# Appendix 9

# Summary of Assessment Outcomes - EIS and Amended Project

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**Table A9.1**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Noise | • The noise assessment for the EIS modelled noise levels at 119 privately-owned residences that were within 3km to 4km of the Mine Site.<br>• **Site establishment and construction stage (Months 1 – 18)**<br>***Months 1 to 6***<br>- No noise limit exceedances are predicted due to construction activities within the Mine Site.<br>- During construction of the southern section of the relocated Maloneys Road, at its intersection with Lue Road, there is predicted to be a marginal exceedance (<5dB(A)) of the $L_{Aeq}$ 45dB(A) Construction Noise Management Level at one residence and a moderate exceedance (>5dB(A)) at four residences. These noise exceedances would occur only occasionally during a 1 to 2 month period and are substantially lower than the highly noise affected criteria of 75dB(A).<br>***Months 7 to 18***<br>- At various times throughout the day the occupants at eight privately-owned residences were predicted to experience exceedances of the day-time Project Noise Trigger Level of 40dB(A). The level of exceedance would vary from 2dB(A) to 5dB(A) under standard meteorological conditions and 2dB(A) to 10dB(A) under enhancing wind conditions.<br>• **Operational stage**<br>During operations, the modelled scenarios, representing operations in Years 3, 8 and 10, predicted the following exceedances of the Project Noise Trigger Level:<br>– Negligible exceedances of 1dB(A) to 2dB(A) at six residences. | • There have been no changes to the outcomes of the noise assessment during site establishment and construction, during operations, or Mine Site rehabilitation excluding the following:<br>– An additional (modified) scenario, with in-pit bulldozer operations, was modelled to assess operations in Year 8. The noise predictions of this modified scenario were consistent with the results presented in the EIS.<br>– Additional assessments of road traffic noise from the relocated Maloneys Road corridor and 500kV power transmission line re-alignment works were undertaken with all criteria satisfied.<br>• Since exhibition of the EIS, Bowdens Silver has entered into agreements with a number of neighbouring landowners in accordance with the requirements of the *Voluntary Land Acquisition and Mitigation Policy*. As a result, some residences previously considered impacted are now Project-related with predicted impacts resolved through the agreements. This program has resulted in a reduction to the privately-owned residences that may experience noise exceedances, with the updated outcomes of assessment as follows.<br>– Negligible exceedances of 1dB(A) to 2dB(A) at three residences.<br>– Marginal to Moderate exceedances of 3dB(A) to 5dB(A) at three residences.<br>– Significant exceedances of >5dB(A) at one residence. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Noise (Cont'd) | – Marginal to Moderate exceedances of 3dB(A) to 5dB(A) at four residences.<br>– Significant exceedances of >5dB(A) at one residence.<br>– Negligible exceedances of the Sleep Disturbance Noise Level are predicted at a single residence.<br>There are no predicted exceedances of noise limits within the village of Lue or within places of interest in Lue (including the Lue Primary School).<br>• ***Mine Rehabilitation and Closure***<br>The assessment predicted no changes to the level of noise impact experienced during rehabilitation and closure compared with during operations.<br>• ***Traffic Noise***<br>Changes to traffic noise would be barely perceptible with assessment criteria satisfied during all stages of the Project-life. Whilst a minor exceedance of noise criteria was predicted adjacent to Lue Public School, this was due to existing traffic levels and the criteria used for the school.<br>The predicted peak hour noise levels from the relocated Maloneys Road at the closest residence (most impacted) are daytime $L_{Aeq(1hour)}$ 46 dB(A) and night-time $L_{Aeq(1hour)}$ 43 dB(A). These levels comply with the relevant hourly traffic noise criteria of daytime $L_{Aeq(1hour)}$ 55 dB(A) day and night-time $L_{Aeq(1hour)}$ 50 dB(A). | |
| Blasting and Vibration | • Exceedances of airblast overpressure and/or ground vibration have been predicted at three residences. However, blast designs would be managed to reduce the likelihood of exceedance.<br>• No damage to residences and buildings or public infrastructure (including roads, railway or power lines) is predicted. | • The conclusions of the blasting and vibration assessment remain unchanged.<br>• Two of the three residences at which exceedances of airblast overpressure and/or ground vibration were predicted are now subject to agreements with Bowdens Silver and considered Project-related. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Air Quality | • No exceedances of relevant air quality criteria for particulate matter (TSP, $PM_{10}$, $PM_{2.5}$), metal dust concentrations, respirable crystalline silica or hydrogen cyanide are predicted at any privately-owned residences or receivers. | • There has been no changes to the outcomes of the assessment conducted for the EIS. |
