Tourists/Visitors Housing and Accommodation Service Providers	High	Moderate
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Health Services	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community Health Service Providers	Moderate	Moderate

[48] Scenario 1 assumes that 80% of the workforce will migrate into the region (refer to Section 7.1).

Table 7.64 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Construction Workforce (Cont'd)							
Construction Workforce (Scenario 1)	Way of Life Community Culture Fears and Aspirations	Population change – influx of construction workers	Mid-Western Regional LGA	Construction period – 18 months	Locality Residents	High	Low
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Emergency Services	Mid-Western Regional LGA	Construction period – 18 months	Emergency Service Providers and users Regional LGA Community	Low	Low
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of Construction workers on Youth and recreation Services	Mid-Western Regional LGA	Construction period – 18 months	Youth and Recreational Service Providers Regional LGA Community	Low	Low
Construction Workforce (Scenario 1)	Access to and use of infrastructure, services and facilities	Population change – impact of construction workers on Public Utilities	Mid-Western Regional LGA	Construction period – 18 months	Regional LGA Community	Low	Low
Operational Workforce							
Operational Workforce (Scenario 2) [49]	Way of Life Community Culture Access to and use of infrastructure, and services and facilities	Population change – influx of operations workers and their families	Mid-Western Regional LGA	Operational period – 15 years	Locality residents	High (Negative)	Low (Negative)
					Regional LGA Community	High (Positive)	Moderate (Positive)
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Health Services	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community Health Service Providers	High	Moderate

[49] Scenario 2 assumes 40% of the workforce will migrate into the region (refer to Section 7.1).

Table 7.64 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Operational Workforce (Cont'd)							
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on housing and accommodation	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community Housing and Accommodation Service Providers	High	Moderate
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Childcare Services	Mid-Western Regional LGA	Operational period – 15 years	Childcare service providers Regional LGA Community	High	Low
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of operational workers and families on Emergency Services	Mid-Western Regional LGA	Operational period – 15 years	Emergency Service Providers Regional LGA Community	Low	Low
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Youth and recreation Services	Mid-Western Regional LGA	Operational period – 15 years	Youth and Recreational Service Providers Regional LGA Community	Low	Low
Operational Workforce (scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Education & Training Services	Mid-Western Regional LGA	Operational period – 15 years	Education Service Providers Regional LGA Community	Low	Low
Operational Workforce (Scenario 2)	Access to and use of infrastructure, services and facilities	Population change – impact of Operational workers and families on Public Utilities	Mid-Western Regional LGA	Operational period – 15 years	Regional LGA Community	Low	Low

Table 7.64 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Acquisition of Properties and Historic Purchase							
Acquisition of properties under the VLAMP and historic purchase	Way of Life Community Culture Health and Wellbeing Personal and property rights Decision making systems Fears and Aspirations	Acquisition	Lue SSC	Project life	Four properties in the acquisition zone Three properties with purchase agreements since 2016	High	High
Presence of the Operation							
Presence of the operation	Way of Life Health and Well-being Surroundings	Social amenity - noise	Lue SSC	Mine life (approx. 16.5 years)	Four properties in acquisition zone	High	Extreme
					Locality residents (10 properties in the management zone)	High	High
					Locality residents	High	High
					Regional LGA Community	Low	Low
Presence of the operation	Surroundings Way of life	Visual amenity due to: Change to landscape Light spill (at night)	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents where Project would be visible (n=6)	High	High
					Locality residents	High	Low
					Regional LGA community	Low	Low
Presence of the operation	Way of life Health and well-being Surroundings Community	Social amenity – dust	Lue SSC	Mine life (approx. 16.5 years)	Specified Locality residents	High	Moderate
					Regional LGA community	Low	Low
Presence of the operation	Way of life Surroundings Access to and use of infrastructure, services and facilities Community	Social amenity – traffic volume and disruption	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	High	Moderate

Table 7.64 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Presence of the Operation (Cont'd)							
Presence of the operation	Personal and property rights Way of life Community	Economic livelihood	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	High (Positive and Negative)	High (Positive)
					Regional LGA Community	High (Positive)	High (Positive)
					Local business	High (Positive)	High (Positive)
					Service providers	High (Positive)	High (Positive)
					Aboriginal Community	High (Positive)	High (Positive)
Presence of the operation	Community Culture Way of life Surroundings	Sense of community – Cohesion, character, sense of place, rural lifestyle	Lue SSC	Project Life	Locality residents	High	High
					Regional LGA community	Moderate	Low
Presence of the operation	Surroundings Community Culture	Conflict as a result of competing land use	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	Moderate	High
					Regional LGA community	Low	Low
Presence of the operation	Health and wellbeing Surroundings Way of life	Impact on Water quality as a result of TSF failure	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	High	Moderate
Presence of the operation	Culture Community Surroundings	Aboriginal cultural heritage	Lue SSC	Mine life (approx. 16.5 years)	Aboriginal community	High	Moderate
Presence of the operation	Personal and property rights	Declining property values	Lue SSC	Mine life (approx. 16.5 years)	Locality residents	High	Moderate
					Regional LGA community	Low	Low
			Pipeline route	Permanent Change	Landholders along the pipeline	High	Moderate
Presence of the operation	Health and wellbeing Way of life	Health and wellbeing – stress and anxiety	Lue SSC	Mine life (approx. 16.5 years)	Locality residents	Moderate	Moderate

Table 7.64 (Cont'd)
Summary of Project Impacts – All Impacts

Project Aspect	Relevant Social Impact Category	Social Impact	Extent	Duration	Affected Parties	Perceived Social Impact/Sensitivity	Social Impact Ranking (Mitigated)
Presence of the Operation (Cont'd)							
Presence of the operation	Health and wellbeing Surroundings Way of life	Exposure to lead in dust	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	High	Low
Presence of the operation	Health and wellbeing Surroundings Way of life	Exposure to lead in water	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents Water users	High	Low
Presence of the operation	Surroundings Way of life Personal and property rights	Access to and use of water	Macquarie River Catchment	Mine life (approx. 16.5 years), possibly ongoing	Locality residents Private bore owners	High	Low
					Regional LGA Community	High	Low
Presence of the operation	Surroundings	Ecological impacts – terrestrial and aquatic	Lue SSC	Mine life (approx. 16.5 years)	Locality residents Regional LGA Community	Low	Low
Presence of the operation	Surroundings Community Culture	Impact on agricultural land	Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality Residents Regional LGA Community	Low	Low
Presence of the operation	Personal and property rights	Property damage and access	Lue SSC	Mine life (approx. 16.5 years)	Locality residents – 4 properties identified as impacted	Low	Low
Project Assessment and Development Process							
Project assessment and development process	Decision making systems	Community engagement and information provision	Lue SSC Mid-Western Regional LGA	Mine life (approx. 16.5 years)	Locality residents	Moderate	Moderate
					Regional LGA community	Low	Low

8. MANAGEMENT AND ENHANCEMENT OF SOCIAL IMPACTS

This section provides further detail on the proposed strategies to be implemented in response to the predicted social impacts associated with the Project, and relates to those impacts that have been evaluated as significant and ranked as moderate and high as a result of their respective likelihood and consequence social impact ratings.

While the section focuses on the mitigation of negative social impacts, strategies to enhance positive social impacts in relation to the Project, particularly in the local community and surrounding region where the Project is located, are also presented. The strategies proposed also include measures to address any impacts that are of *high* concern to potentially affected stakeholders, but which are not considered significant from a technical perspective.

As noted in the SIA guideline (DPE, 2017), strategies need to be developed to ensure that there is a clear connection between the measure proposed and the significant social impact being mitigated or enhanced. Strategies to be implemented may differ in their effectiveness and/or ability to alleviate impacts, with some residual social impacts remaining, in the case of negative impacts. The acceptability of any residual impact remaining post implementation would also be discussed. Furthermore, certain measures may collectively address a number of different negative social impacts and potentially enhance positive impacts.

The SIA Guideline (DPE, 2017), outlines that mitigation measures may be:

- **Performance-based** – identify performance criteria that must be complied with to achieve an appropriate outcome, but do not specify how the outcome is to be achieved, demonstrating why the performance criteria are appropriate;
- **Prescriptive** – that outlines actions that need to be taken or things that must be done, with justification as to why this approach is appropriate by providing scientific evidence, or referencing relevant guidelines or case studies;
- **Management-based** – where potential impacts can be satisfactorily avoided or mitigated by implementing known management approaches.

Significant changes have been made to the Project design to minimise impacts as much as possible as part of the assessment process, details of these changes are summarised in **Table 8.1** with further detail provided in the EIS. These Project design changes have, where possible, incorporated community feedback and suggestions. In addition, during Round 2 of engagement, Project design changes were presented to stakeholders, who were asked to indicate their level of satisfaction with the proposed changes.

In relation to social impacts, a number of strategies are proposed to address the significant social impacts relating to the Project. These strategies have been developed through a review of:

- Strategies identified in the technical assessments for the EIS
- Relevant Projects and studies relating to social impact management
- Social team experience across other Projects
- Community identified strategies (as identified through the SIA engagement program).

Table 8.1
Project Design Changes

Previous Owners Design	Current Design
Extraction of 53 million tonnes of ore/ low grade ore and 79 million tonnes of waste rock	Mining of 30 million tonnes of ore / low grade ore and 47 million tonnes of waste rock
Processing of 4 million tonnes per annum of ore	Processing of 2 million tonnes per annum of ore
Water requirements averaging 3.5 GL per year	Lower water requirements averaging 1.9 GL per year
Water sourced from local groundwater, surface water capture and other sources (including the Cudgegong River)	New water supply pipeline proposed from the Ulan Coal Mine and/or Moolarben Coal Mine
Large water storage dams for water capture	No major water storage required on site
Infrastructure located closer to Lue	Relocation of processing plant further north, away from Lue
Construction workers accommodation on site	No worker accommodation on site
Tailings Storage Facility located to the east initially with a capacity of 46 million tonnes	Tailings Storage Facility located to the west, capacity of 30 million tonnes
Use of existing site access to east of Lue via Pyangle Road	New road access to the west of Lue, affording no product transport through Lue or Rylstone

Table 8.2 provides a summary of community needs and potential mitigation and enhancement strategies to address perceived project impacts, as identified through the SIA and engagement process (including the social baseline analysis - refer to Section 5. As noted in the relevant sections of Section 7, a number of these strategies have been agreed to by Bowdens Silver and are incorporated in the proposed suite of mitigation and enhancement strategies to be implemented, should the Project proceed.

8.1 PROPOSED PROJECT MITIGATION AND ENHANCEMENT STRATEGIES

As noted above, a suite of Project mitigation and enhancement strategies and measures are proposed to address significant social impacts predicted as part of the Project. While certain strategies address specific social and environmental impacts, others serve to address a number of the salient social impact categories and themes, given the interrelated nature of social impacts. Therefore, each of the strategies proposed may address social risk to varying degrees.

Additional social criteria have also been considered in the development of relevant strategies, including an assessment of the vulnerability of key stakeholders (refer to Section 5.13), particularly locality residents that reside in close proximity to the Mine Site.

Table 8.3 provides a summary of the key strategies proposed to be implemented by Bowdens Silver should the project proceed, with further detail of these strategies and programs provided in the subsections below.

