



Our ref: PP142349-WSP-SYD-SIA-LTR-001 RevA

By email  
rose-anne.hawkeswood@planning.nsw.gov.au

17 November 2022

Rose-Anne Hawkeswood  
Team leader  
Resource Assessments  
NSW Department of Planning and Environment  
4 Parramatta Square  
Parramatta NSW 2150

Dear Rose-Anne

### **Bowdens Silver Project SIA Review - Memo**

This memo details the findings of the Bowdens Silver Project Social Impact Assessment (SIA) review against the 2017 Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development, Technical Supplement Appendix D.

As per Table A.1, it was determined that the SIA partially complies with the following SIA review questions:

- **Item 7** – Range of engagement techniques to ensure inclusivity and to ensure the participation of vulnerable or marginalised groups.

**Review response:** The SIA does not state how women, the elderly, people with disability, or culturally and linguistically diverse members of the community were directly engaged with and represented. Engagement with Aboriginal representatives was undertaken.

- **Item 17** – Does the social baseline study include an appropriate mix of quantitative and qualitative analysis, and explain data gaps and limitations?

**Review response:** Data gaps and limitations are not addressed or explained in the SIA.

- **Item 19** – Does the SIA component of the EIS identify potential impacts at all stages of the project life cycle?

**Review response:** Impacts are identified at three main stages: Project assessment and development phase, construction, and operations. No impact assessment has been undertaken to determine potential social impacts associated with mine closure.

Level 27, 680 George Street  
Sydney NSW 2000  
GPO Box 5394  
Sydney NSW 2001

Tel: +61 2 9272 5100  
Fax: +61 2 9272 5101  
[www.wsp.com](http://www.wsp.com)

WSP acknowledges that every project we work on takes place on First Peoples lands. We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

- **Item 21** – 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?

**Review response:** The assessment draws on research of similar projects elsewhere to reach conclusions. Regarding the Tailing Storage Facility (TSF), case studies presented in the SIA include Mt Isa and Cadia Valley Operations. Impacts associated with the TSF in a failure scenario were limited to water quality impacts. An understanding of potential risk to human life (employees and communities) in a failure scenario is not provided.

- **Item 23** – Does the evaluation of significance consider cumulative aspects where relevant?

**Review response:** Cumulative impacts of the proposal in conjunction with other mining projects within the study area were not described or considered in relation to the following impacts: Aboriginal cultural heritage (described as an issue in Table 5.34 of the SIA), Water access and use, and housing and services.

- **Item 24** – Does the evaluation of significance consider the potentially uneven experience of impacts by different people and groups, especially vulnerable groups?

**Review response:** There is limited to no discussion regarding how the project would potentially impact or benefit women (representing 48% population in Lue) and the elderly (representing approximately 20% of Lue population). These groups are typically likely to experience disadvantage when accessing services, employment (for women), and may be more acutely affected by changes to amenity, sense of community, safety and a lack of access to engagement and decision making processes. Additionally, there is limited discussion of noise impacts on school users in the SIA.

- **Item 25** – Does the SIA identify appropriate measures to avoid, reduce, or otherwise mitigate any significant negative impacts of the project, and justify these measures?

**Review response:** Table B.1 details the measures provided for High and Moderate impacts. There are several impacts with High and Moderate residual impacts. Further examination of some of proposed measures are suggested in Table 1 to reduce residual risk.

- **Item 27** - Does the SIA component of the EIS impartially assess the acceptability, likelihood, and significance of residual social impacts?

**Review response:** The SIA does not assess the acceptability of Extreme, High, and Moderate residual social impacts.

Table 1 provides a list of recommendations to address the gaps identified above.

**Table 1** SIA reviewer recommendations

Item	SIA section	Recommendation
7	Section 3.6 and 3.7	Detail how the views of marginalised groups, such as women, elderly, people with disability and or culturally and linguistically diverse were considered.
17	Section 5	Explain data gaps and limitations and how they were addressed.
19	Section 7	Assess impacts related to mine closure.
21	Section 7	Provide an assessment of potential risk to human life (employees and communities) in a TSF failure scenario.
23	Section 7	Assess the cumulative impacts to: Aboriginal cultural heritage, water access and use, and housing and services.