| Greenhouse Gas | • The total estimated Greenhouse Gas emissions for the Project over the life of the mine are as follows.<br>– Scope 1: 444 442t $CO_2$-e<br>– Scope 2: 812 319t $CO_2$-e<br>– Scope 3: 166 055 $CO_2$-e<br>– Total: 1 422 816 $CO_2$-e<br>• Predicted annual average Project-related Scope 1 Greenhouse Gas emissions would represent approximately 0.02% of total Greenhouse Gas emissions for NSW (0.004% of total emissions for Australia). | • Removal of the water supply pipeline would reduce the Project's operational power requirements. However, the inclusion of additional Mine Site infrastructure as part of the integrated water management and supply strategy may increase electricity use.<br>• On balance it is considered that predictions for Greenhouse Gas emissions remain largely unchanged.<br>• Bowdens Silver is considering opportunities to further reduce Greenhouse Gas emissions through the purchase of green energy and directly sourcing solar power from a purpose built solar farm in the vicinity of the Mine Site. |
| Groundwater | • Groundwater inflow rates to the open cut pit were predicted to be 2.4ML/day (on average) and 3.5ML/day (at a peak). Maximum annual inflow was predicted to be 1 066ML/year.<br>• Maximum groundwater drawdown extent would be reached approximately 16 years post-mining, with further minor variations expected for 50 years. At its maximum, drawdown would extend approximately 1.5km to the east and south, 2km to the west and 2.2km to the north.<br>• The final void would act as a terminal groundwater sink.<br>• Potential >2m decrease in water level at two registered groundwater bores.<br>• During operations, groundwater (baseflow) contribution to surface water flows in Hawkins and Lawsons Creeks would reduce by up to 12.9ML/year.<br>• No impact to high priority groundwater dependent ecosystems is expected. | • Total groundwater dewatering rates were predicted to be 2.4ML/day (on average) and 3.5ML/day (at a peak). Maximum annual inflow were predicted to be 1 222ML/year.<br>• Maximum groundwater drawdown extent reached approximately 16 years post-mining, with further minor variations expected for 50 years. At its maximum, drawdown would extend approximately 1.7km to the east and south, 2.6km to the west and north.<br>• The final void would act as a terminal groundwater sink.<br>• Potential >2m decrease in water level at two registered groundwater bores.<br>• During operations, groundwater (baseflow) contribution to surface water flows in Hawkins and Lawsons Creeks would reduce by up to 14.0ML/year.<br>• No impact to high priority groundwater dependent ecosystems. is expected |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Groundwater (Cont'd) | • No water quality impacts beyond 40m from the Mine Site boundary and no changes to the beneficial uses of aquifers were predicted.<br>• Project-related groundwater impacts were considered acceptable under the NSW Aquifer Interference Policy. | • No water quality impacts beyond 40m from the Mine Site boundary and no changes to the beneficial uses of aquifers are predicted.<br>• Inclusion of additional design elements for the TSF would reduce seepage potential and changes to water quality in Lawsons Creek.<br>• Project-related groundwater impacts remain acceptable under the NSW Aquifer Interference Policy with Bowdens Silver fully accounting for the Project's water access licensing requirements. |
| Surface Water | • The Mine Site would intercept a maximum of 177ML/year of surface flows that would have normally flowed to Lawsons Creek.<br>• The Lawsons Creek catchment, downstream of Hawkins Creek would be reduced by 2.0%[1].<br>• Flow rates in Hawkins and Lawsons Creeks would be reduced by 1.2% and 4.4% respectively, and post-mine closure, flow rates would reduce by 0.4% and 1.4%.<br>• It has been concluded that there would be negligible reductions in availability of water to downstream users. WRM (2020) established that flows are on average greater than 1ML/day for approximately 81.0% of the time in Lawsons Creek at its confluence with Walkers Creek. As a result of the reduced flows associated with the Project, flows greater than 1ML/day are predicted to occur for approximately 80.5% of the time, i.e. a reduction of 0.5% of the time or up to 2 days per year on average.<br>• There would be no significant increase in cease-to-flow periods in Lawsons Creek with flows greater than 0.1 ML/day reducing in frequency from 90.2% to 89.8% of the time during operations, and 89.6% of the time post-mine closure. | • Catchment reduction and flow reductions in Hawkins and Lawsons Creeks would be largely unchanged.<br>• The Mine Site would intercept a maximum of 177ML/year of surface flows that would have normally flowed to Lawsons Creek.<br>• The Lawsons Creek catchment, downstream of Hawkins Creek would be reduced by 2.0%.<br>• Flow rates in Hawkins and Lawsons Creeks would be reduced by 1.2% and 4.5% respectively, and post-mine closure, flow rates would reduce by 0.3% and 1.4%.<br>• Reductions in availability of water to downstream users would not change and would remain negligible.<br>• Cease-to-flow predictions are unchanged.<br>• Possible flood impacts have been reduced with a bridge crossing of Lawsons Creek now proposed for the relocated Maloneys Road, where predicted, flood impacts remain confined to land within the Mine Site or land owned by Bowdens Silver.<br>• The integrated water supply and management system would retain water within the Mine Site without the need for discharge.<br>It is confirmed that Bowdens Silver holds the necessary entitlements to fully account for the Project's water access licensing requirements. |

[1] This number corrects an error in the EIS section 4.7.5.2 that recorded this value at 0.25%.