Table 8.2
Community Needs, Potential Mitigation and Enhancement Strategies

Impact Theme	Potential Impacts	Community Needs and Potential Mitigation/Enhancement Strategies
Economic Impacts	Local employment - Training	• Pre-employment training / upskilling programs for local people to be ready for work • Provision of traineeships or apprenticeships for low income earners/social housing applicants • Graduate programs, regular training sessions for locals, on site work experience. • Apprenticeships and Traineeships for locals – Indigenous and Non-Indigenous
	Local employment Local procurement	• Local employment and procurement strategy • Local employment policy and strategy to prioritise and secure local employment opportunities • Indigenous and non-indigenous local and regional employment targets • Liaison with employment agencies to employ locals • Policy and strategy of local supplier procurement (SMEs) • Local business register
	Local employment - Youth	• Traineeships and apprenticeship programs for aboriginal and non-aboriginal youth • Pathway programs with secondary schools and TAFE
	Local Aboriginal employment	• Subsidised medical checks for Aboriginal people applying for employment
	Service provision – Employee housing	• Lease properties to employees Build Project - specific housing for employees • Partnership with local real estate agents to cap rental fees
	Employees residing in Lue	• House employees close to/in Lue • Encourage employees to spend/utilise services in Lue/Rylstone
	Service provision – Housing	• Housing – women and children requiring housing • Domestic violence programs for workers • Success story of pathways to full employment i.e. get people off social services
	Service provision – Emergency services	• Financial support or initiatives for the Rural Fire Service/Brigade, rescue services, and local police
	Service provision - Health	• Sponsorship of medical students and/or support for housing for a doctor in the area • Sponsorship of local aged care, disability and childcare facilities/services • Aboriginal Health Services and Specialists (Dental, Paediatricians, Oncology, behavioural management specialists, OT, Speech Therapist) • Aboriginal Liaison Officer in the Police, Health and Education sectors

Table 8.2 (Cont'd)
Community Needs, Potential Mitigation and Enhancement Strategies

Impact Theme	Potential Impacts	Community Needs and Potential Mitigation/Enhancement Strategies
Economic Impacts (Cont'd)	Service provision - Education	• Sponsor children for early learning programs – holistic approach • Long term sponsorship of children • Education facilities e.g. local schools and programs, sports equipment, sponsorship of local sports clubs, musical instruments • Night Schooling • Youth Training Facility – Tradesman skills • Support completing Indigenous grant applications • Encourage workforce family participation in school events
	Community Investment	• Continued sponsoring of local events • Community groups sponsorship • Local Business Support • Aboriginal Events e.g. NAIDOC
	Community Infrastructure Tourism	• Investment in Lue • Local infrastructure improvements and provisions • Greening and beautification • Sponsor small coffee shop • General/grocery store • Takeaway shop • Fuel • Recreational areas for youth • Bike path along the rail line • Investment into art gallery for Lue area • Upgrades to Regent theatre in Mudgee • Reopen rail line • Renewable energy to power Project and Lue

Table 8.2 (Cont'd)
Community Needs, Potential Mitigation and Enhancement Strategies

Impact Theme	Potential Impacts	Community Needs and Potential Mitigation/Enhancement Strategies
Economic Impacts (Cont'd)	Community Investment Tourism Sense of community	• Ensure sustainability of Lue • Mine based tourism opportunities • Local investment Projects • Entry statements and beautification • Upgrade of Lue Hall • Lue School – support for gardens, rock climbing wall, basketball hoop, pizza oven, class programming • Local Businesses
Health and well-being	Lead in water / contamination	• Regular integrity checks of tailings dam walls • Line dams • Water testing before and during development to monitor lead levels • Water contamination measures
	Lead in air/dust	• No blasting in poor weather conditions • Water Carts for dust suppression • Use underground extraction • Publishing of monitoring results of lead levels in dust • Household mitigation • First flush water tank systems • Water Tank cleaning • AQ monitoring • Test people's houses for lead and repaint houses
Engagement and Decision making	Information provision and engagement	• Provide more visual aids, 3D modelling and pictures to communicate Project information • CCC register for interested community members to hear outcomes of CCC Meetings • Male and Female Indigenous representative elected to CCC. • Monthly/Bi-monthly RAP meetings • Community Engagement Program with community input • Continued community engagement for service provided • Site tours

Table 8.2 (Cont'd)
Community Needs, Potential Mitigation and Enhancement Strategies

Impact Theme	Potential Impacts	Community Needs and Potential Mitigation/Enhancement Strategies
Social amenity	Noise	• Bunding to reduce noise impacts • Noise buffer (trees) • Noise mitigation e.g. air conditioning, double glazing • Limit to 12-hr operations through the day-time • No operations on Christmas or Good Friday • No idling of machinery • Noise monitoring
	Visual	• Bunding to reduce visual impacts • Placement of lighting to reduce light spill • Limit to 12-hr operations through the day-time • Tree planting/screening
	Blasting	• No blasting in poor weather conditions • Wet down before blasting occurs • Blasting limited to midday • Blasting SMS alerts
Water access and use	Pipeline	• Water Management Plan • Limit water usage during droughts
	Private bores	• Bore monitoring – determine baseline before operations commence • Monitoring of private bores to ensure adverse effects to landholders are minimised
Environmental impacts	Ecological impacts to flora and fauna	• Plant trees for offset • Plant trees for koala habitat and food • Progressive rehabilitation

Table 8.2 (Cont'd)
Community Needs, Potential Mitigation and Enhancement Strategies

Impact Theme	Potential Impacts	Community Needs and Potential Mitigation/Enhancement Strategies
Road transport and traffic	Road safety	• Bus services for employees to reduce traffic on local roads and reduce motor vehicle accidents due to fatigue Heavy transport curfew during school bus times • Dual turning lane/merging lane into new access road. • Adequate signage to access road • Site entrance signage • Driveway entrance signage
	Traffic disruption and social amenity	• Defined transport routes to reduce movements on local roads • Alternate truck route • Trucks not to travel through town – out to the west
	Road infrastructure improvements Road safety Increase tourism	• Road infrastructure improvements to encourage tourist commute between regional/urban centres (Dubbos, Orange, Sydney) • Bylong Valley Road Improvements • Widen and Resurface to increase safety and drivability • Regional transport service (Mudgee, Rylstone and Kandos)
Property rights	Property value changes	• Property value protection (pre mining valuation) should landholders wish to move/relocate
Land use and management	Rehabilitation Community engagement	• Information transparency to community regarding plans for environmental mitigation and remediation strategies • Remediation investment strategy outlined to stakeholders • Consultation with Aboriginal people regarding progressive rehabilitation on site • Site visit for residents and landholders to view the TSF post construction
	Pest and weed control	• Implement pest and weed controls
Cultural Heritage	Sense of place - Heritage Community investment	• Support for restoration and conservation of heritage buildings • Gallery/Museum to showcase history of the area – potential site Old Railway Station • Restoration of heritage sites e.g. railway / heritage trail • Aboriginal artefact keeping place • Local heritage Project

Table 8.3
Proposed Mitigation and Enhancement Strategies by Significant Predicted Social Impacts

Proposed Strategy	Strategy Term	Strategy Type	Sense of Community	Access to Water	Property Value	Social Amenity	Traffic	Economic / Livelihood	Health and Well-Being	Population Change and Access to services	Ecology	Aboriginal Cultural Heritage	Community Engagement
Environmental Management Plans - Noise, Air Quality, Blasting, Traffic, Water	Project life	Management-based											
Proposed suite of landholder/property mitigation measures	Project life	Management-based											
MWRC Planning Agreement	Project life	Prescriptive											
Lue and Regional Community Investment Program (CIP)	Project life	Prescriptive											
Employment and Local Procurement Strategy	Project life	Prescriptive											
Good Neighbour Program	Project life	Management-based											
Social Impact Management Plan (SIMP)	Project life	Management-based											

8.2 LUE AND REGIONAL COMMUNITY INVESTMENT PROGRAM (CIP)

Bowdens Silver is proposing to develop a Community Investment Program (CIP), to enhance the positive impacts of the Project and mitigate against the perceived negative impacts of the Project. A key objective of the CIP would be to invest in long-term community outcomes in Lue and townships within the region, that contribute to community sustainability. In particular, the CIP would be used to address social impacts raised by participants that specifically relate to impacts on population change (due to property acquisition), sense of community and sense of place, social amenity (as a result of experience of environmental impacts such as noise), access to and impacts on service capacity and delivery, culture and heritage and property access and value. The CIP would provide a mechanism for a more equitable distribution of the benefits of the Project in the immediate locality, while considering key issues being experienced in townships in the broader Mid-Western region.

The proposed approach to the CIP has been developed following a review of other relevant program case studies, with further detail on the proposed phases of program development outlined in Section 8.2.2.The SIA Guideline (DPE, 2017) suggests that in the development of more prescriptive management or enhancement measures, that justification of why the proposed approach is appropriate, is required, by providing scientific evidence or referencing relevant guidelines or case studies.

The CIP program would build on and formalise the existing community investment initiatives undertaken by the Company (refer to Section 4.1.1) and would provide a holistic framework for Bowdens Silvers community engagement and investment activities in Lue (its proximal community) and the broader region, specifically the townships of Kandos and Rylstone. The CIP would be complement by the broader Planning Agreement for the Project, to be negotiated with the MWRC, should the Project proceed.

8.2.1 Previous Enhancement Program Case Studies

Community investment programs are designed to create shared value and make a positive contribution to the sustainability and quality of life of communities and regions in which companies operate. While a relatively standard mechanism, the development and application of such programs often vary by focus area, assessment criteria and application processes, governance and eligibility. Often such programs place an onus on the community to develop Project applications and apply for funding across specified focus areas.

To support the development of a tailored Community Investment Program, that relates to Lue specifically and those key towns in the MWRC area, such as Kandos and Rylstone; several case studies were reviewed. While a range of enhancement type programs exist, the two programs outlined below have been relatively successful in addressing community needs and in more actively involving community residents and key stakeholders in program and Project design and delivery; with such elements presented to inform the development of the CIP in the current Project context.

8.2.1.1 Cadia District Community Investment Program

Newcrest's Cadia Valley Operations (CVO) developed a community enhancement program in 2012 to specifically address concerns of near neighbours, identified through a community perception survey, relating to the perceived devaluation of agricultural land in the area due to the location of a major mining operation in their district (refer to: https://www.youtube.com/watch?v=IWHH25Qfq2E).

The goal of the Cadia District Enhancement Project (CDEP), as it is referred to, was for CVO to work with its near neighbours to create environmental and community benefits for the Cadia district which would enhance the value of the area as an agricultural, mining, and lifestyle choice. Some of the Projects supported by CVO as part of the CDEP include:

- Educational grants program – assisting residents within the district to obtain degrees
- Waste Project
- Telecommunication Project – to improve coverage for local residents
- Local history Project – documenting histories associated with the Cadia district
- Land management and farming needs Project.

Today, the CDEP has become an inclusive community partnership, with residents of the Cadia District volunteering to form a governing committee, actively driving Projects and working closely with each other and CVO representatives as equal partners in a community collective. The program was awarded the Community Excellence Award at the 2016 NSW Minerals Council Health, Safety, Environment and Community Conference.

8.2.1.2 Bulga Optimisation Program – Our Villages, Our Vision Project

The proposed program for the Project is consistent with other community investment programs of its kind which aim, through effective engagement processes to enhance local community investment, consistent with stakeholder needs and aspirations for their localities. The approach proposed in the current Project, is akin to the 'Our Villages Our Vision' Community Project (Coakes Consulting, 2012), which was developed by Glencore as part of the SIA for the Bulga Optimisation Project (BOP).

As part of the visioning project, community residents of the villages of Broke, Millbrodale and Bulga, were invited to participate in the development of a community vision for their respective localities. The 'Our Villages, Our Vision Project' was undertaken in recognition that there needed to be more interaction between industry, community and government, greater respect for local community tradition and heritage, and improved planning, coordination and strategic direction for the respective localities.

