



ABN: 46 099 761 289



Transport Management Plan

for the

Broken Hill North Mine



Prepared by:

RWCorkery&co

July 2024

TITLE BLOCK

Name of Mine:	Broken Hill North Mine
Development Application Number	SSD 7538
Applicant	Perilya Broken Hill Limited
Development Consent Date	22 December 2017, Last Modified 9 December 2021
Development Consent Condition Number	Condition 27 of Schedule 3
& Title	Transport Management Plan

VERSION CONTROL

Summary of Document Revisions				
Rev. No.	Date Revised	Section Revised	Revision Description	Revision Authority
A	19/10/18	ALL	Issued for INTERNAL Review	G. Hender, M. Bland
B	22/10/18	Various	Issued for AGENCY Consultation	G. Hender
C	07/12/18	Various	Issued for SECRETARY'S Approval	G. Hender
D	20/12/18	9.1 and 9.2	Issued for SECRETARY'S Approval (following grant of extension of time for road works)	G. Hender
E	22/08/19	2, 5.2, 9.1.10, 12.2	Issued for SECRETARY'S Approval (following determination of MOD2)	G. Hender
F	08/04/22	Various	Revision following approval of MOD 3	G. Hender
F.2	05/05/22	13	Issued for SECRETARY'S Approval (following receipt of DPE comments on other Plans)	G. Hender
F.3	17/06/22	3	Issued for SECRETARY'S Approval (following consultation period)	G. Hender
F.4	18/04/24	3 and 9.1	Issued for SECRETARY'S Approval (following consultation period)	C. Chindanya

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1 Introduction and Scope

This *Transport Management Plan* is one of several required by the Development Consent Conditions of SSD 7538. These plans are listed in Section 4. The overarching document in this list is the *Environmental Management Strategy* for the Broken Hill North Mine which contextualises each of the subordinate management plans and includes generic systems-based details that are common to all plans.

This document describes the management of transportation-related impacts associated with the operational phase of the Broken Hill North Mine (the North Mine). This document specifically addresses the requirements of Condition 27 of Schedule 3 of SSD 7538. For the purposed of this document “ore haulage” related to transportation of ore in road-registered vehicles. This document does not address transportation operations within the North Mine or Southern Operations Mine Sites, except to the extent that they interact with off-site transportation.

Responsibility for preparation of the document has been as follows.

- R.W. Corkery & Co. Pty Limited (RWC) – prepared the draft of this document and ensured consistency with the commitments made throughout the development application process and the conditions of consent. RWC also provided administrative assistance in the finalisation of this report.
- Perilya Broken Hill Limited – reviewed the draft document and approved the document for release.

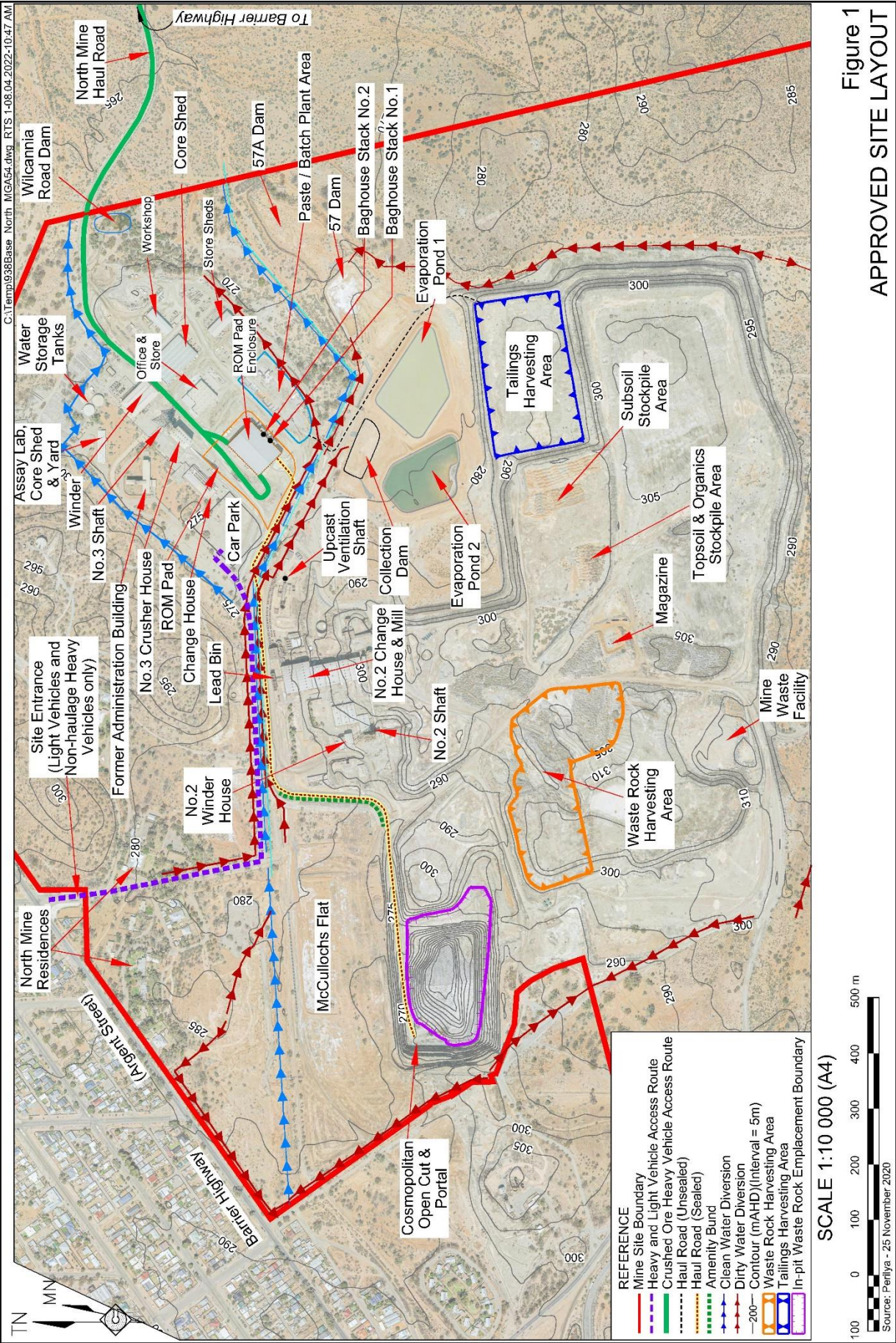
2 Project Description

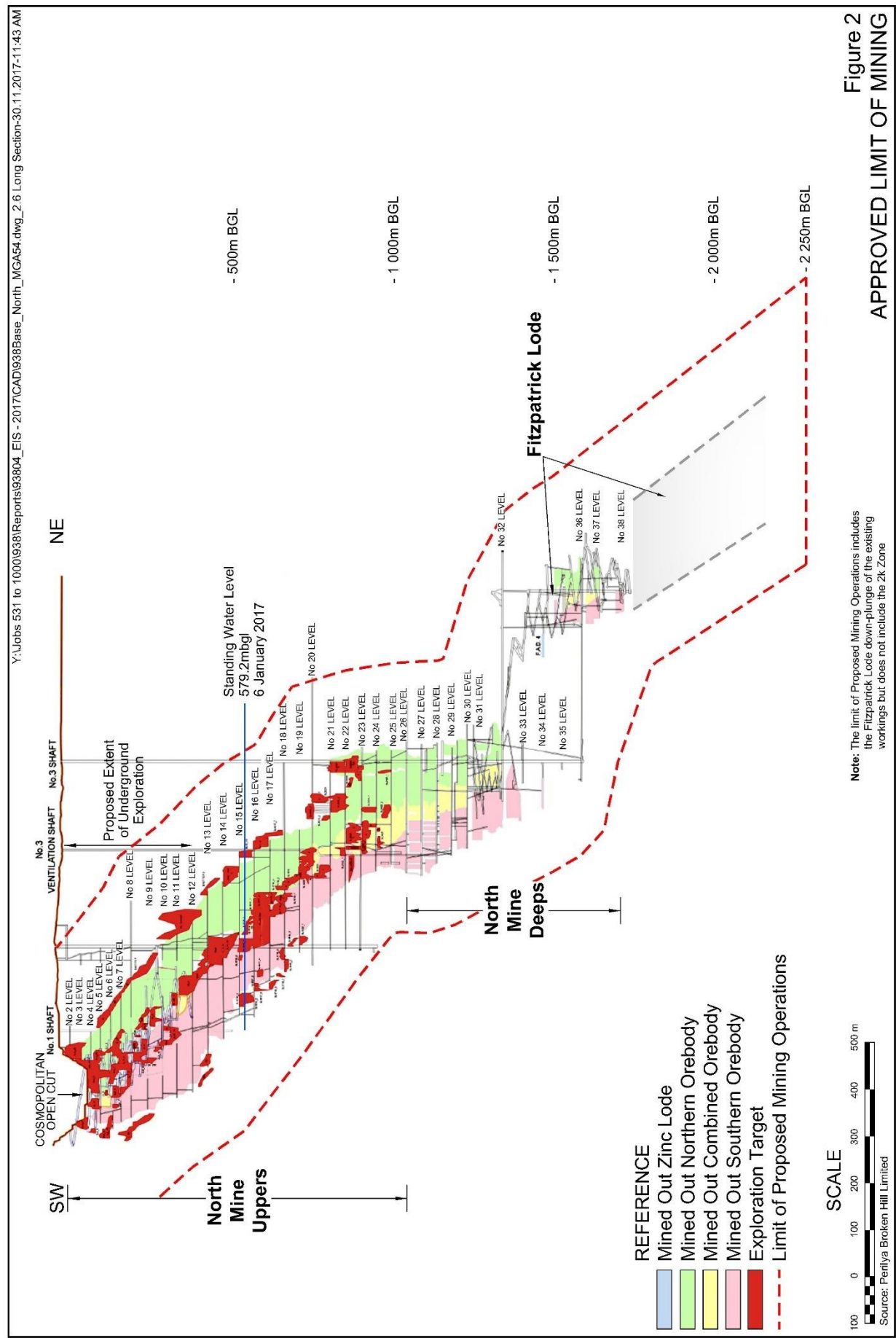
2.1 Approved Activities – General

The North Mine first started operations in 1883. Perilya Broken Hill Limited (PBHL) acquired assets of Pasminco Ltd in Broken Hill, including the North and South Mines, in 2002. Operations recommenced at the North Mine in 2003, with ore crushed from the North Mine and transported to PBHL Southern Operations (Southern Ops) for processing. The North Mine was placed under care and maintenance in August 2008. Underground exploration and maintenance re-commenced in April 2017.