Item	SIA section	Recommendation
24	Section 7	<p>Explain if women and the elderly are likely to experience impacts to a greater degree, including access to services, employment, amenity changes, changes to sense of community, safety and limited access to engagement and decision making.</p> <p>In addition, discuss how noise could impact school users.</p>
25	Section 7	<p>Consideration of further management measures in response to the following impacts with Extreme and High residual risks is recommended:</p> <ul style="list-style-type: none"> <li>— <b>Construction Social amenity – noise to 5 residences.</b> Suggestions from the community included: double glazing windows and consideration of limiting high noise activities during the day and avoid identified dates. Providing information to residents about high noise activities could also support their preparedness.</li> <li>— <b>Social amenity – traffic volume and disruption LGA Road Users.</b> It is not adequately explained when the design and construction 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. It is recommended this measure is implemented prior to construction.</li> <li>— <b>Population change – impact of Construction and Operational workers and families on housing and accommodation.</b> It is recommended that a Housing and Accommodation Strategy is developed for this project.</li> <li>— <b>Population change – impact of Operational workers and families on Childcare Service.</b> No specific measures are proposed to manage this impact. It can be presumed that the Planning Agreement (PA) with the Mid-Western Regional Council could address constrains to Childcare. Given the uncertainty of the content of the PA, it is recommended that specific measures are identified.</li> <li>— <b>Social amenity – noise // Operations for properties in acquisition zone.</b> It is recommended that additional management measures are proposed by the project proponent. Specially for those residents within acquisition zone and in management zone.</li> <li>— <b>Social amenity – noise // Operations for residents in management zone.</b> Consideration of additional measures for the school is recommended to adopt a precautionary approach.</li> <li>— <b>Visual amenity due to: Change to landscape Light spill (at night) Locality residents where Project would be visible (n=6).</b> It is recommended that additional management measures are proposed by the project proponent for residents where Project would be visible (n=6).</li> <li>— <b>Sense of community – Cohesion, character, sense of place, rural lifestyle Locality residents.</b> It is recommended that specific measures to address changes to cohesion, character and sense of place are identified and proposed. The SIA’s approach to addressing these impacts cannot rely solely on a community investment program, which should be aimed at enhancing benefits to the local community rather than mitigating negative effects.</li> </ul>

Item	SIA section	Recommendation
		<ul style="list-style-type: none"> <li>— <b>Impact on Water quality as a result of TSF failure (moderate).</b> It is recommended the proponents adopts GISTM standards. Specially:               <ul style="list-style-type: none"> <li>— assessing TSF risk category in case of failure as per GISTM</li> <li>— identifying who is likely to be affected in case of TSF failure (including employees and community members)</li> <li>— developing and implementing a communication plan for those likely to be affected in case of failure (if needed)</li> <li>— development an emergency response management plan in case of failure and a communication and engagement plan for failure.</li> </ul> </li> <li>— <b>Community engagement and information provision – Locality residents (moderate).</b> It is recommended that:               <ul style="list-style-type: none"> <li>— a grievance mechanism is established prior to construction, detailing how grievances will be investigated, resolved in case of non-conformity, and scaled to senior management. The grievance mechanism should take the form of a procedure rather than a component of a Good Neighbour Program and should be made known internally across the organisation</li> <li>— given the scope of the SIMP, the number of activities to be implemented by the Good Neighbour Program and the Community Investment Program relying on one single staff member is deemed insufficient. Community engagement and social development are two distinct disciplines that require qualified professionals to ensure implementation is effective. The responsibility of the monitoring and evaluation should be on hands of a social performance leader or manager.</li> </ul> </li> </ul>
27	Section 7	Explain the acceptability of Extreme and High residual risks.

I acknowledge that this report has been informed only by a review of the Bowdens Silver Project Social Impact Assessment (SIA) and the SIA Chapter of the Environmental Impact Assessment Report. The review did not include addendums or responses to public exhibition comments.

I declare that I do not pose any conflicts of interests with the reviewed project at the time of writing this Memo.

Yours sincerely

Carla Martinez  
Senior Associate, Social Strategy and Outcomes

**List of attachments**

Attachment A SIA review response to Appendix D SIA Technical Supplement Questionnaire

Attachment B Residual risk rating and management measures review



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**Attachment A**  
SIA review response to  
Appendix D SIA Technical  
Supplement Questionnaire

Table A.1 Provides the responses to the 29 questions detailed in Appendix D of the 2017 SIA.

*Table A.1 SIA review response to Appendix D SIA Technical Supplement Questionnaire*