Specifically, the objectives of the visioning project were to:

- bring together community residents to discuss and reflect on the future of the villages and create momentum to realise a shared community vision;
- support community development and future planning; and

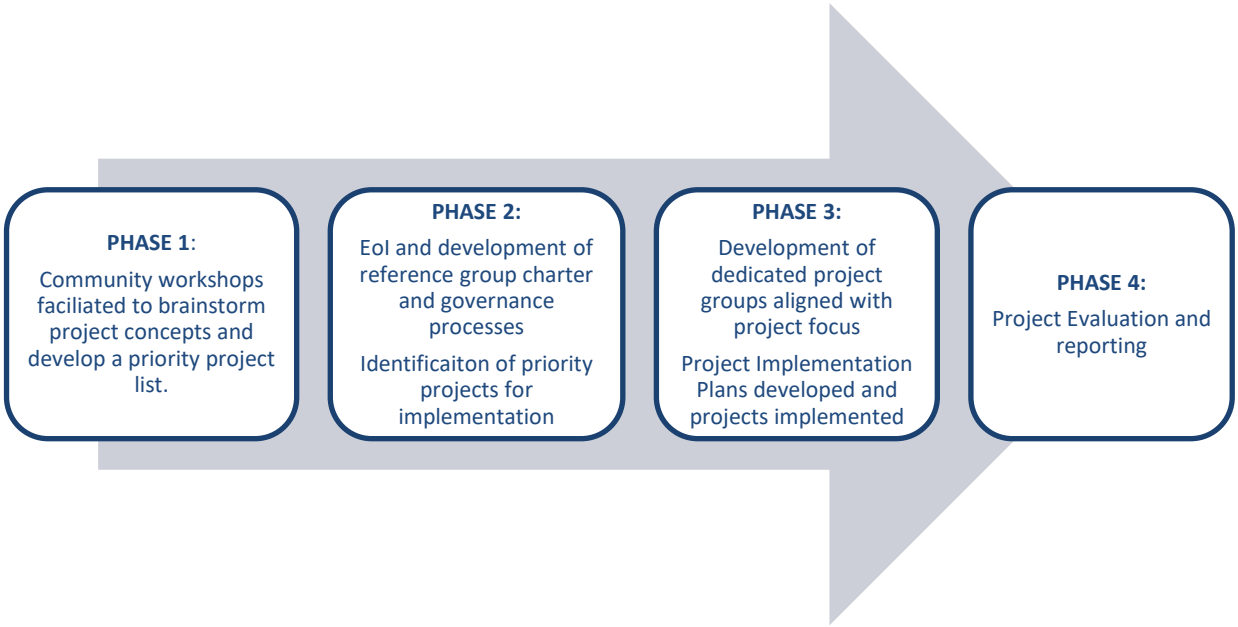
- coordinate and integrate this vision with Singleton Council's Community Strategic Plan and other regional planning efforts – e.g. the Upper Hunter Strategic Land Use Planning Process (Department of Planning, 2012) and the Upper Hunter Mining Dialogue (NSW Minerals Council, 2012).

Community village residents were invited to participate in the project along with local schools, local and state government representatives, Indigenous groups and private industry representatives, with the aim of better understanding community values and needs. Project conditions, defined by DPE as part of the BOP Project, referenced the need for Glencore to utilise the Visioning report outcomes in implementing Project investment activities in the locality.

8.2.2 Developing a Community Investment Program for the Project

In reviewing the program case studies noted above, and addressing issues raised as part of the SIA engagement program for the Project, **Figure 8.1** outlines a proposed process for the development of a CIP for the Lue, Rylstone and Kandos localities. The CIP would be developed through engagement with residents/landholders in the Lue, Rylstone and Kandos localities and other key stakeholders.

Figure 8.1 Proposed Process for Developing the Bowdens Silver Community Enhancement Program



The key objectives of the CIP would include:

- Working collaboratively with near residents/landholders and key stakeholders to develop environmental and community benefits for the Lue, Rylstone and Kandos localities that enhance local values of the areas;
- Facilitating enhancement initiatives specifically for those residents living in closest proximity to the Mine Site (as defined by the Project's management zone);
- Developing Projects and programs that are consistent with community needs, values and aspirations;
- Contributing to local communities and better targeting investment spend locally.

The CIP is proposed to be developed across four key phases as shown in the following figure and would involve residents/landholders in the localities and key stakeholders in the development of program Projects for implementation within the Lue, Rylstone and Kandos localities.

To confirm that the proposed program is in line with community and key stakeholder needs and aspirations, Bowdens Silver would undertake engagement to obtain further community feedback on the program structure if the Project is approved. The proceeding sections define each of the proposed program phases in further detail.

8.2.2.1 Phase 1 – Community Workshops and Project Prioritisation

This phase would involve the participation of residents and landholders from the nominated localities and key stakeholders. Currently, there are approximately 10 properties that fall within the management zone, these residents and other key stakeholders would be invited to participate in the program.

Through the SIA Engagement program for the Project, residents from Lue, Rylstone and Kandos, have identified a number of issues and needs of relevance in their locality. Such issues are summarised in **Table 8.4**; and may form the basis for the development of potential enhancement Projects, to be implemented as part of the CIP. Some of these strategies have already been committed to by Bowdens Silver to mitigate potential impacts of the Project (as discussed in Section 7). For example, as a result of the engagement and assessments undertaken to date, Bowdens Silver has committed to the appointment of a general practitioner (GP) or medical officer on a contract basis to mitigate the potential impacts of the Project workforce on health services.

Workshop processes would be facilitated by independent facilitators to identify concepts for Project development; with such Project concepts prioritised through relevant workshop methods.

Table 8.4
Potential Enhancement Projects

Page 1 of 2

Theme	Description
Education Youth Recreation	• Education programs for schools in Lue, Rylstone and Kandos • Support for Lue Public School e.g. recreational facilities, school garden, pizza oven, etc, and employee family enrolments • University Student Scholarships for students across Lue, Rylstone and Kandos • Pathways programs for school leavers (mining and non-mining related) • Support for youth and recreational facilities in line with Council's strategic plan e.g. recreational facilities e.g. skate parks, recreational areas, bike paths, and youth forums
Health	• Discussions with Council regarding distribution of Planning Agreement funding for local traineeships in heath service sectors • Provision of University Scholarships for medical students to encourage them to travel to and potential work within the LGA • Support for medical practitioner on a contract basis • Sponsorship of aged care, disability, or childcare programs • Funding for Aboriginal Health service programs • Funding for local emergency services including RFS, State Emergency Services, etc.

Table 8.4 (Cont'd)
Potential Enhancement Projects

Theme	Description
Sense of Community • Infrastructure • Organisations • Proximal Residents	• Maintain or enhance local infrastructure e.g. Lue Hall • Development of public ablution blocks • Town beautification and greening (e.g. Lue, Rylstone, Kandos) • Town and village entry signs (sponsor local design competition) • To add value to properties and improve lifestyles in the district (only available to residents within defined boundary) e.g. educational grants, training (first aid, quad bike safety), buy local schemes. • Provision of support (monetary and in-kind) to local community organisations e.g. RFS
Land Management and Rehabilitation	• Maintenance and upkeep of Bowdens Silver and community owned properties • Development of local weed and pest management programs • Facilitation of field days, weed programs, pig/fox/deer/wild dog baiting programs etc and agricultural workshops – farming practices, native farm trees, guest speaker programs (at the Lue Hall) • Further tree planting, landscaping and visual screening on individual properties and along roadways • development of a locally harvested seed bank and nursery with local access to plants • Tree planting and screening along Pyangle Road and Powells Road and in relevant buffer zones
Heritage and Tourism	• Facilitate documentation of local town histories with local heritage groups • Invest in local community events and festivals e.g. steam train festival, Bathurst to Bourke Trail • Consider establishment of a Gallery/Museum/Cultural Centre to showcase history of the area – potential site Old Railway Station (Lue) • Fund Aboriginal community and cultural heritage Projects • Contribute to the management and repurposing of heritage buildings in Lue (restoration and further commercial development) • Consideration of mine based tourism – mine viewing platform, mine tours • Support for local festival/events, rail trail, heritage-based tourism • Develop project to encourage people to stop in Lue (on tourist drive) • Support upgrades to the Regent Theatre in Mudgee • Work with MWRC to further develop the heritage trail through the region (linking Lue as a destination) and support other heritage and tourism events across the town localities.
Aboriginal Community	• Support for Aboriginal Events e.g. NAIDOC • Aboriginal training and employment program
Public Utilities	• Reduce energy costs for residents/businesses through the development of renewable energy projects on site e.g. solar farm • Improve telecommunications coverage and reliability in the local area • Provision of drought relief support for famers in the local area • Provision of water for firefighting purposes • Water monitoring and testing program for Lue and surrounding localities • Waste collection program for Lue and surrounding localities

8.2.2.2 Phase 2 – Expression of Interest (EOI) and Charter Development

This phase would involve an EOI process to identify residents and landholders in the localities and key stakeholders that wish to nominate for involvement in the program. Based on Project interest, small reference groups would be formed for each Project consisting of resident/landholder representatives and key stakeholder group representatives, where appropriate. In addition, a core program governance committee may be established to oversee Project prioritisation and implementation more broadly.

A charter and governance process would also be developed in this phase, to guide reference group decision making and Project activities. Appropriate Project and program evaluation frameworks would also be developed to provide for relevant monitoring of the Project, and program processes and outcomes.

8.2.2.3 Phase 3 – Project Implementation

Projects identified in Phase 1 would then be implemented in this phase.

Following prioritisation of community Projects, the relevant CIP reference groups/committees would implement their respective Projects, ensuring appropriate allocation of resources and effective governance in line with Project objectives.

8.2.2.4 Phase 4 – Program Evaluation and Reporting

In line with best practice, this phase would involve evaluation of program process and outcomes to confirm that ‘shared’ and ‘collective value’ is identified and documented/reported; and to confirm that Projects implemented are appropriately addressing both individual Project and community objectives.

8.2.2.5 Community Investment Program Funding

Bowdens Silver has committed to the development of a Community Investment Program (CIP). The CIP would be funded through a monetary contribution by Bowdens Silver. It is intended that the quantum of the monetary contribution and mechanism for management of the CIP would be developed prior to determination of the application and implemented once the scope and timing of projects to be funded has been agreed. Project themes or priorities would be determined in consultation with the local community with a focus on the distribution of the economic benefits of the Project within Lue and other key localities in the LGA.

A CIP Committee would be established and would be responsible for the selection, planning and implementation of community projects/programs that are to be fully financed by Bowdens Silver. The CIP would also be responsible for programs currently being undertaken by Bowdens Silver. The CIP Committee would comprise members of the community and Bowdens Silver. The CIP would be complemented by the development contributions made to MWRC under the formal Planning Agreement for the Project.

Potential programs under the CIP may include those in the following core areas:

- Education - support across the range of educational institutions; local public schools, local high schools, TAFE, Universities and other higher education. Development of industry relevant local training and skills.
- Community - support to improve social facilities and areas of greater benefit for local communities such as; infrastructure enhancements, land use enhancement, improved amenity and environment and charities.
- Sport and Recreation - support sporting organisations promoting teamwork, health and the wider social function to local communities;
- Safety - support for organisations that provide rescue services and emergency and health services and the promotion of safety and wellbeing in the community; and
- Arts and culture - support for projects in areas such as indigenous cultural heritage, local history and community arts and cultural programs.

It is noted that, as a result of the engagement and assessments undertaken to date, Bowdens Silver has committed to the appointment of a general practitioner (GP) or medical officer on a contract basis to mitigate the potential impacts upon health services.

8.3 PROPERTY MITIGATION PROGRAM

For the Project, further consideration has been given to the impact on locality residents residing in closest proximity to the Mine Site. The SIA Guideline (DPE, 2017) outlines the need for the SIA to evaluate the negative social impacts of a Project specifically addressing those who are expected to be most adversely affected, including any vulnerable stakeholders.

As has been noted in Section 7.6.1, four properties have been identified as falling within the acquisition zone for the Project (with contracts to purchase in place for two), with an additional 10 properties in the management zone, four within the marginal/moderate impact zone and six within the negligible impact zone. Bowdens Silver has committed to offering mitigation rights to landholders within both the marginal/moderate and the negligible impact zones, with these measures including air conditioning and a range of architectural treatments. In consideration of privacy, details of these proximal landholders and the property specific measures offered to address the identified impacts would be provided separately to DPIE. Notably, the VLAMP only requires mitigation to be offered to landholders within the marginal/moderate impact zone.

In addition to the structural and acoustic measures outlined above, as an acknowledgement of potential impacts on social amenity, Bowdens Silver would also offer locality residents within the management zone:

- Installation of first flush systems on rainwater tanks
- Cleaning of rainwater tanks once a year
- Tree planting

Bowdens Silver is also committed to trialling a Community Monitoring Diary. The diary would be provided to all residents in the management zone and would be used to record resident observations and experiences of impact during construction and operational phases; as part of the company's broader monitoring regime.