Development Consent SSD7538 for the recommencement of mining operations was granted under Section 89E of the *Environmental Planning and Assessment Act 1979* on the 22 December 2017 and subsequently modified on 7 September 2018, 31 July 2019 and 9 December 2021. The approved activities include the following (**Figures 1 and 2**).

- Remediate the existing Cosmopolitan access ramp, portal and decline to the 12 Level (the limit of the existing decline) to facilitate safe and efficient access to the underground workings
- Restore and upgrade existing electrical, ventilation, air and water services, including on surface and within the decline, No. 2 and No. 3 Shafts, No. 3 Vent Rise.
- Extend the existing decline from the 12 Level to link with the existing decline between the 32 Level and the 38 Level.
- Undertake exploration drilling from underground to further define remnant ore and identify additional ore lenses and lodes.
- Develop access drives to permit access by modern mining equipment.
- Extract up to 400 000 tonnes per annum of remnant ore and ore below the base of previous mining operations, including within the Fitzpatrick Area.
- Transport extracted ore to the surface ROM Pad enclosure, a sealed, negative pressure building equipped with a dust collection system, using underground haul trucks, including establishment of a haulage route.
- Transport extracted waste rock for placement either within completed stopes underground or within the in-pit waste rock emplacement in the Cosmopolitan Open Cut.
- Extract waste rock from the existing surface waste rock emplacement for transportation back underground as required.
- Extract tailings from a former Tailings Storage Facility for mixing with water and cement in a pastefill plant for use backfilling completed stopes.
- Re-establish surface infrastructure required to support the mining operation, including a ROM pad, office and store, workshop and fuel store, change house and car park, services (power, water, air and communications), surface magazine and ancillary infrastructure.
- Crush stockpiled ore within the ROM Pad enclosure using a mobile crusher.
- Load and transport up to 400 000 tonnes per annum of crushed ore to the Southern Operations using A-double road trains via the approved transport route, namely the Potosi Mine Haul Road, Barrier Highway, Iodide Street, Crystal Street and Gypsum Street.





- Generate up to:
 - 32 ore laden truck movements per day;
 - 4 ore laden truck movements per hour;
 - 21 ore laden truck movements per day when averaged over a calendar year; and
 - 42 ore laden truck movements per day from the North Mine and the Potosi Mine when averaged over a calendar year.
- Process the transported ore within the Southern Operations Concentrator under the continuing use rights held for that operation.
- Dewater the existing workings and transfer that water to on-site evaporation ponds or the Southern Operations.

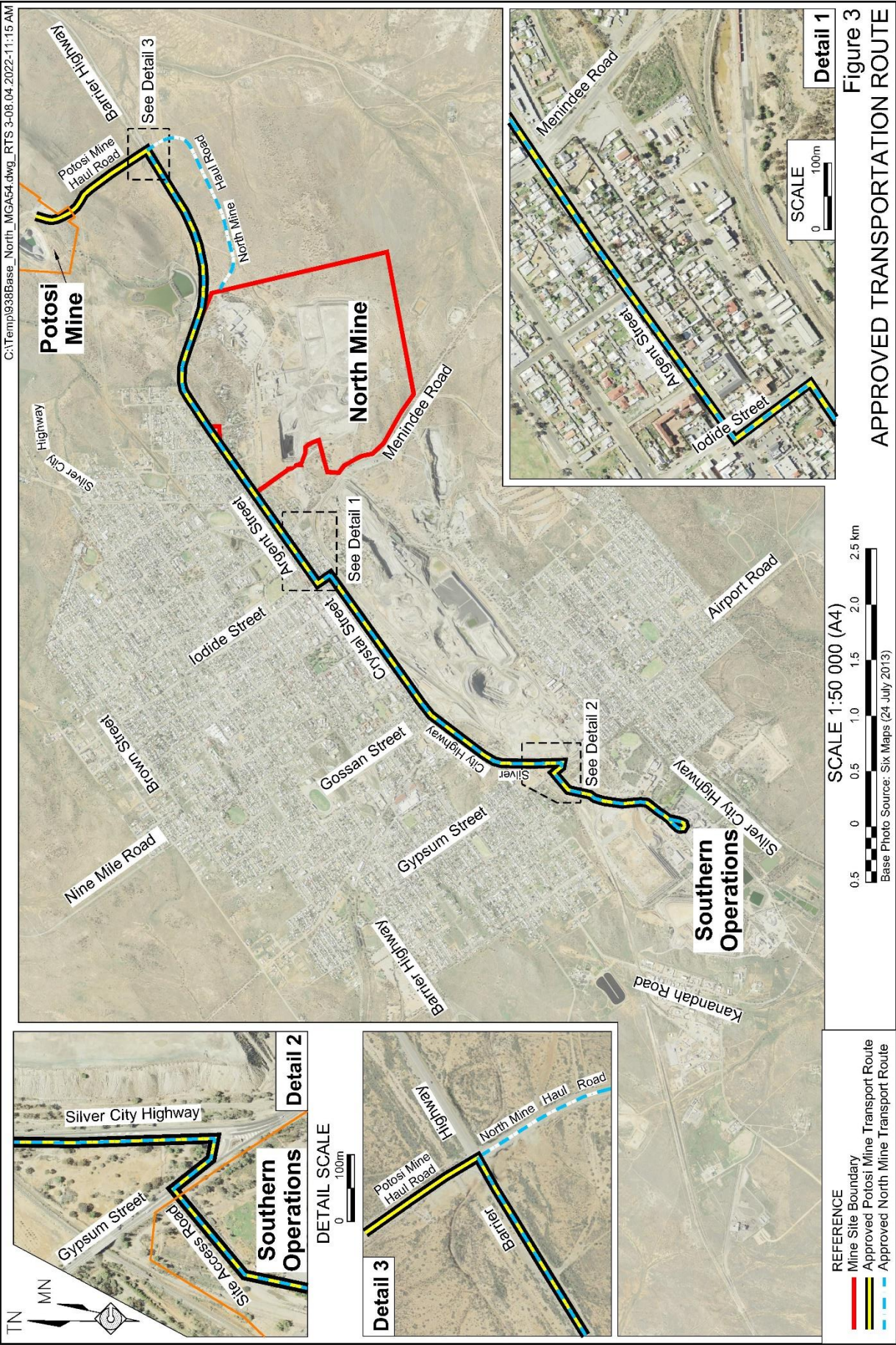
2.2 Approved Activities – Transportation-related

In addition to the activities described in Section 2.1, the following transportation-specific activities are approved under SSD 7538.

- On-site car parking – **Figure 1** presents the on-site carpark which is adequate for all employee and visitor car parking. Operational vehicles will be parked within designated sections of the Mine Site. Ore haulage vehicles will be parked overnight at the load and haul contractor's premises.
- Transportation Route – **Figure 3** presents the approved transportation route. In summary, the approved route is as follows.
 - Potosi Haul Road.
 - Barrier Highway/Argent Street.
 - Iodide Street.
 - Crystal Street/South Road.
 - Gypsum Street.

Each of these roads, with the exception of the Potosi Haul Road and Gypsum Street is a State Road, managed and maintained by Traffic for New South Wales (TfNSW). Gypsum Street is a Regional road, managed and maintained by Broken Hill City Council with partial funding by Roads and Maritime Service. The Potosi Haul Road is a private road managed and maintained by PBHL.

- Transportation vehicles – up to and including 30m A-double road trains.
- Transportation vehicles – up to and including 30m A-double road trains.
- Transportation levels – the following maximum transportation rates are permissible.
 - Up to 400 000tpa of ore.
 - Up to 32 ore laden truck movements per day.
 - Up to 4 ore laden truck movements per hour.
 - Up to 21 ore laden truck movements per day when averaged over a calendar year.
 - Up to 42 ore laden truck movements per day from North Mine and the Potosi Mine combined when averaged over a calendar year.



- Transportation hours – 8:00am to 6:00pm, 7 days per week.
- Intersection upgrades – PBHL has agreed to contribute to upgrades to the following intersections prior to commencing ore haulage.
 - Barrier Highway and the Potosi Haul Road – at PBHL cost.
 - Barrier Highway/Argent Street and Iodide Street – PBHL/TfNSW shared cost.
 - Iodide Street and Crystal Street – PBHL/TfNSW shared cost.
 - South Road and Gypsum Street - \$280,000 contribution (Source – Voluntary Planning Agreement).
- Road maintenance – PBHL has agreed to the following road maintenance contributions for Gypsum Street. No maintenance contributions to the State road network are proposed.
 - Eastbound (towards South Road) – As described in Section 9.3.
 - Westbound (towards Southern Operations entrance) - \$20,000pa (Source – Voluntary Planning Agreement).

3 Consultation

All previous Revisions of this Management Plan have been prepared in consultation with all relevant agencies in accordance with Development Consent SSD7538 or as directed by the Department of Planning and Environment.

The following consultation related to the preparation of the current version of this Management Plan (Revision F.3) was undertaken, with the following responses received.

- Department of Planning and Environment

A Request for Information (RFI) was received on the 19 July 2022, requiring the following actions, which have since been addressed.

- Reinstate previous consultation (or a summary of key information from the consultation) in addition to the summary provided for this revision.
- Review and revise Drivers Code of Conduct to ensure it is still for purpose.
- Provide an update on road measures as it is three years past this expected conclusion date.
- Add details of South Mine to Section 12.2.

A further RFI was received from DPHI (previously DPE) on the 6 February 2024, requiring further actions on the following, which have since been addressed (See **Appendix 2**).

- Expediate consultation with TfNSW and confirm is the requirements of condition 26A have been addressed.
 - At the time of submission, Condition 26A has not been triggered. This is addressed in **Table 7**.
- Reinstate previous consultation and add the additional consultation.