Category	Appendix D 2017 SIA Technical Supplement Questionnaire	SIA review response	Response addressed in section	SIA reviewer comments
General	<b>1</b> Has the applicant applied the principles in Section 1.3? How?	Yes	Sections 3.2, 3.4 and throughout the SIA report	Table 3.2 identifies the SIA principles and explains how they have been adopted in the report. The report meets the application of principles explained in Table 3.2.
	<b>2</b> Does the lead author of the Scoping Report meet the qualification and skill requirements in Box 2?	Yes	Annexure 1 of SIA	Dr Sheridan Coakes has over 25 years of research and applied experience in the areas of social impact. Dr. Sheridan is a Doctor of Philosophy – Psychology.
	<b>3</b> Does the lead author of the SIA component of the EIS meet the qualification and skill requirements in Box 4?	Yes	Annexure 1 of SIA	Dr Sheridan Coakes has over 25 years of research and applied experience in the areas of social impact. Dr. Sheridan is a Doctor of Philosophy – Psychology
	<b>4</b> 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?	Yes	Annexure 2 of SIA	Declaration dated 22 Nov 2019.
Community engagement for social impact assessment (Section 2)	<b>5</b> Does the SIA include adequate explanations of how the engagement objectives have been applied? How?	Yes	Sections 3.6 and 3.7 of SIA	The SIA report ensured engagement mechanism were appropriate and meaningful by applying a number of techniques to evaluate the engagement process. The feedback from stakeholders assisted in predicting social impacts and seek to contribute to the ongoing management of social issues throughout the whole Project development cycle, from conception to post-closure.

Category	Appendix D 2017 SIA Technical Supplement Questionnaire	SIA review response	Response addressed in section	SIA reviewer comments
	<p><b>6</b> 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? How?</p>	Yes	Sections 3.6 and 3.7 of SIA	Section 3.6 details a map of stakeholders. Table 3.3 details engagement attempts. A total of 486 attempts were made to interview people and a total of 4,900 flyers via mail were submitted to residents. 120 surveys were distributed at community information sessions. 14 attempts were made to engage with Indigenous stakeholders of which only 8 were successful.
	<p><b>7</b> 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?</p>	Partially	Sections 3.6 and 3.7 of SIA	<p>Interviews, community information sessions, workshops and targeted surveys to specific stakeholder groups (paper and phone based) were implemented, resulting in a total of 962 directly engaged participants, including a total of eight Aboriginal stakeholders. Engagement with schools to obtain feedback from children was also implemented.</p> <p>Door knocking, phone calls, information sheets and emails were used to ensure residents and landholders were informed of the project.</p> <p>Stakeholders were also consulted about their engagement preferences to inform future consultation.</p> <p>The report provides an adequate summary of findings per stakeholder group, identifying concerns, aspirations and recommendations.</p> <p>The SIA does not state how the views of women, the elderly, people with disability or culturally and linguistically members of the community were engaged or represented.</p>

Category	Appendix D 2017 SIA Technical Supplement Questionnaire	SIA review response	Response addressed in section	SIA reviewer comments
Scoping – area of social influence (Section 3.1)	<p><b>8</b> Does the Scoping Report identify and describe all the different social groups that may be affected by the project?</p>	Yes	Section 3.6 and 5.13 of SIA	<p>Section 3.6 identifies stakeholders that may be affected by the project, including proximal landholders, local and regional residents, community environmental and special interest groups, service providers, Aboriginal stakeholders, local business and suppliers and Bowdens Silver employees.</p> <p>In addition, Section 5.13 describes vulnerable groups such as Indigenous peoples, ethnic minorities, migrants, disabled people, the homeless, the poor, those struggling with substance abuse, and isolated elderly people.</p>
	<p><b>9</b> 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?</p>	Yes	Section 5.7 and 5.9 of SIA	<p>Regional features described included 130 heritage listed buildings in Gulgong, 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</p> <p>Locally in Lue, Section 5.7 details natural features that valued by residents which include the general quiet and peaceful of the area, fresh air and natural beauty. Vineyards, the drip and Dunns Swamp. Given its agricultural history, residents in the area associate the region with farming.</p> <p>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; The Lue Enduro and Motocross Complex; Lue Hotel, which was identified as a venue used by parents and family members to socialize; and The Railway station / line – a ‘hangout’ spot for some of the students.</p> <p>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.</p>



Category	Appendix D 2017 SIA Technical Supplement Questionnaire	SIA review response	Response addressed in section	SIA reviewer comments
	<p><b>10</b> 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?</p>	Yes	Section 5.8.1 of the SIA	<p>Some of the key data showcased includes:</p> <ul style="list-style-type: none"> <li>— 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%.</li> <li>— Population increases of approximately 2000 people are expected from 2016 to 2036, with an estimated 0.4% annual growth rate over this period.</li> <li>— 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.</li> <li>— 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.</li> <li>— 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). Based on this index, the data indicate that: <ul style="list-style-type: none"> <li>— compared with other LGAs within NSW, the Mid-Western Regional LGA exhibits an average level of socio-economic disadvantage, falling within the 5th decile</li> <li>— all of the study communities are more disadvantaged than Lue, which ranks in the 6th decile, compared with the other SSCs within the Mid-Western Regional LGA</li> <li>— of the study communities, Kandos is the most disadvantaged ranking within the 1st decile, followed by Gulgong in the 2nd.</li> </ul> </li> </ul>

