5 October 2022

Mr Stephen O'Donoghue
Director Resource Assessments
Energy, Resources and Compliance
Department of Planning, Industry and Environment
Locked Bag 5022
PARRAMATTA NSW 2124

**Email to:** stephen.odonoghue@planning.nsw.gov.au
rose-anne.hawkeswood@planning.nsw.gov.au

**Attention: Rose-Anne Hawkeswood**

Dear Stephen

**Re: Bowdens Silver Project (SSD 5765) – Traffic-related Request for Information**

The following provides a response to matters raised in a request for information provided to Bowdens Silver by the Department of Planning and Environment in relation to the Bowdens Silver Project (the Project). The queries provided to Bowdens Silver are presented in italics with a response following each query.

*Heavy vehicle traffic along the relocated Maloneys Road, particularly the haulage route between the mine site access road and the TSF, would be significant at all times, but in particular during peak construction it appears that there would be an average of one project vehicle every 1 - 1.5 minutes, and when the TSF lifts are under construction there would be an average of around 1 vehicle every 2-3 minutes (based on an 11 hour day). This presents a potential safety risk to other road users.*

*Please provide consideration of the option of retaining the existing Maloneys Road as a public road and designating the relocated Maloneys Road as a private road., and/or consideration of using an alternative haulage route within the mine site (possibly directly over the area of the TSF) rather than using the relocated Maloneys Road.*

While the change in traffic levels across the entire length of the relocated Maloneys Road may be considered significant when compared to the current use of Bara-Lue Road and the existing Maloneys Road, the total traffic generation is not significant and would be mitigated principally by constructing the road to suit the intended use. The traffic generation for haulage of NAF waste rock to be used in constructing the TSF represents a significant increase in traffic but would only occur along a 1.4km section of the relocated Maloneys Road.

Tube count traffic surveys were undertaken at eleven locations to inform the Traffic and Transport Assessment for the Project prepared by The Transport Planning Partnership (TTPP, 2020). Two locations are relevant to this review.

1. Bara-Lue Road northwest of Lue
2. Maloneys Road north of Pyangle Road

**Table A** presents a summary and analysis of the average weekday traffic at these locations and the predicted traffic levels during the peak construction period. **Figure A** is a reproduction of Figure 2.16 from the EIS that presents the local road network in the vicinity of the Mine Site.

**Table A**
**Analysis of Existing and Proposed Traffic Level to the West of the Mine Site**

| Location | Existing Traffic Levels (2017)[1] | | | Peak Daily Construction Mine Traffic[2] | | |
|---|---|---|---|---|---|---|
| | Average Weekday | Average Weekday Daily Traffic Composition (Light/Heavy Vehicles) | % Heavy Vehicles | Light Vehicles | Other Vehicles | TSF Only |
| Bara-Lue Road northwest of Lue | 20 | 15L / 5H | 25 | 0 | 0 | 0 |
| Maloneys Road north of Pyangle Road | 90 | 72L / 18H | 20 | 40* | 0 | 0 |
| Relocated Maloneys Road | 0 | 0 | 0 | 160 | 58# | 266 |

Source:
1 - TTPP (2020) - Table 4 and Table 5.
2 – EIS Project Description (RWC, 2022) – Table 2.5.
* - Includes use of the former Maloneys Road and comprises light vehicle trips for exploration personnel only.
# - Includes buses transporting workforce, heavy and oversize vehicles.

Maloneys Road is currently an unsealed rural road that provides access from properties north of the Mine Site towards Lue via Pyangle Road. Existing use is predominantly to provide access to the Mine Site for Bowdens Silver personnel and some local traffic for property owners further north. Bara-Lue Road is also an unsealed rural road and provides access from properties on the western side of the Mine Site towards Lue Road via Cox Street. The relocated Maloneys Road would redirect local traffic from the north around the Mine Site and would intersect Bara-Lue Road before continuing to Lue Road. Traffic from the north or vehicles using Bara-Lue Road may use the relocated Maloneys Road and interact with Project-related traffic. However, traffic using Bara-Lue Road to access Lue would not interact with Project-related traffic accessing the Tailings Storage Facility (TSF). The existing Bara-Lue Road is currently an "unmaintained" road as defined by the Mid-Western Regional Council *Unmaintained and Unformed Roads Policy 2019*. Consultation with local community members who use Bara-Lue Road and the existing Maloneys Road has indicated support for the relocated Maloneys Road in order to provide them with a safer and more efficient road than currently available.