- Broken Hill City Council

An email requesting requirements or review of Revision F.2 of this Plan was provided to Broken Hill City Council on 16 May 2022. No response was received.

A request for review and comments of Revision F.4 from Broken Hill City Council was submitted via the Major Projects Portal on 30 May 2024. Following a lack of response, an email was sent to request comments on 26 June 2024. A response was received on 26 June 2024, confirming that there were no comments from Broken Hill City Council.

- Transport for NSW

A request for comments or requirements of this Plan was provided to Transport for NSW in July 2022. Follow up phone calls were attempted twice in April 2023. No response was received as of 18 April 2023.

A request for review and comments of Revision F.4 from Transport for New South Wales was submitted via the Major Projects Portal on 30 May 2024. The request for engagement was closed by Transport for New South Wales with no comment received.

3.1 Previous Consultation

Consultation with the relevant agencies occurred during previous revisions of this Management Plan.

- **Broken Hill City Council**

An email requesting requirements for this Plan was provided to the Broken Hill City Council (Council) on 23 January 2018. A response was received on 7 February 2018 stating the following.

“a. Perilya to investigate alternative routes for the transportation of ore to avoid Crystal Street. These investigations are to be carried out in collaboration with RMS, Council, local community & Dept. Planning NSW. The reasons are the following:

- i. Community concerns re the combined number of trucks movements in Crystal street in combination with Potosi mine.*
- ii. Other RMS approved routes are available for the transportation of ore to the Southern Operations.*
- iii. North Mine transportation routes are not bound by Land and Environment Court determination.*
- iv. Other development e.g. new Health Centre in Crystal Street will increase pedestrian and vehicular traffic in Crystal Street.*

b. Perilya to investigate the possibility of rail transport should regional development result in the upgrade of rail links through the City.”

In relation to point a), PBHL considered alternative transportation routes, however, no alternative routes were deemed to be viable and, as Crystal Street remains the State Highway, PBHL does not propose to amend the approved transport route to avoid Crystal Street.

In relation to point b), PBHL would be pleased to reassess the option of rail transportation in the event that rail infrastructure on the ARTC-operated network is upgraded. However, upgrades to that network would not address issues associated with the rail network within the North Mine or the Southern Operations Mine Sites.

A draft of this Transport Management Plan (Rev B) was provided to the Council on 22 October 2018. A response received on 30 November 2018 stating that Council will develop “detailed plans [for the approved upgrades to the Crystal Street/South Road and Gypsum Street] to the approval of the RMS then complete construction works. Works are anticipated to be completed by 30 June 2019.” No feedback was received in relation to this Plan.

- **Roads and Maritime Service (now Transport for New South Wales)**

An email requesting requirements for this Plan was provided to Transport for New South Wales (TfNSW) on 23 January 2018. A response was received on the same day stating that Roads and Maritime Service had no further requirements.

A draft of this *Transport Management Plan* (Rev B) was provided to TfNSW on 22 October 2018. A response received on 25 October 2018. **Table 1** presents an overview of the comments received and where/how each comment has been addressed.

Table 1 TfNSW Feedback on Draft Transport Management Plan 2018

<i>Comment Received</i>	<i>How/where addressed</i>
Section 2.2 – Potosi Haul Rd is not managed and maintained by Roads and Maritime Services	Section 2.2 has been amended to reflect the fact that the Potosi Haul Road is a private road managed and maintained by PBHL
Section 3 – Consultation with bus operator – what does extending from 10min to 15min refer to? If there is an undertaking to not haul during school drop off/pick up times – I agree, extending from 10 min to 15 min is not necessary as school buses run to usually time and extending the no haulage period to 15min would be excessive	Section 3 has been adjusted to provide additional clarity in relation to PBHL's original Proposal to increase the time period between haulage vehicles.
Section 9.1 – I question again the need to restrict haulage vehicle travel speed to 40km/h on sealed roads. Appropriate on Crystal, Iodide and some of Argent streets – but not outside the 50km/h speed zone	The 40k/h limit applied only on sealed roads within the Mine Site. Section 9.1 has been adjusted to clarify this.

4 Environmental Management System

The Environmental Management System for the North Mine comprises the following principal documents.

- *Environmental Management Strategy (EMS)*
- *Air Quality Management Plan*
- *Noise Management Plan*
- *Blast Management Plan*
- *Transport Management Plan (this document)*
- *Water Management Plan*
- *Operational Historic Heritage Management Plan*
- *Strategic Historic Heritage Management Plan*
- *Aboriginal Cultural Heritage Chance Finds Protocol*
- *Lead Monitoring & Education Program*
- *Rehabilitation Management Plan*

A range of Standard Operating Procedures (SOPs) are in place to manage implementation of the above Management Strategy and Management Plans. These SOPs provide operational personnel with a detailed description of how each of the identified measures is to be implemented. These SOPs are live documents and are introduced, amended, removed and replaced as required.

5 Legal and Other Requirements

A range of approvals, licenses and consents exist for the North Mine, each of which include conditional requirements. The following subsections present the statutory commitments relevant to this *Transport Management Plan*.

5.1 Regulatory Requirements

Legislation, Regulations, Policies and Codes are relevant to this Plan include but are not limited to the following.

- *Roads Act 1993.*
- *Road Transport Act 2013.*
- *Heavy Vehicle (Adoption of National Law) Act 2013.*
- *Road Rules 2014.*
- *Road Transport (Driver Licencing) Regulation 2017.*
- *Road Transport (General) Regulation 2021.*
- *Road Transport (Vehicle Registration) Regulation 2017.*
- *Roads Regulation 2018.*

5.2 Conditions of Consent

Conditional requirements identified in SSD7538 that are relevant to this *Transport Management Plan* are reproduced in **Table 2** with a reference provided to the section(s) of this document where each conditional requirement is addressed.

Table 2 Conditions of Consent associated with the Transport Management Plan

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Cond. No.	Conditions of Consent	Document Reference				
2(7)	In any calendar year, the Applicant must not extract, crush or transport more than 400,000 tonnes of ore.	Sect 8				
2(8)	The Applicant must ensure that the development does not generate more than: (a) 32 ore laden truck movements per day; (b) 4 ore laden truck movements per hour; and (c) 21 ore laden truck movements per day when averaged over a calendar year; and. (d) 42 ore laden truck movements per day from the development and the Potosi Mine combined when averaged over a calendar year.	Sects 8 and 9.1				
2(9)	Unless the Secretary agrees otherwise, the Applicant must comply with the operating hours [below] <table><tr><th>Activity</th><th>Hours</th></tr><tr><td>Ore transportation (ROM pad to South Mine)</td><td>8 am to 6 pm, 7 days a week</td></tr></table>	Activity	Hours	Ore transportation (ROM pad to South Mine)	8 am to 6 pm, 7 days a week	Sects 8 and 9.1
Activity	Hours					
Ore transportation (ROM pad to South Mine)	8 am to 6 pm, 7 days a week					
2(13)	Unless the Applicant and the applicable authority agree otherwise, the Applicant must: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development. <i>Note: This condition does not apply to any damage to roads caused as a result of general road usage.</i>	Sect 11				
3(24)	The Applicant must ensure that ore laden trucks use the designated haulage route from the site to South Mine, and the same route for the return trip from South Mine to the site (shown in Appendix 6), unless in exceptional circumstances as agreed with TfNSW and the roads authority (Council) and approved by the Secretary.	Sect 9.1 and Appendix 1				

Table 2 Conditions of Consent associated with the Transport Management Plan (Cont'd)

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Cond. No.	Conditions of Consent	Document Reference																
3(25)	Prior to commencing ore haulage, the Applicant shall implement the road upgrade works detailed in Table 5, unless the Secretary agrees, otherwise, to the satisfaction of the applicable roads authority Table 5: Road upgrades to accommodate 30 metre A-Double vehicles <table><tr><th>Intersection</th><th>Upgrade requirements</th><th>Roads Authority</th><th>Funding</th></tr><tr><td>Potosi-North Mine haulage road and the Barrier Highway (HW5)</td><td> - A Basic Right (BAR) turn treatment as shown in Figure A 28 Part 4A of Austroads Guide to Road Design and relevant TfNSW supplements. - A Basic Left (BAL) turn treatment as shown in Figure 8.2 Part 4A of Austroads Guide to Road Design and relevant TfNSW supplements. - Safe Intersection Sight Distance (SISD) requirements outlined in the Part 4A of Austroads Guide to Road Design and relevant TfNSW supplements in both directions. - Designed and constructed for a 110 km/h zone. </td><td>TfNSW</td><td>Applicant</td></tr><tr><td>Argent Street and Iodide Street Iodide Street and Crystal Street</td><td> - To the satisfaction of TfNSW </td><td>TfNSW TfNSW</td><td>TfNSW and Applicant on a pro-rata basis</td></tr><tr><td>South Road and Gypsum Street</td><td> - Widen the formation and seal of the left-turn lane by 0.5 metres to accommodate a left turn onto South Road. - Modify the right turn island to accommodate a right turn onto Gypsum Street. </td><td>TfNSW and Council</td><td>In accordance with the terms of the VPA detailed in Appendix 3.</td></tr></table>	Intersection	Upgrade requirements	Roads Authority	Funding	Potosi-North Mine haulage road and the Barrier Highway (HW5)	- A Basic Right (BAR) turn treatment as shown in Figure A 28 Part 4A of Austroads Guide to Road Design and relevant TfNSW supplements. - A Basic Left (BAL) turn treatment as shown in Figure 8.2 Part 4A of Austroads Guide to Road Design and relevant TfNSW supplements. - Safe Intersection Sight Distance (SISD) requirements outlined in the Part 4A of Austroads Guide to Road Design and relevant TfNSW supplements in both directions. - Designed and constructed for a 110 km/h zone.	TfNSW	Applicant	Argent Street and Iodide Street Iodide Street and Crystal Street	To the satisfaction of TfNSW	TfNSW TfNSW	TfNSW and Applicant on a pro-rata basis	South Road and Gypsum Street	- Widen the formation and seal of the left-turn lane by 0.5 metres to accommodate a left turn onto South Road. - Modify the right turn island to accommodate a right turn onto Gypsum Street.	TfNSW and Council	In accordance with the terms of the VPA detailed in Appendix 3.	Sects 9.2 and 9.3
Intersection	Upgrade requirements	Roads Authority	Funding															
Potosi-North Mine haulage road and the Barrier Highway (HW5)	- A Basic Right (BAR) turn treatment as shown in Figure A 28 Part 4A of Austroads Guide to Road Design and relevant TfNSW supplements. - A Basic Left (BAL) turn treatment as shown in Figure 8.2 Part 4A of Austroads Guide to Road Design and relevant TfNSW supplements. - Safe Intersection Sight Distance (SISD) requirements outlined in the Part 4A of Austroads Guide to Road Design and relevant TfNSW supplements in both directions. - Designed and constructed for a 110 km/h zone.	TfNSW	Applicant															
Argent Street and Iodide Street Iodide Street and Crystal Street	To the satisfaction of TfNSW	TfNSW TfNSW	TfNSW and Applicant on a pro-rata basis															
South Road and Gypsum Street	- Widen the formation and seal of the left-turn lane by 0.5 metres to accommodate a left turn onto South Road. - Modify the right turn island to accommodate a right turn onto Gypsum Street.	TfNSW and Council	In accordance with the terms of the VPA detailed in Appendix 3.															
3(26)	The Applicant must: (a) ensure that: - ore laden trucks do not exceed 30 metres in length; - ore laden trucks are covered at all times; - all trucks leaving the site pass through an effective wheel cleaning facility; and - trucks used for ore haulage pass through an effective truck washing facility at least once a week; (b) ensure the following speed limits are enforced: 20km/h on unsealed roads; and 40km/h on sealed roads; (c) minimise the traffic impacts of the development on public roads; (d) minimise haulage during school bus times; (e) schedule haulage movements to minimise convoy length or platoons; (f) ensure there is sufficient parking on site for all development related traffic; and (g) keep records of the amount of ore transported from the mine site and the number of daily ore truck movements and publish these records annually on the Applicant’s website for the development.	Sect 9.1 Sect 9.1 Sect 9.1 Sect 9.1 Sect 9.1 Entire document Sect 3 & Appendix 1 Sect 9.1 Sect 2.2 Sect 12.2																