8.4 GOOD NEIGHBOUR PROGRAM – COMMUNITY ENGAGEMENT

Bowdens Silver would continue to foster their 'open door policy' in the development of a more structured 'Good Neighbour Program' that affords further development of company-community relationships through regular and effective engagement and communication.

Engagement with landholders and residents in the locality, as part of the SIA, revealed that newsletters (41) and email notifications (26) were the most preferred method of information provision followed by personalised letters/correspondence (16), telephone calls (14) and individual face-to-face meetings (13).

Furthermore, based on feedback from community residents to date, other suggestions to improve engagement and communication efforts have included:

- Regular (quarterly) provision of environmental monitoring results
- SMS monitoring alerts e.g. blasting
- Development of a formal complaint's procedure
- Site visits to view construction activities and operations
- Continued engagement with the CCC – with committee governance to be consistent with DPIE's Community Consultative Committee Guidelines (2019) and to include wider representation of community members on the CCC e.g. both male and female Aboriginal representative and representatives from other community groups and geographic areas; and development of a CCC register for interested parties to receive minutes of Committee meetings
- Meetings with registered Aboriginal parties to keep them informed of Project progress.
- Use of local community noticeboards.
- Regular information provision and community engagement including Open Days, newsletters, etc.

As noted in Section 7.5 Bowdens Silver would continue to employ a dedicated Community Liaison Officer within the operational team to manage the ongoing engagement associated with the Project and monitoring and management commitments relating to social and environmental impacts, as detailed in the Social Impact Management Plan (SIMP) (refer to Section 9 for further detail on the SIMP) and other environmental management plans.

8.5 LOCAL EMPLOYMENT AND PROCUREMENT STRATEGY

The purpose of a local employment and procurement strategy is to use procurement processes and purchasing power to generate positive social outcomes, in addition to the delivery of efficient goods, services and works.

Local employment and procurement strategies build on initiatives already undertaken by the mining sector in enhancing sustainable and strategic procurement practice, enabling procurement to effectively contribute to building stronger communities; and is a key mechanism by which to generate wider social benefits for triple bottom line reporting, by providing a mechanism for linking and integrating social and economic agendas.

The outcomes of an effective local employment and procurement strategy may include:

- creation of training and employment opportunities through procurement processes, clauses and specifications in contracts;
- addressing complex local challenges, such as intergenerational employment, crime, vandalism and economic decline in local communities or amongst disengaged groups;
- encouragement of local economic development and growth;
- promotion of fair and ethical trade;
- social inclusion, particularly for vulnerable groups - giving them the opportunity to participate in the community and the economy;
- engagement of small-to-medium enterprises and social benefit suppliers providing them with the same opportunities as other businesses, including the ability to engage in procurement processes;
- securing the company's reputation and leadership in recognising and implementing corporate social responsibility initiatives.

A positive impact of the Project, identified by most stakeholders consulted as part of the SIA, centred on the opportunities that the Project may provide for the broader MWR LGA. Stakeholders requested to see positive impacts enhanced through training and upskilling of the population in the region; local employment; procurement of local businesses; and increased use of local community services and facilities by the Project workforce. In this vein, the Project was perceived as a key stimulus in developing further economic and social opportunities and facilitating greater mining industry diversity at the regional level.

The recent Parliament of Australia's *Keep it in the Regions* initiative has highlighted the importance of ensuring that the benefits of mining Projects are translated at the regional level. While many small and medium enterprises expressed a desire to work with the mining sector in their local area, there are a number of barriers when participating in a mining Project's supply chain (Parliament of Australia , 2018). Key barriers include:

- centralisation of mining company offices away from the regions where the company operates;
- complex tendering processes;
- loose definitions of 'local' used by mining companies;
- infrastructure issues of the regions; and
- lack of local industry capacity.

The Minerals Council of Australia has also reported on the importance of local procurement in mining regions. In 2018/19, the mining sector was seen to contribute approximately $376 million to the local economy in the Mid-Western Regional LGA (NSW Minerals Council, 2020). In this vein, more recent programs such as BHP's C-Res program have been highlighted in the inquiry as an example of a local procurement success.

8.5.1 Developing a Local Procurement and Employment Strategy for Bowdens Silver

Bowdens Silver is committed to developing a local employment and procurement strategy to maximise the economic impacts of the Project in the LGA. As part of the SIA, a survey of local businesses in the region has been undertaken to identify opportunities for the procurement of local business and services (as discussed in Section 6.7). The survey was designed to:

- Identify the skills /competencies required by Bowdens Silver for the construction and operational phases of the Project
- Identify the capacity and current availability of local businesses and suppliers to provide services to the Project.

The 'skills and capacity audit' as it has been referred to was further scoped with input from the Company, to better understand business needs; and through interviews with representatives of the local business chambers within the MWR LGA area, to identify their interest in working with Bowdens Silver. As outlined in Section 3.6, a database of 210 businesses located within the MWR LGA, with 195 of these contacted and a total of 87 (45%) choosing to participate. Businesses were drawn from a variety of different sectors including mining and construction.

An outcome of the audit has been the development of a local business and supplier register that would assist the Company in developing their local employment and business procurement strategy. This register would provide a foundation for further discussion with local business chambers and their membership, local businesses and suppliers and employment service providers in the development and implementation of the strategy.

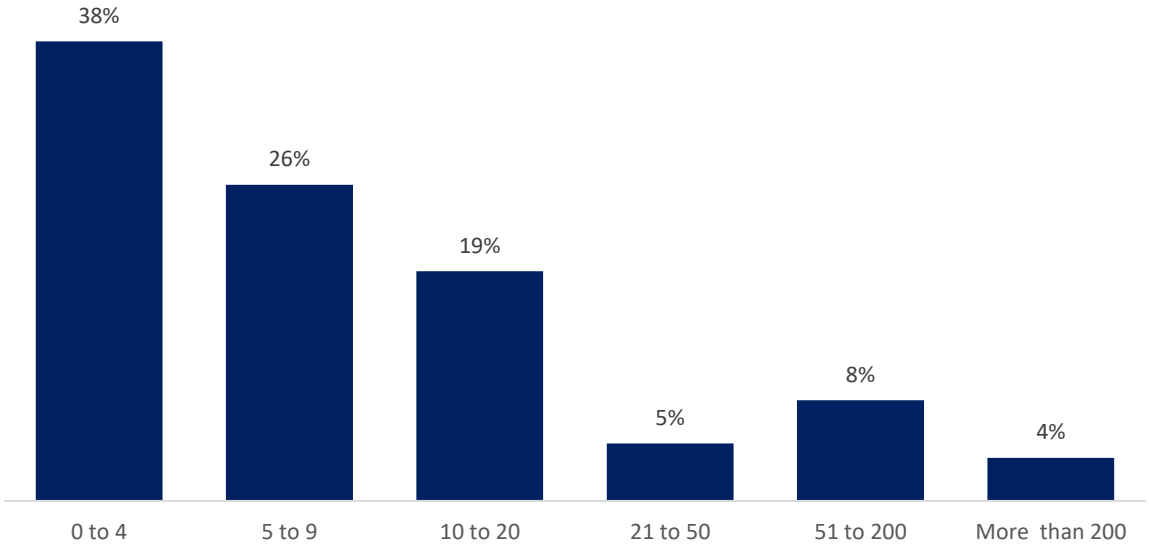
The results of the survey (n=87) indicate that businesses in the MWR LGA are interested and well equipped to provide Bowdens Silver with a range of skills and services that may be of benefit to the Project.

The results indicate that most businesses are locally based, with 40% providing additional services outside the region, 17% operating nationally and 4% operating at a multi-national level. Of the 52 businesses who indicated that they are able to provide services in Lue, 52 also service the communities of Rylstone; 51 provide services in Kandos; 44 in Mudgee; and 43 in Gulgong. Given this spread of business activity, it is likely that Bowdens would be able to source goods and services from various communities within the LGA.

In terms of the size of businesses, most were small businesses, with 38% having 0 (sole-traders) to 4 employees; 26% having 5 to 9 employees; 19% having 10 to 20 employees and 5% having 21 to 50 employees. Of the larger businesses in the area, 8% had between 51 and 200 employees and 4% had more than 200 employees (refer to **Figure 8.2**). **Table 8.5** shows the key business demographics across all survey respondents (i.e. industry, number of employees and annual turnover), as well as experience in the mining sector, capacity to take on new Projects, knowledge of and interest in working with Bowdens Silver.

The results in **Table 8.5** indicate that there is a good spread of businesses that operate in each of the main towns in the study areas across key industries. Most businesses also indicated that they have had at least some experience working in the mining sector. There is strong interest in working for Bowdens Silver across the region (average interest score of 8.8 out of 10). This interest was evident across all industries, with businesses operating in construction providing an average score of 9.8 out of 10 and businesses operating in the mining sector providing a score of 9.7 out of 10. All other industries provided scores above 7.0.

Figure 8.2 Number of employees



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N=84; total n=87; 3 missing

Table 8.5
Number of Participating Businesses Operating in the Mid-Western Regional

Page 1 of 2

	Total responses (n=87)
Main Industries	**Count (multiple response)**
Mining	34
Retail trade	28
Construction	25
Agriculture	22
Manufacturing	15
Electricity, gas, water and waste	12
Accommodation and food service	11
Transport, postal and warehousing	11
Business Size (no. employees)	**Count**
0 to 4	32
5 to 9	22
10 to 20	16
21 to 50	4
51 to 200	7
More than 200	3

Table 8.5 (Cont'd)
Number of Participating Businesses Operating in the Mid-Western Regional

Page 2 of 2

	Total responses (n=87)
Main Industries	**Count (multiple response)**
Annual Turnover	**Count**
Less than $500K	34
$500K - $1MIL	10
$1 - $5MIL	23
$5 - $10MIL	3
$10 - $20MIL	3
$20 - $50MIL	3
More than $50MIL	4
Experience with Mining	**Count**
Yes, extensive experience	29
Yes, some experience	37
No experience	14
Capacity	**Count**
A lot of capacity to take on Projects of any size	34
Some capacity to take on larger Projects	19
Some capacity to take on small Projects	10
Can provide goods and services to employees and families generally	18
Little to no capacity	0
Knowledge of Company	**Average**
Avg. Score (out of 10)	4.4
Interest in working with Bowdens Silver	**Average**
Avg. Score (out of 10)	8.8

Participants were also asked '*how much capacity would you say your business has to take on new Projects*?' Of the 81 businesses who responded to this question, 63 (or 78%) indicated that they did have capacity to work on the Project, with more than half of these businesses (n=34) indicating that they had capacity to work on Projects of any size. The remaining 18 outlined that while their business was not directly relevant to mining, they could at least provide goods and services to Bowdens Silver employees. Businesses with 5 employees or less were the least likely to indicate their ability to work directly with Bowdens Silver, however, 19 outlined at least some capacity.

Knowledge regarding the Company however was relatively low. The average score across the 84 businesses that responded to this question was 4.4 out of 10. Knowledge of Bowdens Silver was strongest amongst businesses working in the construction industry (6.0 out of 10); the mining industry (5.1) and manufacturing (5.0). Given a strong level of interest in the Project, the data indicates a need amongst the business community to become more familiar with Bowdens Silver and the Project itself.

Participants were asked what kind of support they may need to help facilitate their ability to work with mining companies generally. Of the 77 participating businesses that responded to this question, almost half (48%) stated that regular face-to-face meetings with mining companies about their future needs would be of great assistance. A further 45% said that receiving information from mining companies about their needs would also help, with 39% suggesting that having a direct point of contact that they can speak to about opportunities would also be useful.

> *Just an understanding of hours of operation, so as to accommodate and possibly provide extended trade hours if there was any interest from employees.*
>
> *A contact within the mining company that I can meet with to discuss our capabilities and discuss requirements for equipment.*
>
> *A mutual relationship more than anything - get in the door and build the relationship slowly.*

Other support needs raised by interviewed businesses related to assistance with the tender process and a need for companies to work collaboratively with local businesses. **Figure 8.3** provides a summary of needs outlined by those surveyed.