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Surface Water (Cont'd) | • Whilst Project development would locally modify flood behaviour in both Hawkins and Lawsons Creeks, significant flood impacts would be confined to land within the Mine Site or land owned by Bowdens Silver.<br>• The site water management system (e.g. TSF, leachate management dam) would retain water within the Mine Site and not require discharge to downstream environment thus preventing water quality impacts to surface water systems. | |
| TSF Design and Management | • TSF design criteria applied based on a High C Consequence Category for the structure.<br>• Key design features included the following:<br>– Total area of disturbance of approximately 117ha comprising an embankment footprint area of 16ha and impoundment surface area of 103ha.<br>– The embankment would be raised in three stages to a maximum elevation of 620m AHD.<br>– Tailings delivery would be via a discharge pipeline at an average daily rate of approximately 4 300$m^3$ with a solids content of approximately 56%.<br>– Tailings deposition would occur through down valley discharge from three locations (northern, central and southern tailings discharge points) connected to a tailings pipeline.<br>– The TSF would have a maximum cumulative capacity of 30 million tonnes.<br>– Water captured in the TSF in a decant pond would be pumped via a water return pipeline for reuse in the process circuit. The decant pond would have a nominal managed depth of 2.0m. | • There have been no substantial changes to the preliminary design of the TSF or the embankment. Additional mitigation of seepage potential has been applied for the TSF.<br>• Detailed review of seepage potential from the TSF and investigations associated with the integrated water management and supply strategy resulted in the following design changes to the TSF.<br>– Bowdens Silver has committed to achieve an equivalent permeability to 1.0m of $1x10^{-9}$m/s for the TSF and ensure that the TSF design intent limits potential impacts to surface water and groundwater resources from seepage with regards to current and future beneficial uses, as defined by published water quality guidance.<br>– The approach to detailed design of the TSF would be to commence with a BGM liner over the entire impoundment area with any proposed reduction to BGM extent justified by technical assessment (i.e. seepage modelling). The TSF liner may be supported by underdrainage beneath the decant pond and the previously proposed compacted clay lining should it be appropriate. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| TSF Design and Management (Cont'd) | – A 0.45m compacted clay layer would be applied to the impoundment to ensure engineering specifications within the impoundment area have an equivalent permeability to 1.0m of $1x10^{-9}$m/s<br>• The embankment would be constructed using NAF waste rock material with low permeability geomembrane / clay zone on the upstream face, a bituminous geomembrane (BGM) liner, curtain grouting along upstream toe, with connection of the BGM and grout curtain via a concrete plinth along the upstream toe. | – A Paste Thickener Plant would be incorporated in the processing train to reclaim water from the tailings slurry prior to deposition in the TSF. This would increase tailings solids content to 63% and reduce site water demand by 390ML/year. Water removed from tailings would be returned for reuse in processing.<br>– Water captured in the TSF in a decant pond would continue to be pumped via a water return pipeline for reuse in the processing circuit. The decant pond would have a reduced nominal managed depth of 0.5m.<br>• Each of the above measures would reduce the volume of water entering or stored within the TSF and therefore would reduce seepage potential.<br>• Detailed assessment of potential water quality impacts at Lawsons Creek, incorporating changes to the proposed lining of the TSF to reduce seepage, identified that current and future beneficial uses of surface water and groundwater resources would not be affected. |
| Main Open Cut Pit Post-Mining Water Balance | • Based on the proposed open cut pit design, the final void within the main open cut pit would be up to 141m deep, with a floor level of 456m AHD and an overflow level of approximately 597m AHD. The theoretical total potential storage capacity to this elevation is approximately 22GL.<br>• The maximum modelled water level post-mining is below 577m AHD – or about 20m below the open cut pit lake overflow level of 597m AHD. Therefore, the final void pit lake would not overflow to the surface and would remain a groundwater sink post-mining.<br>• The post-mining water storage volume is estimated to be approximately 14.2GL, i.e. well below total storage capacity.<br>• The salt balance undertaken for the final void indicated that salts would gradually accumulate within the pit lake due to evaporative concentration. This is predicted to reach a salinity level of 2 000µS/cm after 100 years and 5 375µS/cm after 500 years. | • The proposed open cut pit design is unchanged.