Table 2 Conditions of Consent associated with the Transport Management Plan (Cont'd)

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Cond. No.	Conditions of Consent	Document Reference
3(26A)	Prior to transferring employees/ contractors from the Potosi Mine to the development, undertake an assessment of traffic impacts from additional employees/ contractors at the development site from the Potosi Mine including, if required, proposed mitigation measures and timeframes to achieve the measures, in consultation with TfNSW and to the satisfaction of the Secretary.	<i>Sect 9.1</i>
3(27)	Prior to commencing mining operations, unless the Secretary agrees otherwise, the Applicant must prepare a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with TfNSW and Council; (b) include a: • Drivers code of conduct for the development; and • Traffic management system for managing over-dimensional vehicles; (c) describe the measure that would be implemented to ensure; • Compliance with the operating conditions in this consent; • Drivers are aware of potential safety issues along the haulage route; and • Drivers of development-related vehicles comply with the driver's code of conduct; (d) include detailed plans and implementation schedules for the road upgrades specified in Table 5, including funding arrangements for the upgrade of the Argent Street/Iodide Street and Iodide Street/Crystal Street intersections; (e) include a protocol for undertaking road maintenance of the relevant section of Gypsum Street (identified in the terms of the VPA detailed in Appendix 3); (f) include a program to monitor and report on the Applicant's cumulative ore laden truck movements from the site and Potosi Mine to the South Mine; and (g) include a program to monitor and report on the effectiveness of the implementation of the measures in this plan and compliance with the operating conditions.	<i>Sect 3</i> <i>Appendix 1</i> <i>Sect 9.1</i> <i>Sect 12.2</i> <i>Sect 9.1</i> <i>Appendix 1 and Sect 9.1</i> <i>Sect 9.2</i> <i>Sect 9.3</i> <i>Sect 12.2</i> <i>Sect 12.2</i>
3(28)	The Applicant must implement the approved Transport Management Plan for the development	<i>Noted</i>
4(4)	The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: • impacts and environmental performance of the development; • effectiveness of any management measures (see c above);	<i>Sect 7</i> <i>Sect 5</i> <i>Sect 8</i> <i>Sect 8</i> <i>Sect 9</i> <i>Sect 12.2</i> <i>Sect 12.2</i>

Table 2 Conditions of Consent associated with the Transport Management Plan (Cont'd)

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Cond. No.	Conditions of Consent	Document Reference
4(4) Cont'd	(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	<i>Sect 10</i>
	(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	<i>Sect 12.2</i>
	(g) a protocol for managing and reporting any:	
	- incidents; - complaints; - non-compliances with statutory requirements; and - exceedances of the impact assessment criteria and/or performance criteria; and	<i>Sect 13.1</i> <i>Sect 13.3</i> <i>Sect 13.1</i> <i>Sect 13.1</i>
	(h) a protocol for periodic review of the plan.	<i>Sect 16</i>

6 Environmental Risk

Tables 3 and 4 presents the risk rating matrix and risk assessment specific to transportation during the operational phase of the North Mine. The risk rankings and control measures identified in **Table 2** have informed the management and mitigation measures identified in Section 9 and the TARPs identified in Section 11.

Table 3 Risk Rating Matrix

Consequence	Negligible	Minor	Moderate	Major	Catastrophic
People	Minor injury First aid treatment	Medical treatment injury Restricted work injury	Serious injury Lost time injury (LTI)	Multiple LTIs Permanent disabling injury	Fatality Multiple fatalities
Environment	Little or no environmental harm. Not required to inform EPA/Government.	Minor transient environmental harm. Transient release of pollutants. Required to inform EPA/Government	Measurable environmental harm with mid-term recovery. Significant release of pollutants.	Long term environmental harm. Major contamination, unapproved clearance of native vegetation, damage to heritage site.	Serious impacts, long term environmental damage. Dislocation of people, significant breach of tailings storage, contamination of potable water.
Reputation	No measurable impact	Minor or moderate impact. Local media coverage, public complaints	Short term measurable but recoverable impact. (recovery <6 months) Averse capital city media coverage	Medium term impact (recovery < 12 months). National adverse mainstream media, loss of investor confidence, possible staff losses or moral issues	Serious, permanent or irrecoverable damage. Forced shutdown of major installation, extended national adverse media campaign, parliamentary enquiry
Financial & Commercial	No measurable loss, no measurable impact on customers	Loss \$50-500K Minimal business interruption.	Loss \$0.5-5M Business impact, service interruption, loss of market share	Loss \$5-10M Business interruption, major equipment failure, major loss of market share	Loss >\$10M Major business interruption, significant loss of market share, plant catastrophe.
Legal Liability	Little or no liability	Third part claims <\$500K	Corporate fine <\$1M, multiple third part claims \$0.5-2M	Corporate fine \$1-5M, personal fine, multiple third part claims \$2-10M	Corporate fine >\$5M, Officer goaled, multiple third part claims >\$10M
Likelihood	Risk Level				
Almost certain: < 1 in 100 expected to occur within 1 yr	A	B	C	D	E
1	16	10	8	3	1
Likely: 1 in 100 - 1000 probably occur within 3 yrs	2	14	9	5	2
Possible: 1 in 1000 - 10,000 may occur in within 10 yrs	3	17	11	7	4
Unlikely: in normal situations 1 in 10,000 - 1M, >10 yrs	4	21	15	12	6
Rare: >1 in 1M theoretically possible	5	24	22	19	13

Table 4 Risk Assessment - Transportation

Risk Description	Unmitigated Risk Level	Current Controls	Additional Controls Required	Residual Risk Level	Accept Y/N
Failure to comply with relevant road rules, regulations, codes or similar result in a traffic accident associated with ore transportation operations.	High (7)	• All ore haulage vehicles are registered; • appropriately maintained; • fit-for-purpose; and • inspected daily. • Ensure that all ore haulage drivers are appropriately licenced • Ensure that ore haulage vehicles are not overloaded loaded. • Ensure that over dimensional vehicles have all required permits and approvals	• Ensure that all drivers sign and comply with the Road Transport Protocol.	Moderate (12) ALARP	Yes
Failure to comply with relevant road rules, regulations, codes or similar result in a traffic near miss associated with ore transportation operations.	Moderate (18)			Low (20) ALARP	Yes
Ore transportation operations result in non-compliance with conditions of this consent	Moderate (17)	• Ensure that standard road rules and regulations are complied with .	• Ensure that the management and mitigation measures identified in Section 9 are complied with at all times	Low (21)	Yes
Ore transportation operations result in traffic-related complaint	Moderate (18)	• Ensure that standard road rules and regulations are complied with .	• Ensure that all drivers sign and comply with the Road Transport Protocol. • Ensure that the management and mitigation measures identified in Section 9 are complied with at all times • Ensure that all complaints are appropriately investigated and recommendations are implemented.	Low (23)	Yes
Incident or circumstances unrelated to PBHL's operations result in diversion of ore trucks from the approved transportation route	Moderate (17)	• Follow the directions of Police, Roads and Maritime Service, Broken Hill City Council or other relevant authority	• Cease ore haulage operations until written approval from the roads authority (Roads and Maritime Service or Broken Hill City Council) and the Secretary of Department of Planning and Environment is received.	Low (23)	Yes
Note: ALARP = As low as reasonably practicable					

7 Existing Environment

The existing environment on the approved transportation route may be described as follows. **Figure 3** presents the approved transportation route.

- Potosi Haul Road – North Mine Site to Barrier Highway

Unsealed, two lane private road for 1.9km with a posted speed limit of 40km/h. Lane widths are approximately 4.0m in each direction with an approximately 1.5m wide shoulder on each side and road-side drainage installed on each side.

- Intersection of the Potosi Haul Road and Barrier Highway.

The intersection is a concrete sealed Give Way-controlled 4-way intersection, with traffic on the Barrier Highway having priority. A channelised-deceleration lane exists for traffic on the Barrier Highway turning left into the Potosi Mine Haul Road (towards the Potosi Mine).

The Company will upgrade the intersection to the standard identified in Condition 25 of Schedule 3 of SSD 7538 (see Table 1).