Figure 8.3 Business Support Needs

Note: Multiple responses allowed
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These findings align with the outcomes of the *Keeping it in the Regions* senate inquiry (Parliament of Australia, 2018), which found that local suppliers often felt that they were excluded from the supply process by complex tender processes and a lack of local presence of the mine, making it more difficult for local businesses to engage with the companies and understand their needs and requirements. In the context of the current Project, Bowdens Silver however has a strong local business presence in the region.

Local businesses were also asked about their feelings towards the Company, using a scale of 1 to 10 where 1 is very negative and 10 is very positive. Of the 83 businesses that answered this question 77% stated they had positive feelings towards Bowdens Silver (i.e. providing a score of 6 or more) with 49% indicating they felt very positively (i.e. providing a score of 9 or 10).

Only a small percentage of businesses (4%) indicated that they had more negative feelings towards the Company. As outlined in Section 6.7.1, these feelings appear to relate primarily to concerns around potential environmental impacts (Local businesses and Bowdens Silver employees, n=29), fears that local economic benefits may be limited (n=19), and impacts to road transport and traffic (n=13) (refer to **Figure 6.23**).

The skills and capacity audit work has provided a good foundation from which Bowdens Silver can deliver a more tailored local employment and procurement strategy should the Project be approved to ensure that employment and procurement of local businesses and services are maximised at the local and regional (LGA) level. Bowdens Silver has a current policy that all company employment opportunities are required to be advertised locally.

As has been noted, key programs that may form part of the strategy if the Project is approved are summarised in **Table 8.6**. These programs would be considered as part of the strategy development and would be complemented by a review of literature and relevant studies and guidelines relating to the development of effective local employment and procurement initiatives and engagement of small to medium enterprises in mining projects.

Table 8.6
Local Procurement and Employment Strategy Programs

Strategy	Description
Education and Training	• Education programs and pathways • Workforce training • Pre-employment training / upskilling programs to increase job readiness • Provision of traineeships or apprenticeships targeted at vulnerable groups, including low income earners, job seekers, Aboriginal and non-Aboriginal youth • Graduate programs – on site work experience and placements • Youth Training – Trades skills
Local Employment	• Maximising local employment of Aboriginal and non-Aboriginal community members through company direct and contractor arrangements – monitoring of employment numbers • Support completing Aboriginal grant applications • Subsidised medical checks for Aboriginal people applying for employment • Encourage employees to live within the MWR LGA and utilise services in local communities – Kandos, Rylstone, Lue - e.g. Lue Public School,
Local Business Procurement	• Further development of the local business register • Consideration of the development of a Local Buying Program (akin to the C-Res Program developed by BHP) • Engagement with relevant stakeholders e.g. local Chambers of Commerce, employment service providers, local businesses, to maximise business procurement e.g. information sessions • Maximise local and regional spend through company direct and contractor arrangements – monitoring of local and regional spend

Bowdens Silver would also commit to monitoring relevant employment and procurement statistics through the construction and operational phases of the Project and to afford monitoring of economic and social impacts through all phases of the Project

8.6 PLANNING AGREEMENT

If approved, Bowdens Silver would be required to enter into a Planning Agreement (PA) with the Mid-Western Regional Council. The PA would involve Bowdens Silver working collaboratively with MWRC to facilitate support for a number of environmental and community Projects within the LGA, funded through an annual agreement payment.

Planning agreements are commercial agreements entered into by a developer and the Minister for Planning, other Ministers or council to provide either monetary contributions to or the physical provision of public amenity and public services, transport or other infrastructure.

The social profile sections of the SIA also highlight areas of community needs as identified through engagement and review of the MWRC strategic plans. Such areas include:

- Education and training programs
- Health programs and services – limited GPs
- Drought relief/water supply
- Road infrastructure upgrades
- Unreliable telecommunications in some areas

In addition, community identified needs, as referenced in the social baseline and identified mitigation and enhancement strategies, as discussed throughout Section 7, may also be used to inform the development of the PA.

Bowdens Silver has developed a discussion paper for further discussion with the MWRC in the development of a PA for the Project, should development consent be granted.

9. MONITORING OF SOCIAL IMPACTS

Monitoring and evaluation are key components of an SIA process to identify any unanticipated impacts that may arise as a result of a Project; with the analysis and research conducted for a SIA, providing a foundation for the ongoing monitoring and adaptive management of social impacts over the life of a SSD resource Project.

Monitoring and adaptive management of social impacts would generally be required by conditions of consent and in previous Project developments, DPIE has defined Recommended Conditions of Consent that require an applicant to prepare a Social Impact Management Plan for the development. An example of such a condition is provided below:

The Applicant must prepare a Social Impact Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:

- be prepared by a suitably qualified and experienced person/s;
- be prepared in consultation with Council, the CCC, affected communities and other interested stakeholders (to the greatest extent practicable);
- identify potential negative social impacts that could result from the development both locally and regionally;
- specify adaptive management and mitigation measures to avoid, minimise, and/or mitigate negative social impacts;
- identify opportunities to secure and enhance positive social impacts of the development, including opportunities to:
  - assist in maintaining community services and facilities; and
  - improve the way of life, wellbeing, and social cohesion within the local community;
- include a program to monitor, review, and report on the effectiveness of these measures, including:
  - identifying representative parameters or indicators to be monitored, how and when data is to be collected, and who is responsible for collecting it;
  - ongoing analysis of social risks; and
  - undertaking additional research, if necessary, to reduce uncertainties; and
- include a Stakeholder Engagement Plan to guide the evaluation and implementation of social impact management and mitigation measures.

Should the Project proceed, Bowdens Silver would develop a Social Impact Management Plan (SIMP) that defines and guides the monitoring and evaluation of the social / community related aspects of the Project. The SIMP would be developed in accordance with the SIA Guideline and would:

- identify opportunities to enhance positive and mitigate negative social and economic impacts of the Project on communities;
- detail adaptive management and mitigation strategies to address potential impacts of the Project;

- identify appropriate stakeholder responsibilities;
- identify appropriate monitoring, reporting and review mechanisms, including the purpose of monitoring and the parameters that would be monitored and how and when monitoring data would be collected;
- outline a process to engage with relevant stakeholders and communities, with a focus on practical mechanisms for the community to collaborate and record their observations and experiences of social impacts and any proposed community participation in monitoring;
- include an incident notification and reporting process, including providing applicable information to the community;
- develop a process for reviewing the above elements to assess whether they are still appropriate, and whether any new issues have emerged that should be included in ongoing monitoring;
- develop a process for making monitoring results and associated information publicly available, including any revisions to the monitoring and management framework.

The SIMP would outline suitable and proportionate social impact monitoring and adaptive management arrangements for the Project that include the above elements, as well as proposed timing and frequency of monitoring and public reporting of results.

Proponents should also consider strategies to involve potentially affected people and groups in the adaptive management approach, including (but not limited to) grievance and feedback mechanisms; and where relevant, existing and potential management and enhancement strategies employed to manage the predicted risks should be outlined.

9.1 MONITORING EFFECTIVENESS

This section outlines a high-level overview of a framework for monitoring socio-economic change in relation to the Project, and how this relates to Project-related activities. In doing so, the framework would gather data that can be used to assess the effectiveness of mitigation and enhancement measures and initiatives over time.

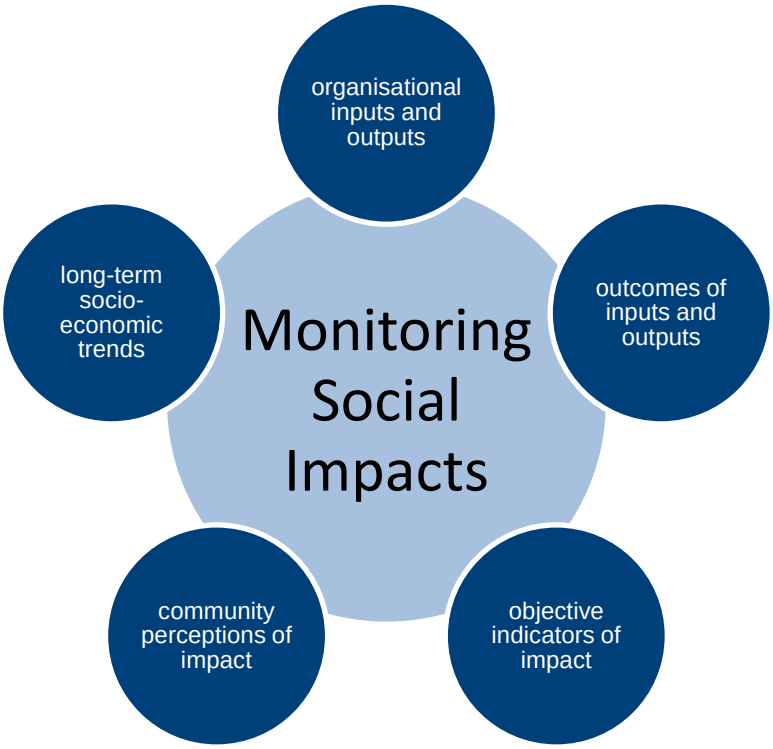
It is considered best practice in social outcomes measurement to draw upon a range of methods, data sources, indicator and data types (e.g. objective vs. subjective, qualitative vs. quantitative; leading versus lagging indicators). Therefore, the proposed monitoring framework should draw upon multiple methods, which may include:

- *Monitoring socio-economic trends* that would provide context to interpret data from other elements of the framework and provide an appreciation of community change.
- *Monitoring organisational inputs and outputs* which would provide an understanding of what Bowdens Silver is contributing to the community e.g. in relation to employment, expenditure, local procurement

- *Monitoring outcomes of inputs and outputs* which would provide an understanding of what impact community Projects and investments are having in the community e.g. outcomes of the Community Investment Program.
- *Monitoring objective indicators of impact* which would seek to confirm that Bowdens Silver is monitoring key risks and trends in relation to key impact areas identified through the SIA process e.g. monitoring of key impacts such as noise and air quality, traffic etc through dedicated environmental management plans.
- *Monitoring community perceptions of impact* (e.g. feelings of trust towards Bowdens Silver, landholder experience of social impacts), which would confirm regular engagement with the community and confirm emerging issues and impacts are identified proactively. For example, community surveys or monitoring diaries as discussed in Section 8.3.

This five-component model is summarised in **Figure 9.1**. Drawing upon a broad range of complementary datasets and methods, as described above, the proposed framework would be robust and balanced and would provide a complete picture of change associated with the Project.

Figure 9.1 Proposed Framework for Monitoring Social Impacts and Community Change



The five components of the proposed model are all inter-related and serve to assist interpretation of the other elements. For instance, community perceptions of impact would be influenced by long-term socio- economic trends but can be verified through objective indicators of impact.

The proposed framework would be further developed in the SIMP in consultation with Bowdens Silver, the DPIE and key stakeholders.

10. CONCLUSION

The SIA has been conducted in accordance with the Department of Planning, Industry and Environment (DPIE) Social Impact Assessment Guidelines (2017), and has involved a range of assessment and engagement methods to identify, predict and assess the social impacts associated with the Project.

The SIA has provided a detailed social baseline profile for the context in which the Project is located, including an analysis of issues and opportunities facing the key communities of interest in the Mid-Western Regional LGA, across differing community capital areas. Discussion of key developments and events in the LGA, including relevant proposed and operational mining projects, has been used to understand the process of communities' response to change.

Engagement with the community has been a key component of the SIA program. Engagement has been undertaken at key phases of the assessment, namely in the scoping of the Project issues and impacts and in the feedback of assessment studies and the development of appropriate strategies to mitigate or enhance Project impacts. In summary, engagement for the SIA has included the following key mechanisms:

- Face to face and telephone interviews
- Surveys (online and hard copy)
- Random telephone survey
- Lue Public School Visioning Workshop
- Skills and capacity audit surveys with local businesses
- Service provider surveys
- Community information sessions
- Open Days
- Provision of newsletters and community information sheets
- Project briefings

Engagement for the SIA has been conducted over two dedicated rounds and involved the following stakeholder groups:

- Landholders and residents in Lue and proximal to the Mine Site
- Aboriginal stakeholders
- Regional community residents
- Community, environment and special interest groups
- Local businesses and suppliers
- Service providers
- Bowdens Silver Employees
- CCC members

This engagement has been further complemented by consultation undertaken by Bowdens Silver and R.W. Corkery, with Local and State Government agencies and other key stakeholders, as a component of other Project assessment activities, and the ongoing community consultation activities undertaken by Bowdens Silver.