<br>• The maximum modelled water level is below 572m AHD – or about 25m below the open cut pit lake overflow level of 597m AHD. Therefore, the final void pit lake would not overflow to the surface and would remain a groundwater sink post-mining.<br>• The post-mining water storage volume is estimated to be approximately 13.0GL, i.e. well below total storage capacity.<br>• The salt balance undertaken for the final void (WRM, 2022) indicates that salts would gradually accumulate within the pit lake due to evaporative concentration. This is predicted to reach a salinity level of 2 400µS/cm after 100 years and 8 500µS/cm after 500 years. However, as the final void pit lake would remain a groundwater sink, this water would be retained within the final void. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Health Risks | • ***$PM_{2.5}$***<br>The maximum incremental risk for exposure to changes in $PM_{2.5}$ at privately-owned residences is calculated to be $3x10^{-5}$, which is lower than the $10^{-4}$ risk level outlined in the NSW EPA Approved Methods.<br>• ***Metals***<br>All calculated maximum inhalation Risk Index (RI) outcomes are well below 1 and hence there are no acute inhalation exposure risks of concern.<br>The calculated RIs associated with all intakes remain dominated by the existing intakes of metals with Project-related emissions making a negligible change in the total RI calculated.<br>• ***Silica***<br>The maximum concentrations of crystalline silica derived from the Project remains well below the available health-based guidelines at the both Project-related and privately-owned residences.<br>• ***HCN***<br>The maximum concentrations of gaseous hydrogen cyanide at all surrounding Project-related and privately-owned residences would remain well below the most stringent health-based guidelines.<br>• ***Water***<br>No health risk issues of concern related to impacts from the Project are expected for community use of surrounding groundwater sources or waterways.<br>• ***Noise***<br>Modelled noise levels during the day, evening and night at all privately-owned properties, including places of interest such as Lue Public School, are below the health-based threshold. | • There have been no changes to the outcomes of the assessment conducted for the EIS. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Visibility | • No components of the Mine Site would be visible from Lue village given the substantial ridges present between Lue and the Mine Site. Views from the public road network of some components within the Mine Site would be possible at some locations and it is acknowledged that the Project would result in changes in the visual landscape in the vicinity of the Mine Site with views from six privately-owned residences possible at certain stages of development.<br>• The potential for lighting impacts on the local environment has been assessed to be minimal. In addition, the impacts of sky glow on the local environment were assessed to be insignificant under both clear sky and cloudy conditions. | • The visual impacts associated with mining components is largely unchanged since the public exhibition of the EIS. There are no changes to the assessment of potential night-time lighting impacts.<br>• Two landowners that would have views of the Mine Site have reached negotiated agreements with Bowdens Silver and are now Project-related. Views from four privately-owned residences remain possible at certain stages of development<br>• Visual impacts associated with the re-location of the 500kV power transmission line have been mitigated to the extent possible and review of visual impacts has concluded there would be no significant changes to the character and quality of the visual landscape for privately-owned residences and from within Lue. |
| Terrestrial Ecology | • Total Project-related disturbance (native vegetation and previously cleared areas – mostly paddocks) of 495.54ha.<br>• Native vegetation clearing of 383.4ha across 11 native vegetation communities of variable condition.<br>• A total of 23 019 ecosystem credits required.<br>• The required vegetation clearing includes 182.26ha of BC Act listed Box-Gum Woodland, of which 147.82ha also meets the classification under the EPBC Act.<br>• The following species credits are required to offset the residual impacts of the Project<br>– 3 629 species credits for Koala.<br>– 9 240 species credits for Ausfeld's Wattle.<br>– 4 042 species credits for Squirrel Glider.<br>– 29 035 species credits for Regent Honeyeater.<br>• As the removal of Box-Gum Woodland cannot be avoided, biodiversity offsetting obligations in the form of ecosystem credits have been calculated for the Project. Without consideration of biodiversity offsetting, EnviroKey (2022) | • Total Project-related disturbance (native vegetation and previously cleared areas – mostly paddocks) of 457.42ha.<br>• Native vegetation clearing of 381.17ha across six native vegetation communities of variable condition.<br>• A total of 23 880 ecosystem credits required.<br>• The required vegetation clearing includes 180.17ha of BC Act listed Box-Gum Woodland, of which 146.72ha also meets the classification under the EPBC Act.