**Table B** presents the predicted peak traffic levels required for material transport along the 1.4km section between the Mine Site entrance and the TSF access road. It should be noted that **Table B** presents total movements (in both directions) and therefore movements in one direction would be half those presented in **Table B**.

**Table B**
**TSF Haulage Traffic Analysis**

| | Peak Daily Movements | Hours Available for Transport per day* | Peak Hourly Movements | Comments |
|---|---|---|---|---|
| Months 7-18 of SECS | 266 | 11 | 24/25 | One truck every 2.4 minutes |
| Year 1-3 of Operations | 102 | 11 | 9/10 | One truck every 6 minutes |
| Year 4-8 of Operations | 86 | 11 | 7/8 | One truck every 7.5 minutes |
| Year 9-16 of Operations | 0 | 11 | 0 | No transport to TSF expected |
| * - Based on an operating day from 7:00am to 6:00pm | | | | |

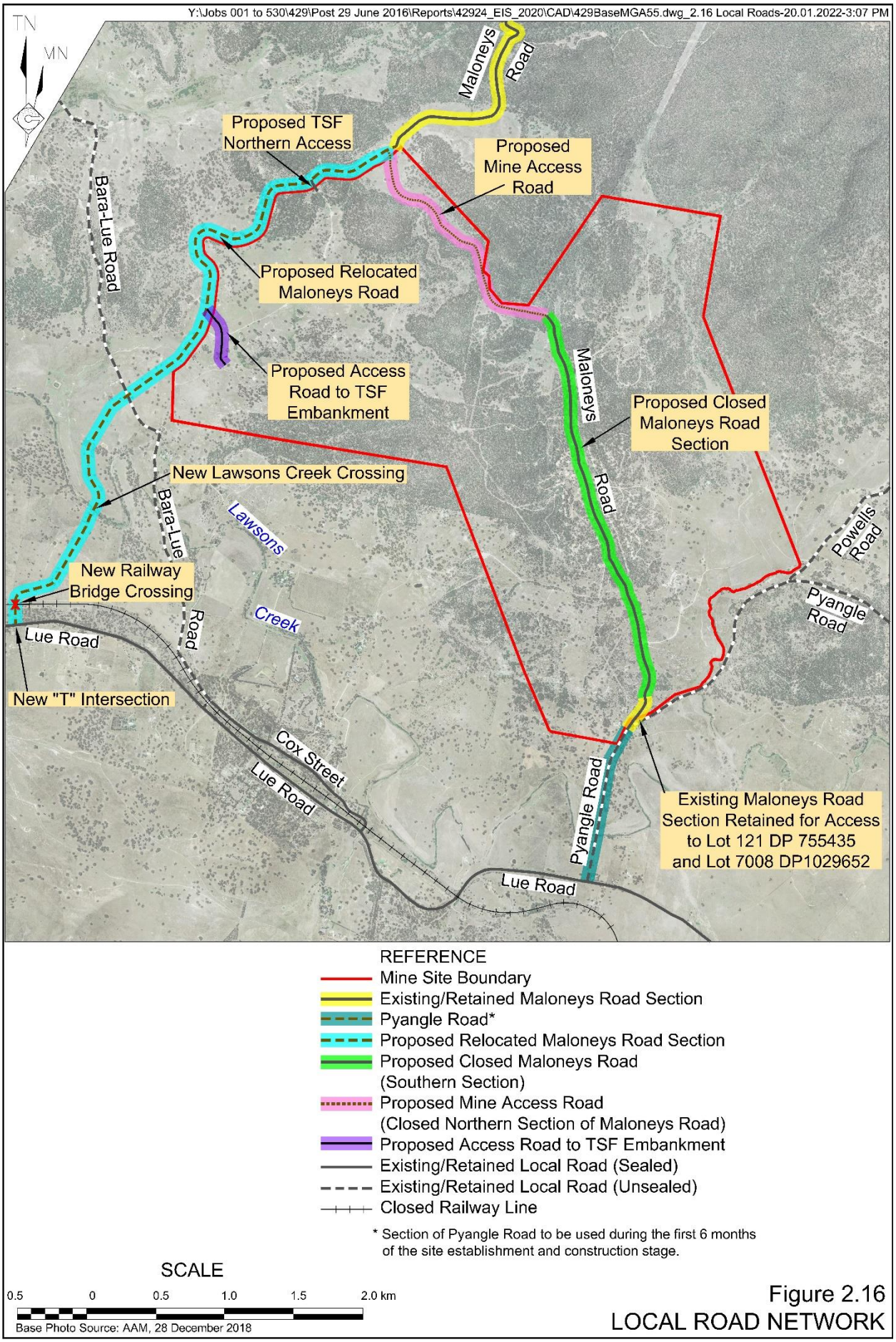


Figure 2.16
LOCAL ROAD NETWORK

If the 58 movements per day required by other heavy vehicles during months 7 to 18 of site establishment and construction (see **Table A**) are added to the analysis, the peak hourly movements increase to 29/30 and there may be a Project-related vehicle approximately every two minutes. However, beyond the 1.4km section between the Mine Site access and the TSF, heavy vehicles would be encountered only once every ten minutes. As noted above, while this represents a change to the traffic present in this location, it is not considered to be a significant road safety risk, with the relocated Maloneys Road to be designed and constructed to accommodate the predicted traffic types and levels.

Retaining public access to the existing Maloneys Road following construction of the relocated Maloneys Road would be problematic given the high-volume nature of internal mining traffic, the size of haulage vehicles and other mobile equipment and the presence of these slow moving, possibly laden vehicles. The length of road where interaction may occur is 1.4km in the currently proposed configuration and this would increase substantially if public traffic was to pass through the Mine Site. It is standard practice for mining vehicles to have UHF radios installed and use positive communication while moving around the site, which requires that