Category	Appendix D 2017 SIA Technical Supplement Questionnaire	SIA review response	Response addressed in section	SIA reviewer comments
	<b>11</b> Does the Scoping Report impartially describe the history of the proposed project, and how communities near the project site and within the surrounding region have experienced the project to date and others like it?	Yes	Section 4.2 of the SIA	Section 4.2 details the perceptions of different stakeholders about the proposed project, including residents and landholders in the locality and regional community members, aboriginal stakeholders, service providers, local businesses and suppliers and community consultative committee.  The findings report positive, neutral and negative sentiments in regard to the process demonstrating impartiality.
Scoping – identifying social impacts (Section 3.2, Appendix A and Appendix B)	<b>12</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?	Yes	Section 6 of the SIA	Figure 6.3 and 6.5 provides a summary of social impacts identified.  Social impacts are scoped considering perceived social impacts and experiences of other projects of similar characteristics within the study area.  Evidence provided largely relies on stakeholders’ views and experiences within the study area.
	<b>13</b> 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?	Yes	Section 6 of the SIA	Scoping was largely reliant on stakeholder feedback. A second round of engagement was implemented to inform the SIA component of the EIS.
	<b>14</b> Does the Scoping Report identify potential cumulative social impacts?	Yes	Sections 5.5 and 6 of the SIA	Table 5.4 details mining projects and modifications relevant to the Bowdens Silver Project. The table identifies social impacts resulting from those projects and proposed mitigation strategies.

Category	Appendix D 2017 SIA Technical Supplement Questionnaire	SIA review response	Response addressed in section	SIA reviewer comments
Social baseline study (Appendix C – Section C1)	15 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?	Yes	Section 5 of the SIA Section 4.20.2 of the EIS	The SIA component of the EIS provides an adequate discussion of local and regional context. Includes issues of concern to local communities and aspirations for the future.
	16 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?	Yes	Section 4.20.4 of the EIS	The SIA component of the EIS provides a summary of social engagement outcomes. It discusses in themes the views of different stakeholder groups and potential experiences in the affected community.
	17 Does the social baseline study include an appropriate mix of quantitative and qualitative analysis, and explain data gaps and limitations?	Partially	Section 5 of SIA Sections 4.20.2 and 4.20.4 of the EIS	These two sections together provide an appropriate mix of quantitative and qualitative analysis. Data gaps and limitations are not explained in the EIS.
Prediction and analysis of impacts (Appendix C – Section C2)	18 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?	Yes	Section 4.20.6 of the EIS Section 7 of the SIA	Table 4.101 of the EIS provides a summary of the outcomes of the social impact assessment. The table identified the extent, duration, affected parties, sensitivity and mitigated residual risk. The table does not identify the vulnerability of affected stakeholders.  Section 7 of the SIA provides a detailed analysis and scenarios to assess the severity of change and the location, number, sensitivity and vulnerability of the affected stakeholders.
	19 Does the SIA component of the EIS identify potential impacts at all stages of the project life cycle?	Partially	Section 4.20.6 of the EIS Section 7 of the SIA	Table 4.101 of the EIS identifies impacts at three main stages: Project Assessment and Development Process, construction and operations. No impact assessment to determine mine closure impacts are assessed

Category	Appendix D 2017 SIA Technical Supplement Questionnaire	SIA review response	Response addressed in section	SIA reviewer comments
	<p><b>20</b> Does the SIA component of the EIS appropriately identify and justify any assumptions that have been made in relation to its predictions?</p>	Yes	Section 4.20.6.2	<p>The SIA component of the EIS explains assumptions made. As an example, assumptions in regard to the impact assessment of construction workforce on housing and accommodation services. The SIA assumes that due to the temporary nature of the construction schedule, families associated with the workforce are unlikely to relocate with the worker and that the workforce would most likely 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 any of the workforce would reside in the Gulgong locality.</p>
	<p><b>21</b> 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?</p>	Partially	Section 7	<p>The SIA component of the EIS provided information about the workforce migration scenarios. The SIA considers the worst-case scenario to allow for uncertainty during construction (80% migration into LGA) and operations (75% target of operational workforce being sourced from the LGA).</p> <p>The assessment draws on research of similar projects elsewhere to reach conclusions. Some of the case studies presented include Mt Isa and Cadia Valley Operations.</p> <p>Impacts associated with TSF in a scenario of failure were limited to impacts to water quality. An understanding potential risk to human life (employees and communities) in a failure scenario is needed.</p>
Evaluation of significance (Appendix C – Section C3)	<p><b>22</b> Does the SIA component of the EIS explain how impacts were evaluated and prioritised in terms of significance?</p>	Yes	Section 7	<p>Table 7.1 provides the social risk matrix and Table 7.2 provides social consequence definitions. Table 7.3 provides social likelihood definitions.</p>