<br>• No impacts to Ausfeld's Wattle would occur and there is no proposed disturbance within the Mudgee-Wollar key breeding area for Regent Honeyeater. This is due to removal of the water supply pipeline from the Project.<br>• The following species credits are required to offset the residual impacts of the Project.<br>– 9 910 species credits for Koala<br>– 8 386 species credits for Squirrel Glider<br>– 29 350 species credits for Regent Honeyeater<br>– 4 391 species credits for Large-eared Pied Bat |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Terrestrial Ecology (Cont'd) | concluded the impact to Box Gum Woodland would be significant. However, residual impacts to Box Gum Woodland would be accounted for through substantial biodiversity offsetting as presented in the Biodiversity Offset Strategy for the Project (Niche, 2022) and result in large areas of this vegetation community being conserved in perpetuity.<br>• EnviroKey (2022) concluded that, excluding the Regent Honeyeater, the Project would not result in any significant impacts upon migratory or threatened species. Further consideration of impacts to the Regent Honeyeater identified that the species was not identified in comprehensive targeted field surveys but would remain subject to offsetting under the Project's Biodiversity Offset Strategy (Niche, 2022). | – 972 species credits for Silky Swainson-pea<br>– 104 species credits for Small Purple-pea<br>• The biodiversity offset strategy for the Project remains unchanged.<br>• For the Koala, Squirrel Glider and Regent Honeyeater, all native vegetation that would be removed from within the Mine Site has been considered potential habitat and subject to offsetting, therefore increasing the total offsetting that would be undertaken without changing the level of impact.<br>• There have been no material changes to the assessment of significance or overall biodiversity-related outcomes. |
| Aquatic Ecology | • The Project would displace watercourse habitat, principally in 1st and 2nd order streams. Displacement of ephemeral 3rd order streams would occur in minimally sensitive Key Fish Habitat.<br>• Lawsons and Hawkins Creeks were identified as containing highly sensitive Key Fish Habitat but, apart from the relocated Maloneys Road crossing of Lawsons Creek, neither Lawsons or Hawkins Creeks would be directly impacted by the Project.<br>• The box culvert configuration of the relocated Maloneys Road crossing of Lawsons Creek would not be a barrier to fish passage.<br>• Reduction in surface water flow from either runoff interception or baseflow losses would result in minor impacts to aquatic biota and habitat. | • The permissible construction of harvestable rights dams within the Mine Site would result in additional habitat displacement in 1st and 2nd order streams with minimally sensitive Key Fish Habitat.<br>• The proposed bridge across Lawsons Creek for the relocated Maloneys Road would improve stream connectivity and fish passage by removing the existing floodway.<br>• As the *Updated Surface Water Assessment* concluded that streamflow reduction would be similar to that predicted for the EIS, the amended Project would result in minor impacts to aquatic biota and habitat.<br>• Underboring of watercourses associated with the previously proposed water supply pipeline would not be required. |
| Traffic and Transportation | • Traffic generated for the Project would principally comprise light vehicles and buses used to transport personnel to work.<br>• The Project would generate low levels of heavy vehicle traffic with no more than ten heavy vehicle movements per day anticipated. | • The general conclusions of the Road Traffic Assessment remain unchanged.<br>• Bowdens Silver has entered into a Planning Agreement with Mid-Western Regional Council that includes provision for road maintenance contributions for the local roads used by the amended Project. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Traffic and Transportation (Cont'd) | • Most Project-related traffic would use the relocated Maloneys Road, that would be designed to accommodate the intended traffic.<br>• Road safety factors in the local area would not be impaired by increased use of the road system resulting from the Project.<br>• The Project-generated traffic is not expected to interact with the school-generated traffic around Lue Public School.<br>• Traffic travelling to and from the Mine Site would be accommodated on the surrounding road network with no adverse impacts to road users, the condition of the road network and the amenity of the residents of Lue.<br>• Bowdens Silver would enter into a Planning Agreement with Mid-Western Regional Council to address the maintenance of the local roads used by the trucks transporting mineral concentrates from the Mine Site. | • The re-alignment works for the 500kV power transmission line would introduce a minor number of additional heavy and light vehicles over a short construction period. Cumulative assessment of this additional traffic does not change the assessment outcomes of the Project.<br>• Whilst assessed as being minor in the EIS, the amended Project would reduce impacts on local roads through the absence of traffic associated with pipeline construction and operation. |
