Lue Action Group
www.lueactiongroup.org

27 July 2020

ATTENTION: Rose-Anne Hawkeswood

Team Leader
NSW Department of Planning, Infrastructure, and Environment
GPO Box 39
SYDNEY NSW 2001

SUBMISSION VIA NSW PLANNING PORTAL

Re: BOWDENS SILVER PROJECT - APPLICATION NUMBER SSD-5765

Dear Rose-Anne,

Attached is the Objection by Lue Action Group (**LAG**) to the Bowden's Silver Project as proposed within *State Significant Development [SSD] – 5765*.

SECTION 1 - INTRODUCTION

The LAG was formed predominantly by members of the Lue Community with a consideration to the social, environmental and economic future of Lue district. LAG represents 122 financial members and maintains approximately 350 Facebook followers.

The demographics of LAG typically include residents of Lue, and surrounding small and large property holdings. It is noted that three members of LAG also represent the Lue Community on the Bowdens Silver Project Community Consultative Committee (**CCC**).

As a community group, LAG does not represent an anti-development stance. Rather, it was formed to ensure that development proposed for the Lue region is undertaken in a responsible manner – protecting our community, its residents and the long-term environment for the area.

It is noted that during the Public Exhibition of State Significant Development (**SSD**) – 5765, the LAG has held regular communication sessions with community members in order to detail the aspects of the Bowdens Silver Project (**Project**). In compliance with relevant COVID-19 social distancing and meeting requirements, LAG has communicated directly to over 211 community members since 2 June 2020.

Further details on the presentations delivered and the minutes from each of these meetings can be supplied if requested.

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SECTION 2 - OVERVIEW

LAG has engaged a number of technical experts to undertake an Independent Technical Review of the Project as detailed within SSD 5765, including Bowdens Silver *Environmental Impact Statement* (R.W. Corkery & Co. Pty. Limited, May 2020) and its applicable supporting documentation.

These experts are listed below in ***Table 1****: Lue Action Group Technical Review Consultants*.

Table 1: Lue Action Group Technical Review Consultants

Biodiversity	Absolution Ecology
Groundwater	Water Technology
Health Impacts	Sustainable Minerals Institute, University of Queensland
Lead Dust	Earth and Environmental Sciences, Macquarie University, Sydney
Mining Operations	Michael White
Noise	Wilkinson-Murray
Social Impact	Allison Ziller
Surface Water	Engeny Water Management

Legal advice pertinent to the proposed water supply from the Ulan Mining Operations to the Project has been provided by the Environmental Defenders Office. These Technical Reviews and advice support the formal objection by LAG to the Project.

Whilst numerous issues were identified and are further detailed within Section 3 – Technical Review, Table 2: Significant Project Failings below provides an overview the key concerns maintained by LAG regarding the project.

Table 2: Significant Project Failings

No.	Issue
1.	**Acceptability of the application for SSD under the Environmental Planning & Assessment Act 1979** • Failure to demonstrate a legally permissible methodology for supplying water to support its operations. • Failure to address water pollution to surface and groundwaters from the Tailing Storage Facility. • Failure to assess surface water impacts of the proposed water supply pipeline. • Failure to assess the impacts of both the powerline re-alignment and powerline supply for the Project. • Failure to assess the impacts to the Koala population from the Project in accordance with the *Koala Recovery Plan*.
2.	**Unacceptable Health Impacts** • The assessment of Health-Related Impacts from lead and other sources does not reflect the high in situ levels of lead in the ore body and inherently high bio-accessibility rates for the lead.

- The proximity of the proposed operations to residential areas (including but not limited to the Lue village which is located 1.9km from the proposed mining operations).

SECTION 3 - TECHNICAL REVIEW

For ease of reference, Table 3: Technical Reviews Summary below provides a summary of the findings from the Technical Reviews commissioned Project by LAG.

Full findings from the Technical Reviews are appended to this correspondence. These findings form part of the LAG objection and should be considered in their entirety.