Category	Appendix D 2017 SIA Technical Supplement Questionnaire	SIA review response	Response addressed in section	SIA reviewer comments
	<p><b>23</b> Does the evaluation of significance consider cumulative aspects where relevant?</p>	Partially	Section 7 of the SIA	<p>Cumulative aspects are considered for the following impacts:</p> <ul style="list-style-type: none"> <li>— sense of place and community</li> <li>— surroundings and social amenity: Operational noise</li> <li>— traffic</li> <li>— air quality/dust.</li> </ul> <p>Cumulative impacts of the proposal together with other mining projects within the study area on the following impacts were not described:</p> <ul style="list-style-type: none"> <li>— Aboriginal cultural heritage (described as an issue in Table 5.34)</li> <li>— water access and use</li> <li>— housing and services.</li> </ul>
	<p><b>24</b> Does the evaluation of significance consider the potentially uneven experience of impacts by different people and groups, especially vulnerable groups?</p>	Partially	Section 7	<p>While the SIA report discusses in general how impacts may be experienced more acutely by disadvantaged groups, such as long-term unemployed, young and Indigenous population.</p> <p>There are limited to no discussions about how the project would affect or benefit women and the elderly. These groups are usually likely to be disadvantaged on access to services, employment (in case of women), experience more acutely amenity changes, changes to sense of community, safety and limited access to engagement and decision making.</p> <p>There are limited discussions about noise and air quality impacts on the School.</p>

Category	Appendix D 2017 SIA Technical Supplement Questionnaire	SIA review response	Response addressed in section	SIA reviewer comments
Responses and monitoring and management framework (Appendix C – Sections C4 and C5)	<b>25</b> Does the SIA identify appropriate measures to avoid, reduce, or otherwise mitigate any significant negative impacts of the project, and justify these measures?	Partially	Section 8	As per Table B.1, there are several impacts with High and Moderate residual impacts.  The SIA proposes six additional measures to reduce or mitigate significant negative impacts. Case studies of applicability of measures are provided.
	<b>26</b> Does the SIA explain and justify measures to secure and/or enhance positive social impacts?	Yes	Section 8	The SIA provides case studies to explain measures to enhance positive impacts.
	<b>27</b> Does the SIA component of the EIS impartially assess the acceptability, likelihood and significance of residual social impacts?	Partially	Section 7 and 8	The SIA does not assess the acceptability of residual social impacts.
	<b>28</b> Does the SIA component of the EIS propose an effective monitoring and management framework?	Partially	Section 9	Section 9 provides the principles and key requirements to develop an effective monitoring and management framework.
Modifications (Introduction – application)	<b>29</b> Are the social impacts associated with the modification expected to be new or different (in terms of scale and/or intensity) to those that were approved under the original consent? If yes, apply the review questions	Not Applicable	Not Applicable	Not Applicable



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**Attachment B**  
Residual risk rating and  
management measures review

Table B.1 was developed to clearly identify management measures determined for High impacts and residual risks. Comments about the adequacy or gaps in management measures are provided in the SIA reviewer comment column.

*Table B.1 Residual risk rating and management measures review*

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
<b>Construction</b>				
Construction Social amenity – noise 5 residences (marginally/moderately)	High	Section 7.6.2.3 indicates that construction noise from the Project would be managed by Bowdens Silver in accordance with an approved Construction Noise 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.	High	The SIA does not explain the acceptability of the residual risk of this social impact.  It is recommended that additional measures to 5 residents are included to reduce residual risk.
Social amenity – noise Locality residents	High		Moderate	Stakeholders proposed double glazing as a measure to mitigate noise during operation.  Consideration to limiting high noise activities during the day and avoiding special dates such as Christmas and good Friday.  Providing information to residents about highly noise activities could also support their preparedness.
Social amenity – traffic volume and disruption LGA Road Users	High	Table 7.44 Management measures include: — provision of a bus service for construction and operational workers.	High	The SIA does not explain the acceptability of the residual risk of this social impact.  Stakeholders proposed: Heavy transport curfew during school bus times,
Social amenity – traffic volume and disruption Locality residents	High		Moderate	Dual turning lane/merging lane into new access road. Adequate signage to access road.  It is recommended that the proponent assesses the implementation of the proposed measures by stakeholders and adopt additional measures to reduce residual risk.



Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
Population change – influx of construction workers	High	<p>Table 7.60 indicates Local employment and procurement policy • Development of a Regional business register</p> <p>Undertake discussions with local schools and TAFE in relation to the development of employment pathways</p> <p>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</p>	Low	Mitigation measure does not indicate when these actions are going to be put in place. It is recommended that to achieve a Low residual risk it is specified that these measures apply from pre-construction throughout the lifecycle of the project.
Population change – impact of construction workers on housing and accommodation	High	<p>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. 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.</p>	Moderate	<p>The SIA does not explain the acceptability of the residual risk of this social impact. Approximately 246 rooms will be required over a period of 18 months. It is likely that most workforce will rely on Mudgee for accommodation with 262 rooms available.</p> <p>Even though temporary workforce migrates within the LGA given travel distance they might be required to accommodate locally due to safety and fatigue management.</p> <p>Mitigation measure does not indicate when these actions are going to be put in place. It is recommended that in order to achieve a Low residual risk it is specified that these measures apply from pre-construction throughout the lifecycle of the project.</p>
Population change – impact of construction workers on Health Services	Moderate	<p>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.</p>	Moderate	The SIA does not explain the acceptability of the residual risk of this social impact.

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
<b>Operation</b>				
Population change – impact of Operational workers and families on Health Services	High	<p>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.</p> <p>In addition, the Planning Agreement (PA) with the Mid-Western Regional Council could address constrains to health services.</p>	Moderate	The SIA does not explain the acceptability of the residual risk of this social impact.
Population change – impact of Operational workers and families on housing and accommodation	High	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.	Moderate	The SIA does not explain the acceptability of the residual risk of this social impact.
Population change – impact of Operational workers and families on Childcare Service	High	<p>No specific measures are proposed to manage this impact.</p> <p>It could be presumed that the Planning Agreement (PA) with the Mid-Western Regional Council could address constrains to Childcare.</p>	Low	<p>No specific measures are proposed to manage this impact.</p> <p>Management measures proposed by stakeholder included: sponsor children for early learning programs – holistic approach, invest in Education facilities e.g. local schools and programs, sports equipment, sponsorship of local sports clubs, musical instruments, amongst other.</p>

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
Acquisition	High	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).	High	<p>The SIA does not explain the acceptability of the residual risk of this social impact.</p> <p>It is recommended that additional management measures are proposed by the project proponent.</p>

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
Social amenity – noise // Operations for properties in acquisition zone	High	Table 7.40 Management measures include: — constructing a southern barrier to reduce noise to the south of the proposed Site	Extreme	The SIA does not explain the acceptability of the residual risk of this social impact.
Social amenity – noise // Operations for residents in management zone	High	— building barriers and bund walls at various locations on the Mine Site — adopting a number of noise controls including noise attenuation on plant and equipment, including the mining fleet	High	It is recommended that additional management measures are proposed by the project proponent. Specially for those residents within acquisition zone and in management zone.
Social amenity – noise // Operations for local residents	High	— movement of processing plant further north of Lue and at a lower elevation — monitoring of noise in real-time (24/7) — implementation of a suite of mitigation measures at residences in the management zone (noise impacts) — adjustment to equipment, fleet and mining schedule to reduce noise at night — Noise Management Plan — acquisition option for properties in acquisition zone.	High	It is also recommended to consider additional measures for the school, adopting a precautionary approach.  Stakeholders proposed the following measures, as per table 8.2 of the SIA:  — 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.

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
Visual amenity due to: Change to landscape Light spill (at night) Locality residents where Project would be visible (n=6)	High	Table 7.48 Management measures include: <ul style="list-style-type: none"> <li>— progressive revegetation on interim and final areas</li> <li>— further tree planting adjacent to Pyangle Road and Powells Road</li> <li>— set back the waste rock emplacement north of Hawkins Creek</li> </ul>	High	The SIA does not explain the acceptability of the residual risk of this social impact.  It is recommended that additional management measures are proposed by the project proponent for residents where Project would be visible.  Stakeholders proposed the following measures, as per table 8.2 of the SIA:
Visual amenity due to: Change to landscape Light spill (at night) Locality residents	High	<ul style="list-style-type: none"> <li>— design the waste rock emplacement to a natural landform</li> <li>— prepare cross-sections to analyse views from key viewing locations towards the Mine Site</li> <li>— select a suitable colour for all buildings and noise barriers</li> <li>— ensure that the lighting used on site has the least impact through its colour (luminance), orientation and shielding.</li> </ul>	Low	<ul style="list-style-type: none"> <li>— bunding to reduce visual impacts</li> <li>— placement of lighting to reduce light spill</li> <li>— limit to 12-hr operations through the day-time</li> <li>— tree planting/screening.</li> </ul>