| Soils and Land Capability | • No biophysical strategic agricultural land would be impacted by the Project.<br>• The topsoil and subsoil resources throughout the Mine Site would allow creation of a final landform that would sustain vegetation and minimise the risk of soil erosion.<br>• No soil resource impacts from the Project are anticipated on adjoining agricultural lands.<br>• Within the Mine Site the land and soil capability is predominantly Class 6 with subordinate areas being Class 4 or Class 5 and minor areas being Class 3. A similar level of land and soil capability would be maintained following the rehabilitation of the Mine Site.<br>• The water supply pipeline would result in negligible impacts on soil resources which would occur as all topsoil would be replaced on the top section of the trench without compaction. All subsoil would either be returned to the trench or transferred to the Mine Site for stockpiling or immediate use in rehabilitation. | • By removing the water supply pipeline, the amended Project would reduce soil disturbance.<br>• With regards to the Mine Site, the amended Project would not alter the outcomes of the soils assessment provided with the EIS. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Aboriginal Cultural Heritage | • Five survey events were undertaken by Landskape (2020) with the assistance of the Registered Aboriginal Parties over a total period of 17 days between 2011 and 2019.<br>• Landskape (2020) identified a total of 58 Aboriginal cultural heritage sites within the Mine Site and eight sites adjacent to the previously proposed water supply pipeline corridor. There were no sites identified during survey of the proposed relocated Maloneys Road.<br>• The Project would require the removal of items of Aboriginal cultural heritage significance from 25 identified sites within the Mine Site, one of which (the rock shelter identified as site BL44) would require test excavation. Two sites have already been salvaged under Aboriginal Heritage Impact Permit No. 1132211, issued by OEH in May 2013.<br>• Based on the results of discussions with the Registered Aboriginal Parties, it is proposed that sites would be collected, analysed, curated and stored in an on-site "Keeping Place".<br>• The sites to be removed generally represent isolated or scattered artefacts indicative of open occupation and are relatively common in the vicinity of the Mine Site. All sites have been identified by the Registered Aboriginal Parties to be of high cultural significance. The majority of sites are considered by Landskape (2020) to be of low scientific, educational and aesthetic significance except for six that are of low to moderate scientific significance and one that is considered of moderate scientific, education and aesthetic significance.<br>• A further 31 identified sites within the Mine Site, whilst not directly impacted, would require protection from inadvertent disturbance via the installation of protective barriers. | • The amended Project would not change the number or type of Aboriginal cultural heritage sites requiring removal.<br>• Bowdens Silver has clarified its proposal to facilitate an Indigenous Technical Heritage Mentorship Program that would be implemented through a Heritage Management Plan for the Project. This program has been given support by Heritage NSW and the local Aboriginal community. Consultation with Registered Aboriginal Parties and Native Title claimants in the region is ongoing regarding this program.<br>• The amended Project would not change the outcomes of the Aboriginal Cultural Heritage Assessment provided with the EIS. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Aboriginal Cultural Heritage (Cont'd) | • Bowdens Silver would implement management and mitigation measures to appropriately manage sites that may be unexpectedly identified.<br>• Post-mining, the artefacts would be replaced within rehabilitated areas in consultation with representatives of the local Aboriginal community. | |
| Historic Heritage | • Salvage of historical relics would be required from a single identified site within the Mine Site.<br>• No historical heritage sites identified during field surveys met State-significance thresholds.<br>• No existing historical cultural heritage sites within Lue would be impacted by the Project. | • The amended Project does not change the outcomes of the Historic Heritage Assessment presented in the EIS. |
| Public Safety Hazards | • Hazard assessment of dangerous goods determined that, with the implementation of standard controls and safeguards, there would be very low off-site environmental and safety risks.<br>• The Project met all qualitative environmental risk criteria identified in *Hazardous Industry Planning Advisory Paper No. 4 Risk Criteria for Land Use Safety Planning*.<br>• Via the implementation of standard controls and safeguards, the transport route for sodium cyanide was assessed as having a low risk to the biophysical and human environment.<br>• The assessment of bush fire hazard concluded that the Project is likely to satisfy the various objectives of the NSW Rural Fire Service (2006 and 2010). | • The amended Project does not introduce additional hazards to the Mine Site, therefore the outcomes of the Hazard Assessment presented in the EIS are unchanged. |