- Barrier Highway/Argent Street – Potosi Haul Road to Iodide Street

The road is a sealed, two lane State road with a posted speed limit of 110km/h from the Potosi Haul Road for a distance of 1.5km. From that point to a point 2.45km from the Potosi Haul Road, the posted speed limit is 80km/h where the speed limit is then reduced to 50km/h to the intersection with Iodide Street. Lane widths vary between 4.0m and 3.0m, with a variable unsealed and sealed shoulder. Outside the Broken Hill urban area, road-side drainage is installed, with curb and gutter installed from the North Mine site entrance to the intersection with Iodide Street.

- Intersection of Barrier Highway/Argent Street and Iodide Street

The intersection is a four way, give-way controlled intersection, with the Barrier Highway/Argent Street approaches having priority. Intersection sight distances are appropriate. The Company will contribute, on a *pro rata* basis, to intersections works to be completed by Roads and Maritime Service.

- Iodide Street - Barrier Highway/Argent Street to Crystal Street.

The road is a sealed, two-lane State road with a sign posted speed limit of 50km/h. Lane widths are approximately 3.5m, with widened shoulders used as parking lanes on both sides of the road. The transportation route will utilise approximately 150m of Iodide Street.

- Intersection of Iodide Street and Crystal Street

The intersection is a four way, give-way controlled intersection, with Crystal Street having priority. Sight distances of the intersection are appropriate. The Company will contribute, on a *pro rata* basis, to intersections works to be completed by Roads and Maritime Service.

- Crystal Street/ South Road/Silver City Highway – Iodide Street to Gypsum Street

The Road is a sealed, two-lane State road. Lane widths are approximately 3.5m with a variable shoulder and road side parking. The sign posted speed limit is 50km/h to the east of Gossan St and 60kph west of that point. A grade-separated rail crossing over the Broken Hill – Peterborough Railway exists between the intersections of Gaffney Street and Gypsum Street.

- Intersection of Crystal Street/South Road and Gypsum Street

The intersection is give way-controlled, with traffic on South Road having priority. The intersection includes a channelized right-hand turn lane for traffic turning into Gypsum Street and a channelized slip lane for traffic turning left out of Gypsum Street. Sight distances of the intersection appropriate.

- Gypsum Street – South Road to Southern Operations entrance.

The road is a sealed, two-lane Regional road with no parking lanes. The transportation route will utilise 120m of Gypsum Street. The sign posted speed limit is 50km/h.

- Intersection of Gypsum Street and the South Mine Site Access Road.

The intersection is give way-controlled, with traffic on Gypsum Street having priority. Traffic islands on both the South Mine Site Access Road and Gypsum Street control turning movements.

Table 5 presents traffic levels determined during preparation of the EIS. **Figure 3** presents the location of each of the traffic counters.

Table 5 Traffic Volumes

Location ¹	Road	Site	Existing Traffic	
			Vpd ²	Commercial Vehicles ³
1	Argent Street	East of Jabez Street	1 480	22%
2	Crystal Street	Rail Station	5 390	8%
3	Silver City Highway	East of Gypsum Street	5 890	6%
4	Gypsum Road	North of Access Road	4 230	7%
Note 1: See Figure 3				
Note 2: vpd – vehicles per day				
Note 3: Commercial Vehicle = Class 3 to 13 vehicles				
Source: Tonkin (2016) – after Section 2.3				

8 Compliance Criteria

Table 6 presents the transportation compliance criteria for the North Mine.

9 Management and Mitigation Measures

9.1 Operational Management and Mitigation Measures

Table 7 presents the management and mitigation measures required to manage transportation operations for the North Mine.

Table 6 Compliance Criteria – Transportation

Criteria	Source
In any calendar year, the Applicant must not ... transport more than 400,000 tonnes of ore.	Condition 7 of Schedule 2 of SSD 7538
The Applicant must ensure that the development does not generate more than: (a) 32 ore laden truck movements per day; (b) 4 ore laden truck movements per hour; (c) 21 ore laden truck movements per day when averaged over a calendar year; and (d) 42 ore laden truck movements per day from the development and the Potosi Mine combined when averaged over a calendar year.	Condition 8 of Schedule 2 of SSD 7538
Transportation operations must only be undertaken between the hours of 8:00am and 6:00pm, 7 days per week	Condition 8 of Schedule 2 of SSD 7538
Ore trucks must use the designated haulage route, except in exceptional circumstances	Condition 24 of Schedule 3 of SSD 7538
Ore trucks/drivers must - not exceed 30 metres in length; - have their loads covered at all times; - pass through an effective wheel cleaning facility prior to leaving the Mine Site. - pass through an effective truck washing facility at least once a week. - not exceed 20km/h on unsealed roads within the Mine Site. - not exceed 40km/h on sealed roads within the Mine Site. - comply with the Road Transport Protocol.	Conditions 26 and 27 of Schedule 3 of SSD 7538

Table 7 Management and Mitigation Measures – Transportation

Page 1 of 3

Mitigation Measure	Timing	Source	Responsibility	Evidence for compliance
Ensure that all ore haulage vehicles follow the approved haulage route shown on Figure 3 (see however TARP T5 in Section 11)	Every movement	Condition 3(24)	North Mine Manager or their delegate	Vehicle management records (including GPS tracking)
Ensure that the following is recorded for all laden and unladen ore haulage vehicle movements. - Time of departure and arrival at both North Mine and Southern Operations. - Gross and nett vehicle mass. - Route travelled	Every movement	Various	North Mine Manager or their delegate	Driver swipe card records Video records Loader scale records Vehicle management records (including GPS tracking) Monthly and annual summary reports

Table 7 Management and Mitigation Measures – Transportation (Cont'd)

Page 2 of 3

<i>Mitigation Measure</i>	<i>Timing</i>	<i>Source</i>	<i>Responsibility</i>	<i>Evidence for compliance</i>
Ensure that the load and haul contractor has a system that does not permit more than: • 32 ore laden truck movements per day; • 4 ore laden truck movements per hour; • a single ore laden vehicle per 10 minutes (to prevent North Mine-related convoys forming); or • heavy vehicles to depart the North Mine Site before 8:00am or after 6:00pm; or • vehicles to depart the Mine Site overloaded.	Prior to the completion of intersection works ¹ and throughout the life of the North Mine	Condition 2(8) and 3(26)	Load and haul contractor Manager or delegate	Contractual documents Driver swipe card records Video records Loader scale records
Ensure that monthly vehicle movements and the tonnage of ore transported from the Mine Site is collated and reported and ensure that: • no more than 400,000t of ore is transported per calendar year; and • no more than 21 laden vehicles depart the Mine Site per day, averaged over a calendar year. • no more than 42 laden vehicles depart the Mine Site and Potosi Mine combined per day when averaged over a calendar year	Throughout the life of the North Mine	Condition 2(7) and 2(8)	North Mine Manager or their delegate	Monthly reports
Ensure that all laden ore haulage vehicles cover their loads using rigid framed covers	Every movement	Condition 3(26)	Load and haul contractor Manager or delegate	Video records
Ensure that all vehicles departing operational sections of the Mine Site pass through an operational wheel wash	Every movement	Condition 3(26)	North Mine Manager or their delegate	Video records Maintenance records
Ensure that all ore haulage vehicles are effectively truck washed at least weekly	Weekly during ore haulage	Condition 3(26)	Load and haul contractor Manager or delegate	Maintenance records Contractual documents
Ensure that the following speed limits are prominently signposted and enforced within the Mine Site, and that all personnel are advised of the speed limits during inductions/reinductions • Unsealed roads – 20km/h • Sealed roads – 40km/h	Throughout the life of the North Mine	Condition 3(26)	North Mine Manager or their delegate	Signposts Induction records Disciplinary records
Ensure that all drivers of ore haulage vehicles sign and abide by the Road Transport Protocol presented in Appendix 1 and implement disciplinary measures where non-compliance can be demonstrated.	Throughout the life of the North Mine	Condition 3(26)	Load and haul contractor Manager or delegate	Signed documents Disciplinary records

Table 7 Management and Mitigation Measures – Transportation (Cont'd)

Page 3 of 3

Mitigation Measure	Timing	Source	Responsibility	Evidence for compliance
Ensure that contractual arrangements with load and haul contractor require that all ore haulage vehicles are: - less than 30m in length; - equipped with vehicle monitoring equipment, including GPS and video recording equipment (to be operational at all times); - equipped with rigid frame covers (to be used for every load); - registered, appropriately maintained and fit-for-purpose; and - inspected daily	Throughout the life of the North Mine	Various	North Mine Manager or their delegate and Load and haul contractor Manager or delegate	Contractual documents Maintenance records Registration and inspection records Pre-start checks
Ensure that all over dimensional vehicles (over weight or over size) obtain all required approvals and permits to travel on the public road network prior to departure	As required	Condition 3(27)	North Mine Manager or their delegate	Contractual documents
Ensure that drivers of ore haulage vehicles are able to communicate with each other, PBHL and the transport contractor in relation of hazards along the transportation route.	Throughout the life of the North Mine	Condition 3(27)	Load and haul contractor Manager or delegate	Presence of two-way radios in ore transportation vehicles
Ensure that drivers of laden and unladen ore haulage vehicles make a radio call on approach to Iodide Street in either direction and ensure that haulage trucks do not pass each other on Iodide Street or the intersections with Argent or Crystal Streets	Prior to the completion of intersection works ¹ and throughout the life of the North Mine	Road Transport Protocol	Load and haul contractor Manager or delegate	Signed Road Transport Protocol forms Toolbox meeting minutes Incident reports
Ensure that road maintenance issues are reported to Broken Hill City Council as soon as possible	Prior to the completion of intersection works ¹ and throughout the life of the North Mine	Conditional requirement of approval for delayed completion of intersection works ¹	North Mine Manager or their delegate and Load and haul contractor Manager or delegate	Correspondence
Ensure that an assessment of traffic impacts is undertaken in consultation with TfNSW to assess impacts associated with additional employees/contractors transferred from the Potosi Mine.	Prior to transferring additional employees and/or contractors from the Potosi Mine.	Condition 3 (26A)	North Mine Manager or their delegate.	Traffic Impact Assessment report or correspondence confirming no change to employee numbers. ²
Note 1: Intersection works relate to works required under Condition 25 of Schedule 3 of SSD7538 to the following intersections. Note 2: While the Mine is on Care and Maintenance there are no employees being transferred. Notwithstanding this, if any employees are transferred in future, the number of staff will remain the same. The composition of permanent staff to contract employees would be adjusted to ensure no net gain.				