Table 3: Technical Reviews Summary

No.	Review and Details
1	**A High-Level Mining Review of the Bowdens Lead, Zinc, Silver Project (July 2020)** ***Mr Michael White*** *B.E. (Mining) Hons II, MBA, Aust. Inst. of Company Directors* *Resource Consultant* • High potential for Acid Mine Drainage escaping to the surrounding environment during mine operations and after mine closure. • Economics are marginal and appear highly susceptible to price changes, including the underestimating of both capital and operational costs. • External water requirements for the operation have not been adequately addressed. The proposed pipeline and water supply arrangements with mines near Ulan is only a concept and has no certainty of becoming a viable solution.
2	**Comments and assessment of potential lead exposure risks reported in the Bowdens Silver EIS (May 2020) (15 July 2020)** ***Prof Mark Patrick Taylor*** *Dept of Earth and Environmental Sciences* *Macquarie University ~ Sydney, NSW* • The assessment is not transparent regarding the input trace metals (including lead) and values are not consistent in the EIS. These values are critical because they influence the predicted impact of lead exposure on the community during operations • There appears a gap in the modelling air and human health risks at year 9, the result of which is that it does not seem to incorporate any dust generation effects from the tailing storage facility (TSF) after that time and during the post mine period when it is drying out and being reworked. • The data used in the EIS relating to air, dust and human health risks is rather opaque and does not appear to capture properly the true nature of the potential risks, particularly those associated with lead-rich depositions on the surrounding community.
3	**Key issues and weaknesses of the Bowdens Silver Project Environmental Impact Statement (24 July 2020)** ***Prof. Barry Noller*** *(BSc MChem PhD FRACI FRSC FFACS FIUPAC)* *Sustainable Minerals Institute, University of Queensland* • The information needed to assess dust transmission to the village is quite hidden or excluded and insufficient to validate the conclusion drawn in the EIS, that people living in Lue village will not be affected.

No.	Review and Details

- The EIS underestimates community exposure levels because it doesn't use concentrate, mine ore materials including stockpiled oxide material and tailings as sources of dust and also does not analyse the effect of peak wind events biannually with change of seasons on dust movements.
- Further measurement of lead and also arsenic bio-accessibility (as no data is provided in the EIS) and particle size distributions on mined and processed tailings material is required as mining proceeds to enable reliable health risk assessment to be performed.

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4 Bowdens Silver Project – Environmental Impact Statement Specific Legal Advice (July 2020)

Belinda Rayment
Senior Outreach Solicitor
ENVIRONMENTAL DEFENDERS OFFICE

Proposed water supply pipeline and water transfer from Ulan/Moolarben Coal to Bowdens

- A review of the Project Approvals for both Ulan and Moolarben Coal Mines indicate that water sharing between *"mines within the region"* is contemplated and in some cases, required. The conditions that refer to water sharing between the three mines (namely Ulan, Moolarben and Wilpinjong) do not extend to the Bowdens Silver Project.
- From the information currently provided by Bowdens in support of SSD-5765, it is unclear whether Ulan and/or Moolarben Coal Mines propose to enter into a water sharing agreement with Bowdens to supply "excess" water to Bowdens via the proposed water supply pipeline.
- It is also unclear from the information currently provided whether any agreement would constitute a type of dealing as set out in the *Water Management Act* 2000 (NSW) (WMA). Noting that transferring water between users generally constitutes a dealing under the WMA.
- If the proposal does constitute a dealing under the WMA, such a dealing may be impermissible under the water dealing rules in the relevant Water Sharing Plan/s, on the basis that, inter alia, Bowdens is located in a different water source to the Ulan and Moolarben Coal Mines.
- Bowdens will need to demonstrate how the proposal complies with the relevant water sharing rules. As such, further information is required to ascertain the permissibility of the proposal.

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5 Bowdens Silver Project – Environmental Impact Statement Groundwater Assessment Review (July 2020)

Craig Flavel
Senior Hydrogeologist CPEng
WATER TECHNOLOGY

- No evidence is presented that HDPE 1.5 mm lining can withstand low pH leachate for hundreds of years beneath the PAF WREs. No detailed contingency plans for remediation post mine closure are described in the EIS and no 'success criteria' regarding a lack of leakage into the aquifer.
- On a wider scale, assuming 20m of tailings thickness, 1.35 litres per day per m2 of TSF liner is anticipated (Jacobs (Australia), 2020, pp. 5-128). If this is applied over the indicative TSF area of 117 ha (R. W. Corkery & Co. Pty. Limited, 2020, p. xvii), this equates to a leakage rate of 1.35 x 1,170,000 = 1.58 million litres per day to the aquifer. The EIS proposes to maintain this leakage rate after mining ceases (R.W. Corkery and Co. Pty Limited, 2020). To calibrate this estimate, four standpipe piezometers are proposed near the embankment. None are listed around the TSF to detect leakage towards Lue Village or to monitor leakage into the pit lake.
- The TSF may pollute groundwater. Furthermore:

No.	Review and Details

- Detail on the geology and hydrogeology is vague;
- The TSF is planned to be constructed on a fault;
- 1.6 ML/day of TSF leakage is planned without considering the fault risk;
- There is no contingency plan to remediate leakage; and
- The EIS fails to detail how the long-term management of leachate will occur.