| Local Infrastructure and Services | • Essential Energy low voltage power assets would be demolished to permit the activities within the Mine Site. Alternative power supplies would be provided to impacted privately-owned residences in consultation with Essential Energy prior to any demolition.<br>• A 4.5km section of the existing southern section of Maloneys Road would be permanently relocated. This relocation would include construction of a new intersection with Lue Road (west of Lue), a new crossing of Lawsons Creek, and a new railway bridge crossing. | • The amended Project's impacts to TransGrid's 500kV power transmission line and Essential Energy's assets would be unchanged.<br>• The proposed realignment of a 3km section of TransGrid's 500kV power transmission line to the west of the main open cut pit is now included as a component of the Project. The proposed re-aligned power transmission line would be located wholly on land owned by Bowdens Silver and has an alignment selected to ensure sufficient clearance from mining while mitigating visual amenity impacts at privately-owned residences to the greatest extent feasible. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Local Infrastructure and Services (Cont'd) | • The proposed water supply pipeline would require the underboring or trenching across sealed or unsealed roads. | • The proposed bridge that would cross Lawsons Creek for the relocated Maloneys Road would improve access for existing landowners by increasing the flood immunity of the crossing.<br>• The amended Project no longer requires underboring or trenching of local roads as the water supply pipeline is no longer required. |
| Agricultural Lands and Enterprises | • The Project would have negligible to minor adverse impacts upon the agricultural resources and enterprises through the Region.<br>• Changes to the availability and use of agricultural land includes the following:<br>– The Project would remove a maximum of approximately 1 498ha of land currently used for agriculture (principally low value grazing).<br>– A total of approximately 795ha of land within (218ha) and immediately surrounding (577ha) the Mine Site is currently proposed to be set aside as a biodiversity offset area as part of the Project's Biodiversity Offset Strategy. This land would be permanently removed from agricultural use.<br>– A total of 469ha would be retained for agricultural purposes within the Bowdens Farm throughout the Project life. Of this land, approximately 24ha would be located within the Mine Site with a further 445ha of land located in the area surrounding the Mine Site.<br>– Approximately 109ha of land is proposed to be returned to grazing land in the final landform. This is approximately 11% of the total land area of the Mine Site. A total of 573ha would be rehabilitated to native vegetation and may be used for infrequent controlled grazing to control bushfire | • The amended Project would not increase impacts to agricultural resources of enterprises.<br>• An expanded biodiversity offset area may be proposed subject to ecological field survey of areas that have or would be purchased by Bowdens Silver following the successful grant of development consent. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Agricultural Lands and Enterprises (Cont'd) | fuel loads. 218ha within the Mine is currently proposed to be secured as a biodiversity offset area. Remaining areas would be used for other purposes or remain inaccessible in the final landform (the open cut pit lake).<br>• The Project would provide jobs and opportunities to acquire off-farm income to local farmers throughout the Project life. | |
| Economic | • During operations, the Project would generate between 73 and 129 net direct fulltime equivalent jobs with flow-on effects creating between 74 and 131 net indirect fulltime equivalent jobs. These are defined as additional jobs compared to a base case of employment and should not be confused with the expected direct employment of 320 personnel during site establishment and construction and 228 personnel during operations.<br>• The Project would provide diversification of mining opportunities within the region, which is currently reliant upon coal mining. This is important at a time of increasing uncertainty for the substantial regional employment industry of coal mining.<br>• Consultation with the community has provided a strong indication that there is a need for environmentally and socially sound projects to support the regional economy, especially in the Lue, Kandos, and Rylstone localities.<br>• The Project would deliver estimated net economic benefits of:<br>– between $78M and $181M globally,<br>– between $89M and $192M nationally; and<br>– between $44M and $146M for NSW. | • There have been no significant changes to the economic assessment outcomes of the amended Project. Slight variations to capital expenditure have occurred associated with the following.