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
<p>Social amenity – dust Specified Locality residents</p>	<p>High</p>	<p>Table 7.46 Management measures include:</p> <ul style="list-style-type: none"> <li>— watering of all actively used internal haul roads</li> <li>— sealing a section of the relocated Maloneys road</li> <li>— implement a proactive air quality management system utilising – meteorological forecasts – real time meteorological and air quality monitoring – proactive response based on alerts</li> <li>— continue to sample and monitor air quality and build on the existing robust dataset – based on regular monitoring since 2011/12</li> <li>— development of a regular newsletter summarising environmental monitoring outcomes – uploaded to Bowdens Website Social</li> <li>— scheduling of blasts to avoid adverse weather</li> <li>— no blasting in poor weather conditions</li> <li>— water carts for dust suppression</li> <li>— use underground extraction</li> <li>— publishing of monitoring results of lead levels in dust</li> <li>— household mitigation</li> <li>— first flush water tank systems</li> <li>— water tank cleaning</li> <li>— AQ monitoring</li> <li>— test people’s houses for lead and repaint houses</li> <li>— provision of blast notifications to all local residents.</li> </ul>	<p>Moderate</p>	<p>The SIA does not explain the acceptability of the residual risk of this social impact.</p> <p>It recommended to consider measures to be applied for houses for the school, adopting a precautionary approach, such as:</p> <ul style="list-style-type: none"> <li>— development of a regular newsletter summarising environmental monitoring outcomes – uploaded to Bowdens Website Social</li> <li>— publishing of monitoring results of lead levels in dust</li> <li>— household mitigation</li> <li>— test people’s houses for lead and repaint houses</li> <li>— provision of blast notifications to all local residents.</li> </ul>

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
<p>Social amenity – traffic volume and disruption</p> <p>Locality residents</p>	<p>High</p>	<p>Table 7.44 Management measures include:</p> <ul style="list-style-type: none"> <li>— provision of a bus service for construction and operational workers</li> <li>— 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</li> <li>— 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</li> <li>— no concentrate truck movements allowed through Lue or Rylstone</li> <li>— minimise mine traffic at peak times</li> <li>— new intersection constructed with full safety measures e.g. turning lane</li> <li>— provision of a bus service for construction and operational workers</li> <li>— erection of driveway entrance signage</li> <li>— deliveries and despatch of heavy vehicles limited to daylight periods (no nights or morning and afternoon peak hours).</li> </ul>	<p>Moderate</p>	<p>The SIA does not explain the acceptability of the residual risk of this social impact.</p>

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
<p>Health and wellbeing – stress and anxiety</p> <p>Locality residents</p>	<p>Moderate</p>	<p>As per section 7.3.2, management measures include:</p> <ul style="list-style-type: none"> <li>— provision of access to community members through the company’s Employee Assistance Program and/or dedicated contracted general practitioner/medical officer</li> <li>— provision of environmental monitoring results relating to lead in air and water</li> <li>— support for health service programs in the region as part of the company’s Community Investment Program</li> <li>— maintaining an open-door policy and implementing a good neighbour program - regular and ongoing community engagement in relation to impact monitoring and management</li> </ul>	<p>Moderate</p>	<p>The SIA does not explain the acceptability of the residual risk of this social impact.</p> <p>It is recommended establishing a formal grievance mechanism, which details how grievances are going to be investigated, resolved in case of non-conformity and scaled to senior management.</p>
<p>Sense of community – Cohesion, character, sense of place, rural lifestyle</p> <p>Locality residents</p>	<p>High</p>	<p>As per Table 7.36, management measures include:</p> <ul style="list-style-type: none"> <li>— Community Investment Program • Local investment in key Projects to assist in Lue, Rylstone, Kandos sustainability through engagement and collaboration with residents and key stakeholders</li> </ul>	<p>High</p>	<p>The SIA does not explain the acceptability of the residual risk of this social impact.</p> <p>It is recommended that specific measures to address changes to cohesion, character and sense of place are proposed. Addressing these impacts cannot be relied on a community investment program, which should be aimed at enhancing benefits to the local community rather than mitigating negative effects.</p>



Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
<p>Conflict as a result of competing land use</p> <p>Locality residents</p>	<p>Moderate</p>	<p>According to Table 7.54, management measures include:</p> <ul style="list-style-type: none"> <li>— 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</li> <li>— the implementation of air quality, water and noise mitigation and monitoring measures to minimise any potential impacts to agricultural enterprises and general rural amenity</li> <li>— Community Investment Program</li> <li>— progressive rehabilitation</li> <li>— establishment of a nursery and conducting trials of cultivation of locally collected native vegetation seed for rehabilitation</li> <li>— engagement with key stakeholders to obtain feedback on rehabilitation and final land uses</li> <li>— engagement of Aboriginal Stakeholders in rehabilitation initiatives.</li> </ul>	<p>Moderate</p>	<p>The SIA does not explain the acceptability of the residual risk of this social impact.</p>
<p>Aboriginal cultural heritage</p>	<p>High</p>	<p>As per Table 7.36, management measures include:</p> <ul style="list-style-type: none"> <li>— Aboriginal keeping place would be used to store displaced artefacts throughout the life of mine</li> <li>— Community Investment Program – heritage program.</li> </ul>	<p>Moderate</p>	<p>The SIA does not explain the acceptability of the residual risk of this social impact.</p> <p>Stakeholders recommended the following specific measures for heritage in general: 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</p>