- The relationship between the regional fractured rock aquifer and the shallow alluvial aquifer and leakage is not known or understood.
- Significant discrepancies exist within the EIS relating to the use and containment of cyanide.
- The Water Sharing Plans and Aquifer Interference Policy protects these rights by ensuring all steps are taken to preserve the beneficial use of the aquifer. Under S.2.1 of the Aquifer Interference Policy 2012, the proposed 100-200 ML/year evaporation take from the mine pit lake after closure is not 'unavoidable' nor best practice.

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6 TECHNICAL REVIEW - SURFACE WATER ASSESSMENT (SSD-5765) (July 2020)

Susan Shield
Principal Engineer CPEng NER / Regional Director (General Manager) / Associate
ENGENY WATER MANAGEMENT

- The water demand for the Mine Site cannot be achieved without importing water from the Ulan and/or Moolarben Coal Mines. Neither of these mines have approval to transfer water to Bowden Silver and will need to be assessed and considered under the applicable surface/groundwater systems requirements for that catchment.
- There is no clearly defined trigger to use containment dams rather than sediment dams for Waste Rock Emplacement. Furthermore, there is no consideration of the water quality within the water management system. There is a potential for build-up of both salts and metals which is not considered in the assessment.
- There are no details in the assessment of how Bowdens Silver propose to manage the leachate dam post closure and the leachate that this dam collects.
- The analysis of the final void does not appear to consider a seepage catchment area which could have the potential to increase inflows into the void. Further, there is no discussion in the assessment of the post closure status of the satellite pits in regard to water recovery levels and potential to interact with other surface water and groundwater systems.

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7 Bowdens Silver Pty Ltd Lead, Zinc, Silver Project - Review of Noise and Vibration Assessment

John Wassermann
Director
Wilkinson-Murray Pty Limited

- Monitoring indicates very low background levels of 25 dBA.
- All sound power levels adopted for the noise predictions appear to be very low when compared to representative plant types from other mines and sound power levels for the plant have not been justified through reference documents as required by the NPfI.
- The assessment identifies low frequency noise as not being an issue however it does not provide noise spectra that were used for the assessment and therefore cannot be verified.

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8 Technical Review of selected EIS reports in response to the Proposed Bowden's Silver Mine Development, State Significant Development No. 5765, Lue NSW

No.	Review and Details

Dr Michael Aberton
PhD, MEIANZ, CEnvP, BAM accredited
Principal Ecologist - ABSolution Ecology

Dr Peter Serov
BSc, BSc (Hons), PhD
Owner and Director - Stygoecologia

- The effect of the mine and water supply pipeline on Koalas may be greater than the immediate impact areas, cause fragmentation and not be in line with the overall objectives of the NSW Koala Recovery Plan including:
  - Reverse the decline of Koala in NSW; and
  - Ensure adequate protection, management and restoration of Koala habitat.
- Although reptile surveys appear to be quite numerous, methods of survey are not suitable to detect all of the threatened species that may occur in the study area or that are listed as MNES on the EPBC Act search.
- Amphibian survey in aquatic areas is not well distributed and was carried out in an extended period of low rainfall. Therefore, not all threatened reptile and amphibian species can be considered absent based on the information supplied.
- There is insufficient survey effort to make the conclusion that Swift Parrot does not occur in the study area (particularly the mine site). Given the habitat values and potential for feeding (with flowering Eucalypts present), there is opportunity for this species to utilise the area and without evidence of its absence it should be assumed present. Therefore, this species hasn't been adequately considered.
- The disturbance of impact areas is likely to cause fragmentation of the Critically Endangered Ecological Community, Box Grassy Woodland, in addition to potential indirect impacts that have not been adequately accounted for as a result of major changes to groundwater. Mitigation measures do not suitably address this risk and it is not clear as to how the avoidance and minimisation of losses has been demonstrated through planning. There is no mention of edge effects nor the implementation of a buffer zone between the mine and the retained native vegetation. As Box Grassy Woodland provides habitat for threatened species (particularly flowering Eucalypts and presence of hollows) greater emphasis on its significance is warranted.
- The section on stygofauna is completely incorrect as it states that the stygofauna were not endemic to the area as they were typical of fauna found in alluvials. Subterranean communities in general have a high potential for speciation and very short-range endemism and are highly vulnerable to habitat change resulting in local or total extinction of species.