The SIA has identified a range of perceived social issues and impacts that Bowdens Silver would need to manage as a part of the Project. Throughout the EIS and SIA process, a range of Project design changes have been implemented to address these concerns; with mitigation and enhancement strategies identified, where possible, to minimise social impacts of the Project.

As outlined in Sections 6 and 7, the level of concern relating to the Project varies across stakeholder groups and geographic location. While a number of social and environmental issues have been raised by local landholders in proximity to the Mine Site, particularly the impact of the Project on social amenity and sense of place and community in Lue; the broader LGA community has appeared more accepting of the proposal due to the predicted positive economic benefits at a local and regional level.

Key negative social impacts predicted include impacts relating to property acquisition, impacts on social amenity (as a result of noise, visual and traffic impacts); changes to sense of community, community cohesion and culture; and conflict as a result of competing land uses. In addition to these impacts, stakeholders have raised concerns relating to health and wellbeing impacts; Aboriginal cultural heritage; population change as a result of construction and operation workforce influx and subsequent impacts to community services.

Key positive impacts of relevance include potential economic benefits to the region through employment, procurement and business opportunities – providing a much needed social and economic stimulus. In addition, regional community members also suggested that the increase in population, as a result of workforce influx associated with the Project, may have a positive impact on the LGA in relation to service provision.

As has been highlighted in the SIA, project development brings benefits and costs that are not always evenly distributed across individuals and stakeholder groups and as a result, where social impacts are predicted it is the role of a SIA to outline how such impacts can or cannot be managed.

While Projects can result in significant positive economic benefits; the negative impacts experienced such as a reduction in sense of community, community cohesion and participation, due to population change and displacement over time, and increased Company ownership of land, also need to be equally considered.

A number of mitigation and enhancement strategies are proposed to address potential social impacts, relating to the Bowdens Silver Project including:

- Development of a dedicated Lue and Regional Community Investment Program that focuses on enhancement initiatives for Lue and other key communities in the LGA
- Local employment and procurement strategy
- Good neighbour program
- Property specific measures

- Implementation of a Planning Agreement with the Mid-Western Regional Council
- Implementation of environmental management plans
- Development and implementation of a SIMP for the ongoing monitoring and management of social impacts, with community engagement informing its development.

These mitigation and enhancement measures have been identified to, where possible, address the social impacts identified and are based on stakeholder engagement and feedback.

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Annexures

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Annexure 1 Dr Sheridan Coakes CV (4 pages)

Annexure 2 Social Impact Statement Declaration (2 pages)

Annexure 3 Media Review (14 pages)

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Annexure 1

Dr Sheridan Coakes CV

(Total No. of pages including blank pages = 4)

Project Personnel

Dr Sheridan Coakes

Practice Leader – Social Impact Assessment and Community Engagement Team

Dr Sheridan Coakes (Sherie) has over 25 years of research and applied experience in the areas of social impact assessment (SIA), stakeholder engagement and community involvement. A leader in her field, Sherie has developed and refined a unique approach to SIA practice that has been applied in numerous large scale and controversial public and private sector projects across Australia, in diverse sectors such as fisheries, viticulture, dairy deregulation, water resources cultural heritage, health, agriculture, biotechnology, linear infrastructure development, quarrying, oil and gas, open cut and underground mining, carbon capture, waste management and human service planning and delivery

With a strong methodological background in the social sciences – both quantitative and qualitative – Sherie has developed a range of innovative approaches that afford the effective collection, analysis, interpretation and use of social and community data to effectively inform program/project assessment and operational planning; and to involve stakeholders in decision making processes

In 1997, Sherie established Coakes Consulting, a specialist social consultancy developed to address social and community issues within a resource management context. The company was developed largely out of a need for companies and agencies to address social and economic issues and concerns in project and policy development planning, and followed on from Sherie's role with the Commonwealth Government in designing and implementing the social assessment methodology for the Australian Regional Forest Agreement Process – one of the most significant applications of SIA and community engagement by government at a national level. In late 2013, Coakes Consulting merged with Umwelt and Sherie was appointed in the role of Social Practice Lead.

As a recognised thought leader, Sherie published and presented papers and seminars on social assessment and community engagement in a variety of different forums, contributing to four international texts on SIA and engagement practice. She is often invited to speak at key conferences in her field of expertise and has facilitated numerous specialist training courses in SIA, stakeholder and community engagement, risk communication and outrage management.

Qualifications/Affiliations:	Doctor of Philosophy – Psychology , Honours First Class – Psychology, Bachelor of Applied Science - Psychology
Years Experience:	>25
Specialisation:	Social and economic impact assessment (SEIA), Health impact assessment (HIA), Social impact management planning, Stakeholder and Community engagement, Social Research, Social performance evaluation and monitoring, Social investment planning, Outrage management, Community visioning, needs and infrastructure Assessment, Community perception and attitude assessment, Program/Project evaluation
Key Clients:	Glencore, Sydney Motorway Corporation, PWCS, Landcorp

Relevant Project Experience

Infrastructure

Sydney Motorway Corporation | New M5 WestConnex Project | 2016-current | Project Director | Development of a Community and Social Management Plan and associated Community Cohesion Plan including consultation with internal and external stakeholders.

Landcorp | Shenton Park Hospital Site | 2017 – current | Project Director | SIA and community engagement for the redevelopment of the Shenton Park Hospital Site, Shenton Park, WA.

Port Waratah Coal Services (PWCS) | T4 Project | 2017-current | Project Director | Housing and Local Procurement Study; SIA for the T4 Project, Newcastle NSW; Community Engagement Strategy for the Carrington and Kooragang operations: Dust Profile Community Program.

BHP Billiton | Nickel West Project | 2016 | Project Director | SIA and community planning framework for operations in Kwinana, Kalgoorlie, Leinster, Leonora and Wiluna; Social monitoring framework; Community Health Partnership recommendations for the Wiluna Community.

Department of Regional Development and Lands (WA) | RfR Fuel Card Survey | 2016 | Project Director | Evaluation of the Royalties for Regions (RfR) Fuel Card Scheme across WA; Housing Evaluation for RfR funded housing projects across WA.

Oakajee Port and Rail (WA) | Mid-West Social Profile| Project Director | Social scan and regional profile.

Department of Planning (WA) | Mid-West and Gascoyne Social Infrastructure Study | Project Director | Mid-West and Gascoyne Social Infrastructure Assessment, planning for future social infrastructure requirements.

Energy

Department of State Development (WA) | Kimberley LNG Project | Project Director | Review of social impact components for the Strategic Assessment Review (SAR) of the Kimberley LNG Project, James Price Point, Broome

Chevron (Australia) | Wheatstone Project | 2008–current | Project Director | Since 2008, Umwelt has undertaken some key projects for Chevron in WA in the project development and construction phases of the Wheatstone Project, located in Onslow on the north west coast of WA. Key studies have included Integrated Social, Health and Aboriginal Impact Assessment; Community Values Assessment and Visioning Project; Community Infrastructure Study; and Annual community attitude survey (6th year of administration since Project inception).

INPEX | Ichthys Project | Project Director | 2011-2013. Social Impact Management Plan (SIMP) development for the Ichthys Project, Darwin NT.

Commonwealth Department of Climate Change | Assessment of Social and Economic Impacts of Climate Change Scenarios on the Oil and Gas Sector in WA | Project Director | Application of Social analysis and community sensitivity methodologies to demonstrate local level socio-economic flow-on of climate change impacts on the Pilbara oil and gas sector.

Mines and Quarries

Glencore | Various Projects | 2011-current | Project Director | SIA, community needs assessment and stakeholder engagement for a range of Glencore mines in the Hunter Valley; Community Visioning Project – 'Our Villages - Our Vision' Hunter Valley NSW; 'Viewpoint Program' assessment of community perceptions of social performance across the company's operations in NSW; Baal Bone Closure Plan - SEIA, Western Coalfields NSW; Social Investment framework development.

BHP Billiton (Iron Ore) | Pilbara Growth Planning | Project Director | SIA for growth planning in the Pilbara, WA; Community Needs Assessment to guide social investment; social performance monitoring and evaluation; review of the Pilbara Community Partnership Program.

Macquarie Generation | Bayswater and Liddell coal fired Power Stations | Project Director | Community involvement program for the development of an industry zone associated with the Bayswater and Liddell coal fired Power Stations, Hunter Valley, NSW; Community consultation associated with potential wind farm developments in the northern tablelands and southern highlands of NSW.

BHP Billiton | Nickel West Project | Project Director | SIA and community planning framework for operations in Kwinana, Kalgoorlie, Leinster, Leonora and Wiluna; Social monitoring framework; Community Health Partnership recommendations for the Wiluna Community.

BHP Billiton (Iron Ore) | Pilbara Growth Planning | Project Director | SIA for growth planning in the Pilbara, WA; Community Needs Assessment to guide social investment; social performance monitoring and evaluation; review of the Pilbara Community Partnership Program.

BHP-Billiton | Hunter Valley Coal, Illawarra Coal, Caroona Project | Project Director | SIA and Community involvement programs for various operations in NSW; Community Needs Assessment to identify focus areas for project investment.

Department of State Development (WA) | Kimberley LNG Project | Project Director | Review of social impact components for the Strategic Assessment Review (SAR) of the Kimberley LNG Project, James Price Point, Broome.

BHP-Billiton | Hunter Valley Coal, Illawarra Coal, Caroona Project | Project Director | SIA and Community involvement programs for various operations in NSW; Community Needs Assessment to identify focus areas for project investment.

Fortescue Metals Group | Solomon Hub Project | Project Director | SIA for the Solomon Hub project and expansion of the company's Port Hedland operations.

Kimberly Diamond Company | Closure Planning Study| Project Director | Assessment of existing community needs and potential mine closure impacts in the Kimberley region, WA.

Cameco | Kintyre Uranium Project | Project Director | SHIA for the Kintyre Uranium Project, Pilbara region, WA.

Department of Primary Industries (VIC) | Social and Economic Impact Assessment of Changes in Forest Policy on Victorian Forest Communities | Project Director | Application of town resource cluster analysis (TRC-Analysis) in identifying potential social and economic impacts of changes in forest policy on Victoria communities.

Zinifex/Nyrstar, DoH, EPA and PPRC | Ten by10 Community Health Study | Project Director | 10 by10 Community Health study relating to elevated blood lead levels in Port Pirie, SA.

Natural resources

Office of Environment and Heritage (NSW) | Community Attitudes to Native Vegetation Act | Project Director | Analysis of community attitudes survey relating to the application of the *Native Vegetation Act* in NSW.

Natural Resources Commission (NSW) | Social Assessment of the River Red Gum and Cypress Forest | Project Director | Socio-economic capacity building and advisory services to assist CMA's in achieving better natural resource and investment decisions; Social assessment of the River Red Gum and Cypress Forest Assessments.

Annexure 2

Social Impact Statement Declaration

(Total No. of pages including blank pages = 2)

umwelt
Environmental & Social Consultants

Inspired People
Dedicated Team
Quality Outcomes

Social Impact Statement Declaration

SIA Prepared by:

Name	Umwelt Australia Pty Ltd - Social Team
Project Director	Dr Sheridan Coakes Practice Lead - Social Impact Assessment & Community Engagement
Qualifications	Doctor of Philosophy – Psychology Honours First Class – Psychology Bachelor of Applied Science – Psychology

In Respect of:

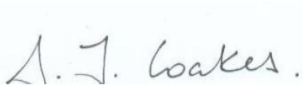
Proponent Name	Bowdens Silver Pty Limited (Bowdens Silver)
Proposed Development	Bowdens Silver Project

Declaration

I, Dr Sheridan Coakes, declare that the information contained within the Social Impact Assessment for the Bowdens Silver Project:

- Is in accordance with the Environmental Impact Assessment (EIA) process under the Environmental Planning and Assessment Act 1979 (EP&A Act);
- Meets the form and content requirements of the Department of Environment and Planning's Social Impact Assessment Guideline for State significant mining, petroleum production and extractive industry development (DPE, 2017);
- Is neither false nor misleading.