vehicles hold at designated positions until positive communication is received from nearby vehicles and equipment confirming that the operator is aware of the approaching vehicle and able to maintain a safe separation distance. It would be virtually impossible to implement this safety measure for public vehicles. Retaining public access would also require that Mid-Western Regional Council ultimately retain responsibility for the maintenance of the existing Maloneys Road.

Using an alternative route to the TSF is considered impractical and an unreasonable alternative. The location of the relocated Maloneys Road has been selected to provide a reasonable grade and separation from other Mine and public structures. A road through the proposed TSF adjacent to Walkers Creek is the only feasible alternative option but would require vehicles to climb at significant grades to enter and exit the gully, generating additional noise and exhaust fumes. In addition, the alternative road would only be feasible until construction of the TSF commences. This is programmed for Month 6 with the bulk of material to be supplied from Month 7 for immediate use. An alternative approach would require storage of approximately 2 million tonnes of waste rock prior to closure of the road and commencement of TSF construction. Not only would this be practically difficult, but it would also add unreasonable cost and time delays to the construction process.

*Please also provide details on the progressive sealing proposed for the relocated Maloneys Road, noting the potential for dust generation and a consequent reduction in road safety while the road is not sealed.*

It is proposed to delay sealing of the relocated Maloneys Road along the 1.4km section between the Mine Site and the TSF until the initial transportation activities are completed. This would have the benefit of enhancing road compaction and is likely to improve its longevity. In summary the following schedule is relevant to the construction of the relocated Maloneys Road.

- Construction of the relocated Maloneys Road – Months 3 to 6.
- Transportation of materials and TSF construction (including the starter embankment) – Months 6 to 17.
- Sealing of the 1.4km section between the Mine Site and the TSF – Month 18.