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
Declining property values Locality residents	High	According to Table 7.58, management measures include: <ul style="list-style-type: none"> <li>— Community Investment Program</li> <li>— local investment in key community enhancement Projects in Lue, Rylstone, Kandos.</li> </ul>	Moderate	The SIA does not explain the acceptability of the residual risk of this social impact.
Declining property values Landholders along the pipeline	High	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.  Section 8.3 Property Mitigation Program  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: <ul style="list-style-type: none"> <li>— installation of first flush systems on rainwater tanks</li> <li>— cleaning of rainwater tanks once a year</li> <li>— tree planting.</li> </ul> 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	Moderate	The SIA does not explain the acceptability of the residual risk of this social impact.

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
Exposure to lead in dust Locality residents	High	According to Table 7.33, management measures include: <ul style="list-style-type: none"> <li>— development of regular newsletter summarising soil, water and air quality monitoring outcomes</li> <li>— site visit for residents and landholders to view the TSF post construction</li> <li>— scheduling of blasts to avoid adverse weather conditions</li> <li>— watering of all internal haul roads Commitment to seal sections of the relocated Maloneys Road</li> <li>— implement a comprehensive air, soil and water monitoring program, including analyses of metals</li> </ul>	Low	No comments.
Exposure to lead in water Locality residents	High		Low	
Impact on Water quality as a result of TSF failure	High	According to Table 7.33, 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	Moderate	The SIA does not explain the acceptability of the residual risk of this social impact.  It is recommended the proponents adopts GISTM standards. Specially: <ul style="list-style-type: none"> <li>— building a social knowledge base</li> <li>— identifying who is likely to be affected in case of TSF failure (including employees and community members)</li> <li>— developing and implementing a communication plan for those likely to be affected in case of failure</li> <li>— development an emergency response management plan in case of failure and a communication and engagement plan for failure.</li> </ul>

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
<p>Access to and use of water Locality resident</p> <p>Private bore owners</p> <p>Regional LGA</p> <p>Community</p>	<p>High</p>	<p>According to Table 7.50, 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.</p> <p>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.</p> <p>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.</p> <p>Commissioning of a comprehensive surface water assessment that is subject to independent peer review.</p>	<p>Low</p>	<p>No comments</p>
<p>Community engagement and information provision</p> <p>Locality residents</p>	<p>Moderate</p>	<p>According to Table 7.38, management measures include:</p> <ul style="list-style-type: none"> <li>— development of a SIMP for the Project</li> <li>— good neighbour program</li> <li>— evaluation of the CCC process</li> <li>— Community Investment Program</li> <li>— development of a quarterly environmental monitoring report</li> <li>— ongoing engagement and communication.</li> </ul>	<p>Moderate</p>	<p>The SIA does not explain the acceptability of the residual risk of this social impact.</p> <p>It is recommended that a formal grievance mechanism is established, which should detail how grievances will be investigated, resolved in case of non-conformity, and scaled to senior management. The Grievance mechanism should take the form of a procedure rather than a component of a Good Neighbour Program and should be made known internally across the organisation.</p>

Impact	Pre-mitigated	Mitigation	Residual risk	SIA reviewer comment
		<p>Section 8.4 Good Neighbour Program, which would include:</p> <ul style="list-style-type: none"> <li>• Regular (quarterly) provision of environmental monitoring results</li> <li>• SMS monitoring alerts e.g. blasting</li> <li>• Development of a formal complaint’s procedure</li> <li>• Site visits to view construction activities and operations</li> <li>• 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</li> <li>• Meetings with registered Aboriginal parties to keep them informed of Project progress.</li> <li>• Use of local community noticeboards.</li> <li>• Regular information provision and community engagement including Open Days, newsletters, etc.</li> </ul> <p>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.</p>		<p>Given the scope of the SIMP, the number of activities to be implemented by the Good Neighbour Program and the Community Investment Program relying on one single staff is deemed insufficient. Community engagement and social development are two different disciplines that require qualified professionals to ensure implementation is effective. The responsibility of the monitoring and evaluation should be on hands of a social performance leader or manager.</p>