Signature



Dr Sheridan Coakes

Date Friday, 22 Nov. 19

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Annexure 3

Media Review

(Total No. of pages including blank pages = 14)

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Table A3
Media Review

Article No.	Source	Description	Date
Article 1	**Mining Journal**	**Sprott-backed Silver Mines polishing project in time for bull run** Silver Mines (ASX: SVL) has attracted backing from big names including Sprott as it advances its flagship Bowdens project closer to production, just as the silver price cycle surges.	Oct-19
Article 2	**Mudgee Guardian**	**The 31st Bowdens Silver Mudgee Rugby Sevens tournament a success** Twenty-one teams took to the pristine Glen Willow Stadium fields to attend the 31st instalment of the Bowdens Silver Mudgee Rugby Sevens tournament. Instead of the more high-level competitive focus in previous years, this year, organisers decided to make the call to allow for a more social presence and event coordinator Ros Lee says the decision was undoubtedly welcomed.	Oct-19
Article 3	**Kalkine Media**	**Is Gold Still a Good Investment or is Silver Better – A look At AMI, RMS, SVL, SLR** Global uncertainty in commodity prices, as a result of unpredictability amid a rising trade war between China and the US has led to uncertainty in the investment community. The author provides an analysis of current stocks of gold and silver, including an optimistic profile of Silver Mines Limited (ASX: SVL).	Oct-19
Article 4	**Western Advocate**	**Shine for Kids to field side at the Bowdens Silver Mudgee Rugby Sevens** Bathurst Shine For Kids volunteer Ryan Dury has put a team together for this Saturday's Bowdens Silver Mudgee Rugby Sevens competition in order to raise awareness of the organisation's role in the community. The event is considered one of the leading rugby union events in country NSW.	Oct-19
Article 5	**Muswellbrook Chronicle**	**BHP Mt Arthur Coal joins forces with Chandler MacLeod to offer supplementary employment for drought-affected farmers** BHP Mount Arthur and Chandler MacLeod recruitment have partnered to offer supplementary employment for farmers affected by the drought.	Sep-19
Article 6	**Mining Journal**	**Silver Mines times Bowdens to Perfection** In an exquisite piece of timing, ASX-listed Silver Mines is nearing a green light on one of the world's largest undeveloped silver deposits just as silver prices look set for a bull run. Anthony McClure discusses the history of the project, current progress and potential for further development into the future.	Aug-19

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 7	**The Daily Telegraph**	**Mining projects giving drought-affected farm families second stream of income** Pro-mining article highlighting the impact of mining revenue as an insulator for drought stricken towns in NSW: Mining has emerged as a saviour of drought-stricken regional communities in NSW. And it has the opportunity to do even more to insulate the state if regulators approve $11 billion worth of projects.	Jul-19
Article 8	**Newcastle Herald**	**Opinion | The devastating story that is now echoing through our valley** The Bylong Valley is a 'fractured community' due to population decline over the past 10 years and impacts of the Project.	Jul-19
Article 9	**Mudgee Guardian**	**Comment: Not all mining is good, some mining is bad… Really bad** Op Ed letter by Tom Combes comparing the Mudgee Chamber of Commerce's opposition to a proposed solar farm due to inappropriate location and visual impacts with community opposition to the Bowdens Silver Project.	Jun-19
Article 10	**Mudgee Guardian**	**Bowden's Silver, Lue Action Group hold separate information days less than one kilometre apart** Tom Combes – "*the Wilpinjong mine is further from Wollar than what Bowden's will be from Lue, and people were driven out of there just by the noise. If you take the environment concerns about this mine and add them to proximity, you've got to ask is it worth the risk?"*	Jun-19
Article 11	**The Sydney Morning Herald**	**NSW water woes worsen with river to dry up as tomato town faces crisis** The drought gripping much of NSW is tightening, forcing authorities to prepare to cut flows along a major river in the north west, while job losses loom as towns in the Northern Tablelands start to dry.	May-19
Article 12	**Mudgee Guardian**	**NSW State of the Environment Report: "We are doing something totally wrong", CSU says** THE impacts of human settlement and climate change are having a disturbing impact on the environment, Charles Sturt University's (CSU) Dr John Rafferty says.	May-19
Article 13	**The Sydney Morning Herald**	**Key climate ruling against coal mine stands after miner declines to appeal** A "game-changing" court decision blocking a coal mine in part because of its climate change impacts will stand after the project proponent dropped plans to appeal against the verdict.	May-19

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 14	**Mudgee Guardian**	**Recruitment and education drive to launch in Mudgee** My Forever Family NSW is launching the recruitment and education drive in Mudgee this Wednesday, sourcing Aboriginal carers needed to keep Indigenous children from entering the foster care system throughout rural NSW towns.	May-19
Article 15	**Mudgee Guardian**	**Western Research Institute talks business, tourism in Mudgee** The Western Research Institute (WRI) hosted a breakfast this week to connect with local businesses, tourism operators and Mid-Western Council - part of their 20th anniversary events.	May-19
Article 16	**Mudgee Guardian**	**Central West tourism: National Visitor Survey highlights tourist boom** The fact that almost three million overnight visitors stayed in the Central West last year who spent upwards of $1.2 billion is absolutely no accident, tourism experts say.	Apr-19
Article 17	**Mudgee Guardian**	**Land values issued for Mid-Western Region** The total land value for the Mid-Western Regional local government area - excluding the value of land used for coal mines - increased by 18.8 per cent in the two years since values were last issued for rating, in the latest figures released by the NSW Valuer General.	Apr-19
Article 18	**Financial Review**	**South Korean conglomerate Hanwha snaps $25m Warragundi aggregation** Giant South Korean conglomerate Hanwha Group has bought the Warragundi mixed-farming aggregation in NSW's Mudgee region from local farmers, John and Sandra Harding for about $25 million.	Apr-19
Article 19	**Western Magazine**	**Mudgee will not have the same winter by 2050: New climate report** ANU design and data experts applied climate modelling projections to Australia's 151 federal electorates to identify the top 20 electorates that will be most affected due to climate change, according to a report released by the Australian Conservation Foundation.	Mar-19
Article 20	**Mudgee Guardian**	**NSW drought: Record hot summer's impact on our farmers** Weatherzone meteorologist Scott Morris said records were broken in Bathurst, Dubbo and Orange this summer.	Mar-19
Article 21	**Newcastle Herald**	**Place matters: Rocky Hill and social impact** Chief Judge Brian Preston of the NSW Land and Environment Court handed down his judgement this month on the proposed Rocky Hill Coal Mine in the Gloucester Valley.	Feb-19

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 22	**Manning River Times**	**Gloucester Resources Limited to review Rocky Hill coal mine refusal** Gloucester Resources Limited (GRL) is looking to review the court decision that has rejected the Rocky Hill mine proposal.	Feb-19
Article 23	**Muswellbrook Chronicle**	**BHP Mt Arthur Coal joins forces with Chandler MacLeod to offer supplementary employment for drought-affected farmers** IN a first for the region, BHP Mt Arthur Coal has joined forces with Chandler MacLeod to offer supplementary employment for drought-affected farmers. The two companies have devised a unique program to help alleviate some of the financial burden and hardship plaguing the local men and women on the land.	Feb-19
Article 24	**Financial Review**	**BHP chief Andrew Mackenzie seeks global response to tailings dam risks** Mr Mackenzie endorsed the idea of a global independent public classification system for miners' tailings dams, as proposed by a group of pension funds and asset managers led by the Church of England. And he spelt out the kind of steps the industry might need to take to shore up safety in an industry where dams failed "with regularity".	Feb-19
Article 25	**Greater Charitable Foundation (Greater Bank)**	**Hunter corporates announce drought support for local farmers** In the Hunter, Glencore Coal Assets and Port Waratah Coal have banded together with six non-mining organisations to provide support services for drought affected farmers, including the funding of programs at the Singleton Neighbourhood Centre that encourage development of diversified off-farm income sources through a series of workshops and training sessions.	Feb-19
Article 26	**Mudgee Guardian**	**Mudgee Hospital redevelopment commences for new year with demolition of old Community Health building** With construction of the new Mudgee Hospital building scheduled to kick off in 2019, the demolition of the former Community Health building has commenced.	Jan-19
Article 27	**Mudgee Guardian**	**Independent Planning Commission hold public meeting to hear to community's views on revised Bylong mine plans** The fate of the Bylong Coal Project is now in the hands of the NSW Independent Planning Commission (IPC) after over 50 people voiced their views on the proposed mine at their public meeting.	Nov-18

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 28	**ABC News**	**Bylong Valley mine gets NSW Government approval as UN warns against coal energy** The open-cut underground mine proposed by South Korean company Kepco Bylong Australia would be built near Bylong, 55 kilometres north-east of Mudgee.	Nov-18
Article 29	**ABC News**	**Bylong Valley coal mine in Mudgee divides farmers and locals during planning meeting** Hundreds of people, including dozens of protestors, turned out to the meeting in Mudgee to have their say on the Kepco mine, which is expected to generate more than 6.5 million tonnes of coal per year.	Nov-18
Article 30	**ABC News**	**NSW drought: Climate outlook shows warm, dry weather to continue** There may be very little chance of above average rainfall in the region in coming months, but the chance of exceeding maximum temperatures is as high as it gets, new data shows.	Oct-18
Article 31	**Mudgee Guardian**	**Embracing change and encouraging social games, the Bowdens Silver Rugby Sevens Tournament marks its 30th year anniversary** In its 30th year, the Bowdens Silver Mudgee Rugby Sevens Tournament in Glen Willow kicks off with an updated format to accommodate teams travelling from all over the State	Oct-18
Article 32	**ABC News**	**Bylong Valley mine gets NSW Government approval as UN warns against coal energy** "Plans for a long-debated coal mine in the NSW Bylong Valley have again been referred to an independent panel, this time for the final go-ahead. The NSW Department of Planning and Environment has completed its final assessment report and said the development is approvable, subject to stringent conditions."	Oct-18
Article 33	**Mudgee Guardian**	**Threat to our environment** Column by Mudgee District Environment Group outlining concerns expressed by the Lue Action Group, particularly around tailings.	Aug-18
Article 34	**ABS News**	**How the Wiradjuri people of Central West NSW survived first contact with European settlers** A piece recounting the early contact that occurred between the Wiradjuri people and European settlers.	Aug-18
Article 35	**ABC News**	**Wollar mine expansion pits locals against American giant Peabody** The expansion the Wilpinjong mine, owned by American coal-mining giant Peabody, has seen the little town of Wollar all but wiped out — but one man, Col Faulkner, is holding out and says he's staying for the long haul.	Jul-18

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 36	**Mudgee Guardian**	**Kandos News** Bowden's Silver receives certificate of appreciation for $10,000 donation to Rylstone VRA for new vehicle, and Tony McClure cuts ribbon of Rylstone Public School storage shed upon completion, following $10,000 donation to finish project	Jun-18
Article 37	**Mudgee Guardian**	**Critical milestone' reached for Lue Silver Mine** The Feasibility Study for the Bowdens Silver Project at Lue has been completed, announcing a two-million tonne per annum operation for 16 years and a workforce of around 180. Description of product, benefits in an interview with Director Tony McClure.	Jun-18
Article 38	**Newcastle Herald**	**Environmental Defenders Office says Wilpinjong court judgement highlights need for planning reform** A Land and Environment Court decision to approve the extension to Wilpinjong open-cut coal mine in the Upper Hunter had exposed serious flaws in NSW planning laws, the Environmental Defenders Office said on Thursday.	Jun-18
Article 39	**Mudgee Guardian**	**NSW Minerals Council's annual expenditure survey shows mining companies inject over $270 million into the Mid-Western region** Over $270 million was injected directly into the Mid-Western Regional Local Government area during the 2016-2017 financial year from participating mining companies. The NSW Minerals Council's latest annual member company expenditure survey found 23 participating mining companies had injected $270.1 million into the area.	May-18
Article 40	**Newcastle Herald**	**Defiant locals cling to properties adjacent to Wilpinjong coal mine** The community of Wollar he has known for 30 years is gone, leaving Faulkner one of the last men standing in a village with a coal mine at its back door, where the general store, the Anglican and Catholic churches and all but a handful of private properties are owned by Peabody Energy.	May-18
Article 41	**ABC News**	**Think there are no homeless people in your area? Think again** ABS (2016) census data outlines that across the Mudgee, Mudgee Region East and Mudgee Region West (Statistical Areas 2) there are approximately 47 people that are homeless.	Mar-18