Given the level of grading and compaction that would be required to accommodate heavy vehicle traffic in this location, it is not considered likely that the road would be a significant dust source. Regardless, a water cart would be used to mitigate dust generation. Dust dispersion modelling for the Project assumed that the entire route for waste rock transportation was unsealed in assessing possible impacts and applied an 80% control efficiency for road watering (see Section 6 of the Air Quality Assessment – EMM 2021). It is noted that the Australian Coal Association Research Program (ACARP) Project C20023 demonstrated that watering alone can achieve 85% to 95% control efficiency for unsealed roads[1]. Given that the existing Maloneys Road and Bara-Lue Road are not sealed (with Bara-Lue Road not part of MWRC's maintained roads network), road safety risk would not substantially increase when compared to the existing risk when vehicles pass each other on these roads.

*The traffic assessment describes that during the first 6 months of construction heavy vehicles would enter the mine site from the existing Maloneys Road. It's not clear whether this includes traffic for the construction of the new Maloneys Road itself. Please provide further details about the traffic associated with the construction of the new Maloneys Road itself, including how the vehicles would access the new road.*

The majority of site establishment and construction traffic would enter the Mine Site via the existing Maloneys Road. However, given the location and length of the proposed relocated Maloneys Road it is likely that laydown areas would be established on Bowdens Silver-owned land at locations along the length of the road on land that has previously been cleared of native vegetation.

One location is likely to be near the proposed intersection of Lue Road with the relocated Maloneys Road. This location would be used to support construction of the new intersection and initial road construction works including the bridge rail crossing. Once mobile equipment has been mobilised to the location, traffic entering and exiting this site would mostly comprise light vehicles and supply vehicles. Once the bridge rail crossing has been built, construction traffic will be able to utilise this new intersection. Vehicles accessing the road construction works via the Mine Site would be working from the north and commencing road construction at the intersection with the proposed Mine Site access road. It is noted that the relocated Maloneys Road intersects Bara-Lue Road. This road may be used by vehicles to access the road construction works. However, as access to Lue Road is via the recently sealed Cox Street any vehicles entering this road must satisfy the existing low clearance restrictions (4.2m) due to an existing rail bridge. Therefore, this road could not be used for heavy vehicle access but when used would predominantly feature light vehicles and small service trucks, such as a flat bed truck.

Construction of the road is projected to occur over a four month period early in the site establishment and construction phase of Mine development. The possibility of short term nuisance to local residents is acknowledged and would be the focus of mitigation and management throughout the works. Bowdens Silver would provide notification to the local community regarding the expected road construction works and the expected timing and locations for work that is occurring.

*The Submissions Report addressed Transport for NSW's comments regarding the payload of B-Double trucks in relation to mineral concentrate transport, but it is not clear whether this also applies to construction haulage vehicles. Please confirm that the construction haulage traffic volumes (particularly haulage of materials for construction of the TSF) are based on payloads that are within the actual capacity of the trucks to be used.*

[1] See Section 5.5.7 of the Submission Report for a detailed summary of emissions factors applied for road haulage. Emissions factors are presented in Appendix 4 of the Air Quality Assessment (updated for the Submission Report).

Section 5.28.2 of the Submissions Report included a response to Transport for NSW's comment on the intended payload of construction haulage vehicles. Payloads of 50t and higher are currently transported within the transport industry with Higher Mass Limits and Performance Based Standard (PBS) approvals used to manage this process. The vehicles to be used for transportation would have the capacity for the intended payload and the road would be constructed to ensure that it can sustain the predicted requirements. Bowdens Silver would work with MWRC and the National Heavy Vehicle Register to ensure the necessary permits are in place.

Please don't hesitate to contact myself or Anthony McClure with any further queries on these matters. Bowdens Silver maintains the conclusion to the TTPP (2020) Traffic and Transport Assessment which was that with the implementation of the proposed mitigation and management measures, traffic travelling to and from the Mine Site would be accommodated on the surrounding road network with virtually no adverse impacts to road users, the condition of the road network and the amenity of the residents of Lue

Yours sincerely

Nick Warren
Principal Environmental Consultant