<br>– Inclusion of the 500kV power transmission line alignment in the Project.<br>– The proposed construction of a bituminous geomembrane lining of the impoundment of the TSF (subject to detailed design).<br>– Addition of infrastructure associated with the integrated water management and supply strategy.<br>– Removal of the water supply pipeline, water treatment facility and associated construction works.<br>• However, these are considered unlikely to significantly vary the economic assessment outcomes for NSW as capital costs influence net producer surplus, and economic benefits to NSW are mostly generated through royalties and tax payments which would not change.<br>• By reducing risk associated with water supply security the amended Project provides greater certainty for production and hence provision of local, regional, State and National economic benefits. |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Social | • Preparation of the Social Impact Assessment has included a comprehensive program of community engagement and research that was undertaken by Umwelt (2020) using a variety of best practice methods over a substantial period of time.<br>• It is noted that the level of concern relating to the Project varies across stakeholder groups and geographic location. Whilst 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, overall, been supportive of the Project due to the predicted positive economic benefits.<br>• Key negative Project-related social impacts included impacts of property acquisitions, social amenity (as a result of noise, visual and traffic impacts) community cohesion and culture; and conflict as a result of competing land uses. In addition to these impacts, stakeholders have raised concerns relating to impacts upon health and wellbeing; Aboriginal cultural heritage; population change as a result of construction and operational workforce influx and subsequent impacts to community services.<br>• Key Project-related social benefits include regional economic stimulus via employment, procurement, and business opportunities. The potential inbound workforce migration was also noted as a positive impact for the region. | • No social risk assessment outcomes have changed since the publication of the EIS.<br>• Bowdens Silver has continued meaningful engagement with the community and listened to feedback, modifying the Project where feasible to address concerns.<br>• Feedback in the form of submissions on the EIS was overwhelmingly supportive with 79% of the 1 909 public and organisation submissions supporting the Project. This included in the Mid-Western Regional Local Government Area (74% of submissions from this area support the Project). Within the area described as 'Lue and surrounds' 95 submissions objected to the Project (62%) and 57 submissions supported the Project (37%). For those submissions that listed their address as being within Lue, 45 submissions opposed the Project (52%) and 40 supported the Project (46%). This is consistent with feedback in community surveys completed for the Social Impact Assessment.<br>• The above notwithstanding, there was substantial objection to the Project (387 submissions) and this has continued in response to the amendment to include the proposed re-alignment of the 500kV power transmission line (115 submissions objecting to the Project).<br>• It is acknowledged that the re-alignment of the 500kV power transmission line may impact visual amenity for some landowners and result in social impacts associated with sense of place. However, the revised realignment location would be less visually prominent than that presented in the EIS, thereby reducing social impacts. The decision to remove the water supply pipeline is expected to also result in an overall better social outcome as it |

**Table A9.1 (Cont'd)**
**Summary of Assessment Outcomes - EIS and Amended Project**



| Impact Assessment | EIS Assessment Outcomes | Amendment Project Assessment Outcomes |
|---|---|---|
| Social (Cont'd) | • It is acknowledged that negative impacts would primarily be borne by residents and landholders surrounding the Mine Site and within Lue while positive outcomes would be experienced more broadly.<br>• In order to minimise the potential negative social impacts relating to the Project and enhance the positive benefits, Bowdens Silver would adopt targeted mitigation and enhancement strategies. | removes short term disruption to properties and the public road network. Feedback from the community has also indicated concern and uncertainty regarding the integrated water management and supply strategy as it would rely on on-site water sources only and therefore all associated impacts would occur within and surrounding the Mine Site. However, as this outcome provides water supply security and would be achieved with limited additional environmental impact, it is considered a better alternative to a 58.5km water supply pipeline. Similar to the economics of the amended Project, the increased water supply security strengthens the Project's viability and potential to provide longer-term certainty for local and regional communities. |