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 42	**Newcastle Herald**	**The tiny village of Wollar takes on a multinational mining company and NSW Government in court** "THE village of Wollar takes on a multinational coal company and the NSW Government on Thursday in a landmark first test of legislation requiring greenhouse gas emissions to be adequately assessed in coal mine approvals."	Feb-18
Article 43	**Mudgee Guardian**	**Letter to the editor | Koala sits in 'protest' at Lue** Koala spotted sitting in a tree at the gates of the proposed Bowdens Silver Project hailed as a silent protester	Nov-17
Article 44	**Mudgee Guardian**	**Lue silver mine: the legal process** Lue Action Group host a community information workshop with the Environmental Defenders Office for the community about having a say in the mine approval process	Aug-17
Article 45	**Mudgee Guardian**	**Lue students mine for science** Senior students from Lue Public School visit Bowdens Silver to look at machines as part of a science unit.	Jul-17
Article 46	**Newcastle Herald**	**Former Bylong residents are outraged that a coal mine 'depopulated' their valley and silenced dissent** Planning Assessment Commission (PAC) panel slammed the mine project, and issued a stinging rebuke of the Department of Planning's attitude to the decimation of small communities because of coal.	Jul-17
Article 47	**Mudgee Guardian**	**What about us? New express train from Lithgow to Sydney | Poll** Residents of the Mid-Western Regional LGA were reported to have felt left out, with a poll conducted by the Mudgee Guardian finding that of the 988 people who voted, 97% of respondents would use a train service operating between Mudgee and Sydney.	Jun-17
Article 48	**Mudgee Guardian**	**Lue to benefit from new bore** Lue Public School are the proud owners of a new bore thanks to Bowdens Silver, which will provide plenty of water to maintain the school grounds as well as the potential to assist the rural village in times of emergency.	Apr-17
Article 49	**Mudgee Guardian**	**No camp at Lue silver mine** Tony McClure attends a Mudgee Chamber of Commerce meeting to address questions about FIFO, worker accommodation and local employment and procurement	Aprl-17
Article 50	**Mudgee Guardian**	**Chamber of Commerce breakfast** Notice of upcoming Mudgee Chamber of Commerce breakfast hosted by Bowdens	Mar-17

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 51	**ABC News**	**Mining giant Glencore should protect Mount Isa children from lead: environmental expert** Environmental Science professor says community should not shoulder responsibility of extra vigilance on hygiene measures, suggests Glencore should do more to reduce emissions	Feb-17
Article 52	**Newcastle Herald**	**Upper Hunter residents will replicate mine noise at a protest outside the Environment Protection Authority** Protesters replicate mine noise in Newcastle, in response to recent changes in noise guidelines around mining that lessen the restrictions placed on companies.	Feb-17
Article 53	**Newcastle Herald**	**Bylong's controversial Korean Government-backed coal mine being fast tracked to approval, groups allege** Environment and community groups will boycott PAC hearings, amid concerns of 'fake consultation', pre-made decisions and lack of community empowerment. Community members do not believe hearings provide accurate platform to voice concerns	Feb-17
Article 54	**ABC News**	**Mount Isa mine a source of 'potentially significant' lead pollution, Glencore-commissioned report finds** Community concerns as study finds potentially hazardous levels of lead in children's blood, despite success of mitigation strategies already in place – Glencore committed to monitoring and managing harmful impacts on community, publishes preventive hygiene guide for residents	Feb-17
Article 55	**Newcastle Herald**	**OPINION: Upper Hunter small communities are paying the price for the NSW Government's support for coal** Wollar Progress Association angered at Government Planning Assessment Commission for failing to engage with concerns of Wollar community – Concerns over isolation and loss of community, insufficient economic compensation	Jan-17
Article 56	**Newcastle Herald**	**Opinion | Communities lost in mining's shadow** Following significant impact of Wilpinjong mine on regional village of Wollar, communities hope new impact assessment guidelines will enable balanced cost/benefit analyses	Dec-16
Article 57	**Mudgee Guardian**	**Department finds benefits outweigh costs** Of the 741 submissions to the DPE with regards to the Wilpinjong Expansion Project, 633 opposed the project. Majority of the submissions were from people living between 15km and 50km of the site. The expansion would affect 3 local Aboriginal sites of significance and would require a "salvage program"	Nov-16

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 58	**Mudgee Guardian**	**Bowdens Silver discusses plans for Lue mine** Revealed that the new mine would be significantly smaller than the Kingsgate proposal. Stated that Bowdens would not consider any action that would present a toxicity risk to the community or the environment. No smelting will take place on site.	Nov-16
Article 59	**Mudgee Guardian**	**Newcrest's Cadia to emerge as the country's biggest gold mine** Plan to increase output from 27 million tonnes to 32 million tonnes.	Aug-16
Article 60	**Mudgee Guardian**	**$20 million Lue silver mine sale to be finalised soon** New owners (Silver Mines Ltd) emphasised how they are going to run it different to the previous owners. They are going to start small and are looking to have the mine become part of the "local fabric". If approved they expect the mine to run for 20 years.	Jun-16
Article 61	**Mudgee Guardian**	**Approved Ulan expansion will mine until 2033** No objections were received from government agencies on the proposal. No significant increase in impact was noted	Mar-16
Article 62	**Mudgee Guardian**	**Sibelco mine to close** Mine at Tallawang will close due to it no longer being commercially viable in the coal washing market place	Feb-16
Article 63	**Mudgee Guardian**	**A monumental effort to tell Aboriginal history** In an effort to preserve the history of the Wiradjuri people, five memorials are currently being established in the Mudgee area as part of the Wiradjuri Mudgee-Dabee Stories Project. Scattered through the community, these memorials are located at sites of cultural significance to the Wiradjuri people	Jul-15
Article 64	**Mudgee Guardian**	**Wollar expresses concerns over Wilpinjong mine expansion** Wollar community meeting. Progress association said the town has suffered a population decrease since the mine bought a number of people's properties. Outlined that some have drawn a profit from the mine being there, but for others it has been a disaster.	Jun-15
Article 65	**Mudgee Guardian**	**$6 million TAFE boost, Minister launches turns first sod on project to consolidate campuses** The Mudgee TAFE has undergone redevelopment in 2016 with new buildings and alterations added.	Jun-15

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 66	**Mudgee Guardian**	**Wilpinjong seeks to extend the life of mine with planned expansion** Peabody Energy is seeking approval to extend the mine. Would continue the employment of 550 workers and see 75 more to be employed during peak hours. Survey monkey survey was posted online for the local community plus a hard copy was given out.	Feb-15
Article 67	**Mudgee Guardian**	**Mid-Western Region mines Contribute $320M to the region** A NSW Minerals Council survey has found Mudgee is weathering the mining downturn, creating more than 200 mining jobs in 2013/14. The mines paid $170.2 million in wages and salaries to 1434 full-time employees and spent $150.2 million in purchases with 297 Mid-Western Region business, as well as making community contributions and payments to local government.	Jan-15
Article 68	**Mudgee Guardian**	**Mine delay sparks anger: Action group demands answers over Lue lead-silver mine proposal** LAG says they have been left out of consultations about the mine and why it has been delayed. Kingsgate said there was a slight delay due to lower silver prices and that the community is always welcome to contact them for information.	Dec-14
Article 69	**ABC News**	**Community group concerned about mining proposal delay near Mudgee** Lue Action Group (LAG) have said that it has been 18 months since the company vowed to submit the EIS, with the company continuing to delay the submission date without community consultation. This leaves the community in limbo.	Nov-14
Article 70	**The Conversation**	**Toxic playgrounds: Broken Hill kids exposed to poisonous dust** Researchers outline potential harm of high lead exposure in mining related lead–dust impacted communities, urge government to establish protective measures for children	Oct -14
Article 71	**ABC News**	**Proposed Lue silver mine set to release environmental impact statement soon** Kingsgate is prepared to allow the local community to read and comment it's report on the projects impact on the area's air, noise and water before it is submitted to the government.	Jun-14
Article 72	**ABC News**	**Lue Action Group questions silver mine delay** Lue Action Group (LAG) wants more detail about what the Project will bring in the next 12-18 months	Aug-13

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 73	**Mudgee Guardian**	**Lue Action Group welcomes delay** LAG believes Kingsgate have delayed presenting their EIA due to environmental concerns. Also feels that "Lue is facing the same threat of extinction as Bulga, Because of the proximity of a toxic mine	Jul-13
Article 74	**Mudgee Guardian**	**Lue Silver mine assessment expected in 2014** Kingsgate presented at the 2013 NSW Mineral Exploration and Investment Conference, giving an update on the project.	Jul-13
Article 75	**ABC News**	**Department says Lue buffer will be considered** LAG has accused the Department of Planning of giving the mine preferential treatment. The department says they base all cases on the merit of the project. LAG has also requested having the same buffers as the Coal Seam Gas wells that Kingsgate also own.	Mar-13
Article 76	**ABC News**	**Lue group looks at legal action over mine proposal** Lue Action Group is considering getting legal advice on whether it can get the company (Kingsgate) to respond to their issues (mine proximity etc) more than just what the government requirements are. The group says that if coal seam gas mines can get a 2km buffer zone, then their town should also get at least that from a mine with lead.	Mar-13
Article 77	**ABC News**	**Kingsgate to address air quality issues at Lue** Department of Planning has released the Environmental Assessment Requirements. DEP have requested that Kingsgate prepare an EIS. They have two years to compile a response and submit a development application.	Feb-13
Article 78	**ABC News**	**Mining reps welcomed at Lue meeting** Meeting organised by NSW Farmers Association. LAG chairman said many residents were angry about being served exploration access agreements. One supposedly given to an 11yr old while his parents were out. Two representatives from Kingsgate attended the meeting which was met with approval from the congregation.	Feb-13
Article 79	**ABC News**	**Farmers block mine** Dozens of farmers have refused Kingsgate access to their properties amid concerns of the mine's potential impact on local water supplies and dust contamination.	Feb-13

Table A3 (Cont'd)
Media Review

Article No.	Source	Description	Date
Article 80	**ABC News**	**Proposed silver mine concerns Mid-Western residents** LAG hosted a meeting at Lue to discuss the impacts of the mine site on the town. The mine was criticised for not sending any representatives. The mine rebutted this criticism saying that they wanted to make sure of the environmental/social impacts before engaging with the community.	Feb-13
Article 81	**Lithgow Mercury**	**Silver mine concerns** Presentation by Professor Mark Taylor about the dangers of lead mining and refining. Said even the smallest exposure could have big cumulative effects. Said Angas Mine in Strathalbyn (SA) could be similar to Lue.	Jun-12
Article 82	**ABC News**	**Mining company regrets environmental breach** Kingsgate accidentally pushed a drill pad into a waterway. The community was unhappy about the discovery. The company is no longer allowed to do exploratory work within 40m of creeks until it updates its soil, water and erosion control measures.	May-12
Article 83	**The woman on the mountain**	**Mudgee: the wHole mining story** Summary of activist march with several different environmental groups represented. March was to stop any more mines being developed in the Mudgee area	Mar-12
Article 84	**ABC News**	**Residents vow to stop silver mine** LAG chairman said the residents of Lue had one goal in mind, "to try and stop the mine"	Jan-12
Article 85	**ABC News**	**Cement plant closure 'devastating'** Cement Australia has announced it will close its Kandos plant in central western New South Wales, putting at least 64 workers out of a job.	Jul-11