9.2 Road Upgrade Measures

Discussions between PHBL and TfNSW (RMS at the time) on 19 September 2018 flagged intentions to upgrade the following intersections:

- Barrier Highway/Argent Street and Iodide Street
- Iodide Street and Crystal Street

Upgrades to the intersections were initially expected to be completed by 30 June 2019, however the route officially reopened on 7 February 2022. The upgrades included widening the intersections and installing heavy-duty flexible pavement for improved safety and traffic flow, and were completed in accordance with AustRoads *Guide to Road Design*.

In addition, in relation to the upgrade of the Crystal Street/South Road and Gypsum Street intersection, Broken Hill City Council indicated the following in correspondence received 30 November 2018.

“Detailed plans and implementation schedules” for the upgrade to Crystal Street/South Road and Gypsum Street, Council proposes to undertake the design and construction works for this road segment working with the Roads and Maritime Services (RMS).

Council will develop the detailed plans to the approval of the RMS then complete construction works. Works are anticipated to be completed by 30 June 2019.”

PBHL submitted an application on 7 December 2018 to the Secretary for an extension of the time permitted to complete the required works until 1 July 2019. That application was conditionally approved on 20 December 2018. The conditions of the approval are as follows. PBHL will fully implement all requirements.

- The Perilya Transport Management Plan (TMP) including details of how road safety will be maintained prior to the road upgrades;
- The TMP detailing a communication protocol for truck operators approaching intersections to ensure two haulage vehicles don't meet at the same time;
- Perilya maintaining its commitment to contribute financially to the upgrades;
- Perilya reporting road maintenance issues to Broken Hill City Council and TfNSW as soon as possible.

Table 7 has been updated to reflect the management measures to be implemented by PBHL prior to completion of those works.

The required works at the Potosi Mine Haul Road and Barrier Highway intersection will be completed on 11 December 2018.

9.3 Road Maintenance Measures – Gypsum Street

Gypsum Street between South Road and the entrance to the Southern Operations is a Regional Road, managed by Broken Hill City Council, with limited funding from Roads and Maritime Service. The Voluntary Planning Agreement (see Appendix 3 of SSD 7538) between PBHL and Broken Hill City Council

identifies the following contributions to be made by PBHL for the maintenance of that section of Gypsum Street to be used for the transportation of ore.

- South Road to Southern Operations entrance\$20,000pa (indexed to CPI)
- Southern Operations entrance to South RoadAs required

In order to determine the maintenance requirements for the Southern Operations entrance to South Road section of Gypsum Road, PBHL and Broken Hill City Council have negotiated a Voluntary Planning Agreement. In relation to the maintenance of Gypsum Street between South Road and the Southern Operations entrance, that agreement may be summarised as follows.

- Each year Council is to assess the repairs and maintenance work is required for the road.
- If works are required Council will prepare a repair schedule, including an estimate of costs.
- If the costs are less than \$20,000, PBHL will pay Council \$20,000, indexed to CPI.
- If the costs are more than \$20,000, PBHL will pay council the estimated amount.
- In the event of a dispute, the agreement includes a dispute resolution mechanism.
- In the event that operations within the North Mine cease for more than 6 months, the requirement to make a contribution also ceases.

10 Monitoring Program

Table 8 presents the monitoring activities to be undertaken throughout the life of the North Mine. Where required, monitoring equipment such as load scales will be maintained and calibrated in accordance with the manufacturers' specifications.

Table 8 Monitoring Measures – Transportation

<i>Issue</i>	<i>Monitoring Method/Technique</i>	<i>Data Recording</i>
Vehicle arrival/departure times	Driver swipe cards at all gates entering/exiting the operational area of the Mine Site	MCC Honeywell system
Transportation rates (hourly, daily and daily averaged over a calendar year)	Video monitoring (all gates)	PBHL security system
Ore haulage vehicle mass	Load scales on loader	Load records
Ore haulage totals		
Loads covered	Video monitoring (all gates)	PBHL security system
Effective use of wheel wash by all vehicles	Video monitoring (all gates)	PBHL security system
Ore haulage truck speeds on internal roads	Vehicle monitoring systems, including GPS and system tracking	Data retained for 12 months
Driver behaviour and compliance with Road Transport Protocol	Vehicle monitoring systems, including GPS and system tracking Dash cams, with recordings not accessible by drivers	Load and haul contractor internal system

11 Trigger Action Response Plans

Table 9 presents the Trigger Action Response Plans (TARPs) for traffic-related impacts. The order that the TARPs are presented correspond with the order in which risks are presented in the Risk Assessment presented in Section 6.

Table 9 Trigger Action Response Plan

Page 1 of 3

TARP No	Issue	Trigger Level	Alert Level	Action	Response
T1	Driver failure to comply with relevant road rules, regulations, codes or similar	No non-compliance	Green	Nil	Continued reinforcement of the Road Transport Protocol and mitigation measures identified in Section 9.1.
		Minor non-compliance (3 demerit points or less or warning letter issued to PBHL or load and haul contractor)	Yellow	Suspension of driver pending investigation and implementation of recommendations.	Implement an investigation into the root causes of the non-compliance and recommendations to prevent a recurrence, including training requirements.
		Moderate non-compliance (4 demerit points or more)	Amber	Suspension of driver pending investigation and implementation of recommendations.	Implement an investigation into the root causes of the non-compliance and recommendations to prevent a recurrence, including training requirements and probationary period.
		Major non-compliance (on-the-spot suspension of licence)	Red	Immediate suspension of driver pending investigation and implementation of recommendations.	Implement an investigation into the root causes of the non-compliance and recommendations to prevent a recurrence, including training requirements, probationary period and/or banning from PBHL sites.
T2	Vehicle failure to comply with relevant road regulations, codes or similar	No non-compliance	Green	Nil	Continued reinforcement of the Road Transport Protocol and mitigation measures identified in Section 9.1.
		Minor non-compliance (warning letter issued to PBHL or load and haul contractor)	Yellow	Consider removing vehicle from service based on root cause analysis of non-compliance. Commence incident investigation in accordance with PBHL safety management system.	Implement an investigation into the root causes of the non-compliance and recommendations to prevent a recurrence.
		Moderate non-compliance (4 demerit points or more, fine issued to PBHL or load and haul contractor)	Amber	Remove vehicle from service until non-compliance rectified. Commence incident investigation in accordance with PBHL safety management system.	Implement an investigation into the root causes of the non-compliance and recommendations to prevent a recurrence. Implementation of investigation recommendations followed by review and revision after 3 months.

Table 9 Trigger Action Response Plan (Cont'd)

Page 2 of 3

TARP No	Issue	Trigger Level	Alert Level	Action	Response
T2 Cont'd		Major non-compliance (Potential prosecution of PBHL or load and haul contractor)	Red	Remove vehicle from service until non-compliance rectified. Implement "show cause" procedures with load and haul contractor manager.	Implementation of investigation recommendations followed by review and revision after 3 months.
T3	Traffic accident or reported near miss	No accident or near miss	Green	Nil	Continued reinforcement of the Road Transport Protocol and mitigation measures identified in Section 9.1.
		Near miss traffic incident	Yellow	Immediate implementation of an investigation of the incident in accordance with PBHL safety management system.	Implementation of investigation recommendations.
		Minor traffic accident (property damage only)	Amber	Immediate implementation of an investigation of the incident in accordance with PBHL safety management system.	Implementation of investigation recommendations.
		Major traffic accident (one or more persons injured)	Red	Immediate suspension of transportation operations pending investigation, including investigation by relevant authorities (police, Work Cover, etc) and implementation of recommendations. Immediate implementation of an investigation of the incident in accordance with PBHL safety management system.	Implementation of investigation recommendations. Cooperation with external investigations.
T4	Traffic related complaint	No complaint	Green	Nil	Continued reinforcement of the Road Transport Protocol and mitigation measures identified in Section 9.1.
		Complaint received	Amber	Personnel who receives the complaint records the required information in accordance with the procedures identified in the EMS and notifies the relevant North Mine Personnel.	Complaint is investigated, and remedial action implemented as required in accordance with the procedures identified in the EMS. The results of the investigation and any remedial action is communicated to the complainant.

Table 9 Trigger Action Response Plan (Cont'd)

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TARP No	Issue	Trigger Level	Alert Level	Action	Response
T5	Incident or circumstances unrelated to PBHL's operations result in diversion of ore trucks from the approved transportation route	No incident	Green	Nil	Nil
		Incident preventing use of approved transportation route	Red	Immediate suspension of transportation operations. Laden ore trucks are to proceed to the Southern Operations via the identified diversion or as instructed by relevant authorities.	Recommence transportation operations only after approved transportation route has been reopened or the written approval of the relevant roads authority and the Secretary of the Department of Planning and Environment has been obtained.

12 Data Validation and Compliance Review

12.1 Data Validation

The North Mine traffic monitoring program will generate two classes of data, namely:

- automatically generated data; and
- data obtained from observations, incident reports, inductions and collation and analysis of automatically collected data.

Each class of data will be validated separately as follows.

- Automatically generated data.
 - All load scales on loaders will be maintained in accordance with the manufacturer's instructions.
 - All load data will be collated and inspected by the load and haul contractor manager or their delegate to ensure compliance with load restrictions and Chain of Responsibility requirements.
 - All swipe card data and gate video will be recorded by PBHL.

Vehicle monitoring data, including GPS and dash cam video, will be retained by the in-vehicle system, with data to be progressively over written as new data is recorded. The data is to be provided to PBHL on request.

- Other data.
 - All induction, Road Transport Protocol, incident investigation and associated documents will be assessed and reviewed as required by the relevant PBHL or load and haul contractor officer.

12.2 Compliance Review

The North Mine Manager or their delegate will review all collected data monthly and will prepare a report that describes the following.