9 SIA review report re. proposed Bowdens Silver, Zinc and Lead mine

Dr. Alison Ziller
Social Planning Consultant
Department of Geography & Planning, Macquarie University

- For residents of Lue, the proposed mine would mean:
  a) Having to choose between tolerating unmitigated noise and dust and living in a fully closed (airconditioned) dwelling.
  b) Living with on-going risks to health evident in the fact of regular testing for lead in soil and water.
  c) Anxiety due to the risks to health particularly affecting young people and potentially realising that adverse health impacts had occurred.

There appears to be no means of ensuring that after the proposed 15 years of operation, the village will be a safe place for people and especially young people, to live. The likely social impact on the

No.	Review and Details
	village of Lue, and residents of the suburb of Lue, of a silver, zinc and lead mine within 2km is a decline in the social viability of the village due to risks to health, noise and dust intrusions in daily life, loss of sense of place and amenity and population decline.

It is noted that the findings detailed within Table 3 and appended to this submission are based on the documents and information the authors have been able to research, obtain, review and analyse in the timeframe available.

Whilst efforts have been made (within the constraints of the engagement) to confirm that the views and projections are reasonable, neither the authors nor LAG guarantee their accuracy or offer any form of warranty or indemnity regarding their use.

SECTION 4 - CONCLUSION

Whilst LAG largely supports development within the region, it strongly objects to the Bowdens Silver Project, on the basis of the technical reviews undertaken on its behalf.

Given the extensive nature of the technical concerns relating to the Project, LAG cannot offer suitable alternatives or options for the progression of the Project under the current Basis of Design utilised by Silvers Mines Limited within the submitted Environmental Impact Statement (R.W. Corkery & Co. Pty Ltd, May 2020). As such, it is our strong view that the Project should be refused.

Should you wish to discuss this submission further, please do not hesitate to contact either myself (0428) 736 416 or Phil English (0427) 892 085.

Yours sincerely

TOM COMBES
PRESIDENT
LUE ACTION GROUP

cc Mr Brad Cam
General Manager
Mid-Western Regional Council

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ATTACHMENTS

1. High-Level Mining Review of the Bowdens Lead, Zinc, Silver Project *(Michael White, July 2020)*

2. Comments and assessment of potential lead exposure risks reported in the Bowdens Silver EIS (May 2020) *(Taylor, Dept of Earth and Environmental Sciences, 15 July 2020)*

3. Key issues and weaknesses of the Bowdens Silver Project Environmental Impact Statement *(Noller, Sustainable Minerals Institute, University of Queensland, 24 July 2020)*

4. Bowdens Silver Project – Environmental Impact Statement Groundwater Assessment Review *(Flavel, Water Technologies, July 2020)*

5. TECHNICAL REVIEW - SURFACE WATER ASSESSMENT (SSD-5765) *(Shields, Engeny, July 2020)*

6. Bowdens Silver Pty Ltd Lead, Zinc, Silver Project - Review of Noise and Vibration Assessment *(Wassermann, Wilkinson-Murray, 17 July 2020)*

7. Technical Review of selected EIS reports in response to the Proposed Bowden's Silver Mine Development, State Significant Development No. 5765, Lue NSW *(Aberton & Serov, ABSolution, July 2020)*

8. SIA review report re. proposed Bowdens Silver, Zinc and Lead mine *(Ziller and Walton, Social Planning Consultant, July 2020)*

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ATTACHMENT 1

A High-Level Mining Review of the Bowdens Lead, Zinc, Silver Project (Michael White, July 2020)

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ATTACHMENT 2

Comments and assessment of potential lead exposure risks reported in the Bowdens Silver EIS (May 2020) (Taylor, Dept of Earth and Environmental Sciences, 15 July 2020)

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ATTACHMENT 3

Key issues and weaknesses of the Bowdens Silver Project Environmental Impact Statement (Noller, Sustainable Minerals Institute, University of Queensland, 24 July 2020)

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Bowdens Silver Project – Environmental Impact Statement Groundwater Assessment Review (Flavel, Water Technologies, July 2020)

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ATTACHMENT 5

TECHNICAL REVIEW - SURFACE WATER ASSESSMENT (SSD-5765) (Shields, Engeny, July 2020)

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ATTACHMENT 6

Bowdens Silver Pty Ltd Lead, Zinc, Silver Project - Review of Noise and Vibration Assessment (Wassermann, Wilkinson-Murray, 17 July 2020)

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ATTACHMENT 7

Technical Review of selected EIS reports in response to the Proposed Bowden's Silver Mine Development, State Significant Development No. 5765, Lue NSW (Aberton & Serov, ABSolution, July 2020)

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ATTACHMENT 8

SIA review report re. proposed Bowdens Silver, Zinc and Lead mine (Ziller and Walton, Social Planning Consultant, July 2020)