- Tonnage of material transported during the month from Potosi Mine and North Mine to Southern Operations, as well as cumulative individual and combined totals for the calendar year to date.
- Record and report on number of ore-laden vehicle movements from Potosi Mine to South Mine and North mine to Southern Operations.
- Maximum daily and hourly laden vehicle movements during the month and compliance with the relevant criteria (32 per day and 4 per hour).
- Average daily laden vehicle movements calendar year to date and compliance with the relevant criteria (21 per day averaged over a calendar year).
- Average daily laden vehicle movements at Mine Site and Potosi Mine combined over calendar year compliance with the relevant criteria (42 per day averaged over a calendar year).
- Earliest and latest departure and arrival times during the calendar month and compliance with the relevant criteria (8:00am to 6:00pm).

- Any deviations from the approved ore transportation route.
- Whether any transport-related complaints were received, the nature and outcome of those complaints and a summary of the outcome of any actions undertaken to investigate or resolve those complaints.
- Where any non-compliances with the conditions of consent were identified, the nature of those non-compliances and a summary of the outcome of any actions undertaken to investigate or resolve those non-compliances (see also Section 13.1).
- Where any non-compliances with the management and mitigation measures identified in Section 9.1 are identified, including non-compliances with the Road Transport Protocol, the nature of those non-compliances and a summary of the outcome of any actions undertaken to investigate or resolve those non-compliances.
- Where any improvements to the proposed transport management measures proposed in this document are identified, a program to implement and assess the effectiveness of those improvements.

12.3 Information regarding the operations and environmental performance

Refer to the *Environmental Management Strategy* for details of the issuance of information regarding operations progress and environmental performance.

13 Incident and Non-compliance Management

13.1 Incident and Non-compliance Management

An incident is defined as:

1. An event that causes, or threatens to cause, material environmental harm; or
2. Breaches or exceeds the limit or performance measure or criteria associated with the Conditions of Consent or Environmental Protection License.

For the purposes of this Management Plan, an incident is any traffic-related accident or near-miss or any breach of the Road Rules involving a haulage vehicle, whether laden or unladen, travelling between the North Mine and the Southern Operations.

A non-compliance is defined as any event which is not in conformance with threshold levels as determined within the conditions of consent or an exceedance of any criteria under other approval or legislation, including EPL 2683.

For the purpose of this Management Plan a non-compliance is any exceedance of the criteria identified in Section 8.

Sections 8.1 and 8.2 of the *Environmental Management Strategy* describe the procedures to be implemented in the event of an incident or non-compliance. In summary, PBHL will:

- Implement measures to control and/or manage the incident or non-compliance;
- Immediately report the incident or non-compliance to the Environment Protection Authority, Resources Regulator and Department of Planning and Environment; and
- Prepare a written notification report within 7 days and provide a copy of that report to the above agencies.
- Prepare in the event of an incident a follow-up report within 30 days and provide that report to the above agencies.

13.2 Emergency Management Process

The PBHL *Emergency Response and Crisis Management Procedure* is the prevailing document that governs emergency response actions. That document incorporates the *Pollution Incident Response Management Plan* required under EPL2683. In summary, in an emergency situation, one or more crisis management teams are convened, and those teams coordinate emergency response, including interactions with external agencies, including emergency services.

In the event of an offsite emergency involving a haulage vehicle, PBHL anticipates that NSW Emergency Services (Police, Fire Brigade, Ambulance) will be the lead agency and PBHL will provide any assistance required.

13.3 Complaints Management Process

Section 7.1 of the *Environmental Management Strategy* describes the procedures to be implemented in the event of a complaint. In summary, complaints may be received directly via telephone, email or web form from PBHL's website, or indirectly via relevant government agencies. Upon receipt, the name and contact details of the complainant and the nature of the complaint are recorded. PBHL will then investigate the complaint and implement system improvements if required. The results of the investigation are communicated back to the complainant.

14 Training and Awareness

The environmental risk management process and the broader environmental risks for PBHL are communicated to all site personnel via the PBHL general induction.

Site specific risks are associated with site specific inductions (for example Broken Hill North Mine). Training for relevant personnel in relation to the Standard Operating Procedures would be implemented as required. In particular, site personnel would receive training in potential impacts associated with noise emissions for surrounding residences and the need to consider noise when undertaking activities.

Job hazard analysis and 'take-time take-charge' are site-wide risk assessment tools used to identify health, safety and environment related risks and are used by operators and supervisors.

Finally, the requirements of this Management Plan, including the management and mitigation measures identified in Section 9.1 and the expectations embodied in the Driver's Code of Conduct would be communicated to all personnel through the induction process.

15 Roles and Responsibilities

Table 10 represents the roles and responsibilities specifically for the implementation of this Plan.

Table 10 Roles and Responsibilities

<i>Role</i>	<i>Responsibility</i>
General Manager	Ensure adequate resources are available to enable implementation of the Plan.
North Mine Manager	Accountable for the overall environmental performance of the North Mine, including the outcomes of this Plan.
Health, Environment, Safety and Training Manager	Ensure adequate resources are available to enable implementation of the Plan.
Load and Haul Contractor Manager	Ensure compliance with all contractor-related aspects of the Transport Management Plan.
All other employees and contractors	Responsible for following directions and instructions from site and, where relevant, load and haul contractor, management and supervisors.

16 Review and Revision Process

In accordance with the requirements of Condition 6 of Schedule 4, this Plan will be reviewed within 3 months of:

- the submission of an annual review;
- the submission of an incident report;
- the submission of an audit;
- any modification to the conditions of this consent, (unless the conditions require otherwise); and/or
- a direction from the Secretary.

PBHL will review and, if necessary revise, the strategies, plans, and programs required under the consent.

Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document will be submitted to the Secretary for approval, unless otherwise agreed with the Secretary.

17 References

Tonkin Consulting (Tonkin) 2016. *Transport Assessment* presented as Part 4 of the Specialist Consultant Studies Compendium.

APPENDIX 1 – ROAD TRANSPORT PROTOCOL (INCORPORATING A DRIVER’S CODE OF CONDUCT)



ROAD TRANSPORT PROTOCOL (RTP)



ORE HAULAGE

NORTHERN OPERATIONS TO SOUTHERN OPERATIONS

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1.1 Road Transport Protocol

This Road Transport Protocol (RTP) deals with trucks engaged in product haulage from Perilya Potosi Mine and Perilya North Mine to Perilya Southern Operations.

1.2 Compliance with Designated Haulage Routes

Drivers are instructed that no deviation from designated haulage routes will be tolerated unless exceptional circumstances have arisen and directions by the Police, RMS, Local Council or other statutory body to deviate has been given. Any such deviation must be reported to your supervisor immediately.

At no time is it permitted for drivers to park whilst loaded and en route between Potosi & the North Mine and Southern Operations. In the event of breakdowns or forced stoppage, drivers should contact their supervisor, make radio communication to notify co-workers, turn on their hazard lights and place hazard triangles alongside the vehicle. Drivers are not permitted to leave the site of the breakdown until a designated CMC representative has arrived and can provide further instruction and / or direction. As a minimum, a hazard report is to be completed relating to this situation.

As part of training and inductions, drivers will be provided with a map and description of designated routes.

Drivers are to refer to the route map attached to this protocol and listed as "Appendix 1"

1.3 Nominated Contacts

The client (Perilya) will nominate a person to liaise with the nominated representative of CMC to ensure regulatory obligations are adhered to.

1.4 Routine Hauling

Truck configurations shall not exceed 30m in length and the number of trucks employed in product haulage, will vary during the day. For both Potosi and North Mine, a maximum of 4 vehicle movements per hour may occur from each location. Ore trucks from each site should have a minimum period of 10 minutes between departures. This will ensure that the restrictions placed on truck movements are met.

Daily haulage of product should not exceed the maximum number vehicle movements from each site as per below table.

Potosi Mine	48 movements per day
North Mine	32 movements per day

Hours of operation for ore haulage is to be undertaken strictly as per table below:

Potosi Mine	7am and 7pm
North Mine	8am and 6pm

At all times drivers are to abide by all posted speed limits, sign posts and road rules, Failure to do so may result in fines being issued by regulatory authorities as well as disciplinary action being taken by CMC.

All drivers are to limit the use of engine brakes and other noisy driving practices in built up areas and trucks will be fitted with air bag suspension to reduce the noise generated during haulage operations.

In the event that any incident occurs during ore haulage, drivers are to notify their Supervisor immediately so that the situation can be investigated.

1.5 Intersections

Haulage vehicles are to be fitted with a UHF communication system that allows the drivers to communicate with the relevant project site and other trucks. UHF Radio communications are to be made prior to reaching Iodide Street, this is to ensure that ore haulage trucks do not pass each other on or between the following intersections:

- Argent St and Iodide St
- Crystal St and Iodide St

At the top of “South Hill” drivers are to turn on their right indicator to signify that they will be moving into the right hand turning lane in order to access Gypsum St, where the entrance to Southern Operations is located. General road rules apply at all times during this process. Drivers are to be mindful of the length of their configurations and position themselves accordingly so as to not pose any hazards to traffic that may be behind them.

Exiting Southern and Potosi/ Northern Operations – all drivers are to use caution and ensure that they have a clear line of sight of any oncoming traffic. Drivers are also instructed to treat the “Give Way” signs at the intersections leaving these sites as “Stop” signs and to enter the intersections cautiously so as not to impact on normal traffic flow through these areas.

1.6 Vehicle / Pedestrian Interaction

Drivers must exercise situational awareness when travelling in and around the CBD area, approaching pedestrian crossings, passing cyclists and or during times when pedestrian traffic and or road traffic may be heavier than normal.

Extreme caution should be taken around school hours

7.45am to 9.00am

2.30pm to 4.30pm.

Drivers are to strictly comply with the 40km/hour speed limit around school buses with flashing lights as children may behave in an unpredictable manner getting on or off buses.

1.7 Truck Loading

All haulage vehicle axle loadings must comply with RMS requirements – no overloading will be tolerated. Similarly, loads must be covered according to RMS requirements to prevent spillage and dust generation during transit.

1.8 Departure Procedures

All trucks are required to go through the wheel wash systems located at the exit from each mine site. If these facilities are inoperable drivers must report this and use hoses provided to manually wash their truck and trailer wheels.

Inspections of the truck, trailers, load coverings and between dual wheels are to be made before leaving site to ensure that there is no loose material that maybe dislodged whilst in transit, posing a hazard or resulting in an accident or incident. The driver is also required to confirm with the loader operator that the trailer covers are fully closed before departing the ROM.

1.9 Contingency Plan

To cater for the unlikely possibility that there is a significant disruption to the normal haulage route, CMC has formulated a contingency plan. The contingency plan has two levels.

Level 1 is a disruption which is expected to be of up to 24 hours. The contingency plan for this level is to cease product haulage until the designated route has returned to serviceability. Consultation with Perilya will also occur at this point.

Level 2 is an extension of Level 1 where the disruption exceeds 24 hours. The contingency plan for this level is to liaise with the RMS or local government authority with a view to using an alternative haulage route so that some level of production can be maintained. CMC would implement any agreed traffic management measures prior to commencing haulage via the alternative route.

An alternative route is attached to this protocol and listed as "Appendix 2".
This route may only be used after successful consultation and approval by Perilya, who will ensure approval from all applicable stakeholders.

1.10 Environmental Considerations

Drivers will operate to the manufacturers OEM in order to reduce the noise generated by the application of the braking systems.

Trucks will also be cleaned at the end of the shift to prevent buildup of materials that could lead to dust dispersal for the duration of the contract.

There is also the potential for wildlife to be hit whilst in transit between the Potosi and Southern Operations. Drivers are to drive cautiously through areas of open road but must not swerve to avoid wildlife as this has the potential to cause accident and injury to themselves as well as other road users. If the drivers does hit an animal they are to report this to their Supervisor as soon as practical so that this situation can be addressed as soon as possible. Additionally, if drivers notice any dead animals on the road or close proximity to the road, they are to notify their Supervisor so that correct clean up procedures can be implemented.

1.11 Specific Nth Mine Requirements

Whilst in the Nth Mine ROM, the following PPE requirements apply;

Dust Masks

Transient Workers

Mobile equipment operators in and out of the shed if they leave their cabins

Operators / Staff who are in the shed for short periods. Inspections etc

Respirators

Operators / workers doing prolonged activities in the shed

Mobile equipment with Air-Conditioned cabins operating in the ROM shed

No mask required whilst in cabin

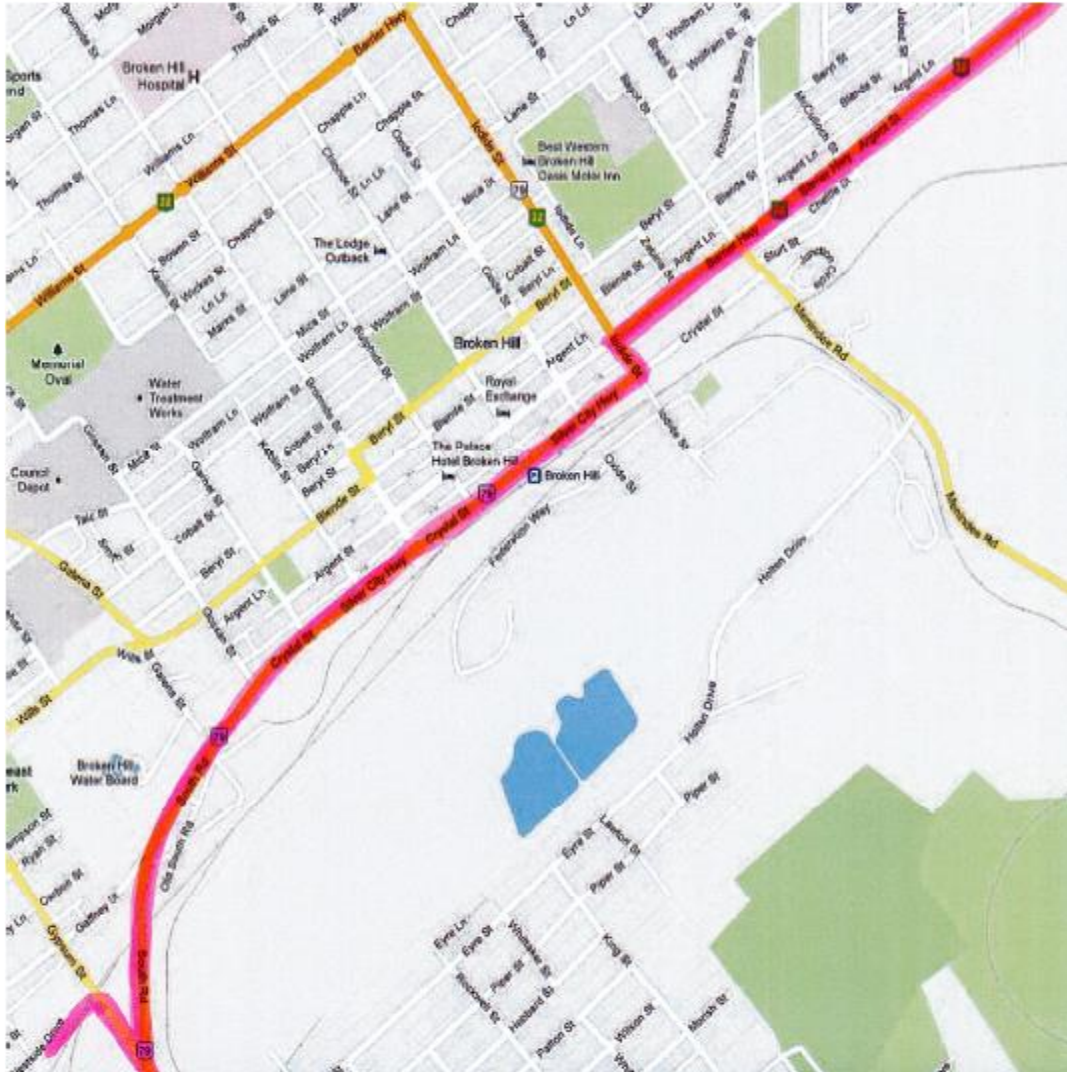
Operator to wear mask if out of the cabin whilst conducting extended activities in the ROM shed

1.12 Failure to Comply with the Transport Protocol

Failure to comply with the Transport Protocol will result in disciplinary action being taken against the driver. The severity of the disciplinary action will be determined by the identified breach of protocol after investigations have been completed.

APPENDIX 1

HAULAGE ROUTE



APPENDIX 2

ALTERNATE ROUTE – TO BE USED ONLY UPON APPROVAL BY STAKEHOLDERS



CONSOLIDATED MINING & CIVIL CONTACT LIST

CMC Main Office P: (08) 8088 2688

Randall Crozier – CMC Civil Supervisor 0437 501 678
ransall@conmc.net.au

Steve Radford – Managing Director 0418 858 052
steve@conmc.net.au

Charisse Jones – Group Executive Manager
charisse@conmc.net.au

CMC TRANSPORT PROTOCOL THEORY ASSESSMENT			
EMPLOYEE NAME			
EMPLOYEE SIGNATURE		DATE	
TRAINER NAME			
TRAINER SIGNATURE		DATE	

1. Are you permitted to stop whilst loaded along the designated haulage route?

2. What must you do if you were to breakdown along the haulage route?

3. What are the approved haulage hours from the North Mine?

4. Are ore trucks permitted to pass in the Iodide St section of the haulage route? Y / N

5. What is the minimum time between ore haulage departures from either site?

6. What must be checked prior to leaving each site and why?

7. What is the result of failing to comply with this protocol?

DRIVER ACKNOWLEDGEMENT

I, the undersigned, agree to abide by the Consolidated Mining & Civil Transport Protocol and associated rules and regulations for haulage operations as stipulated by governing bodies / agencies and clients alike.

I have received adequate training in this procedure, possess the required qualifications and am committed to safe, efficient production techniques.

I will complete all required documentation as part of my employment and present this to my Supervisor at the end of my shift or as soon as reasonably practicable.

In the event that I am unsure of my instructions or directions, I will contact my Supervisor to seek clarification before continuing.

EMPLOYEE NAME			
EMPLOYEE SIGNATURE		DATE	

WITNESS NAME			
WITNESS SIGNATURE		DATE	

APPENDIX 2 – POST-APPROVAL REVIEW

Our ref: SSD-7538-PA-39

Geoff Hender
Deputy General Manager
PERILYA BROKEN HILL LIMITED
Wentworth Road
Broken Hill New South Wales 2880

06/02/2024

Broken Hill North Mine - Transport Management Plan

Dear Mr. Hender

Reference is made to your post approval matter, SSD-7538-PA-39, Transport Management Plan, submitted as required by Schedule 3, Condition 27 of Broken Hill North Mine (SSD-7538-PA-39) as modified (the consent) to the NSW Department of Planning, Housing and Infrastructure (NSW Planning) on 23 January 2024.

NSW Planning has reviewed the Transport Management Plan and considers more information is required to satisfy the condition of consent. Please provide an amended Transport Management Plan addressing the comments attached in the review table by 22 February 2024 (or as otherwise agreed by the Planning Secretary).

Should you wish to discuss the matter further, please contact Charissa Pillay, (Senior Planner) on 02 99955944 or email charissa.pillay@planning.nsw.gov.au

Yours sincerely



Stephen O'Donoghue
Director
Resource Assessments
As nominee of the Planning Secretary

BROKEN HILL NORTH PROJECT
Post Approval Review



Document: Transport Management Plan
Revision: F.3, June 2022
Reviewer: Emily Murray, 19 July 2022
Reviewer: Charissa Pillay 22 September 2023
Charissa Pillay 1 February 2024

Condition 27, Schedule 3	Satisfactory (Yes/No/Partial)	Document reference and comment	Action Required	
26A. Prior to transferring employees/ contractors from the Potosi Mine to the development, undertake an assessment of traffic impacts from additional employees/ contractors at the development site from the Potosi Mine including, if required, proposed mitigation measures and timeframes to achieve the measures, in consultation with TfNSW and to the satisfaction of the Secretary.	No	Provide updated feedback from TfNSW following the approval of Modification 2 and modification 3. Section 3 provides limited and past correspondence from TfNSW.	Expediate consultation with TfNSW and confirm is the requirements of condition 26A have been addressed.	
Prior to commencing mining operations, unless the Secretary agrees otherwise, the Applicant must prepare a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must:				
(a) be prepared in consultation with TfNSW and Council;	No	Section 3, details of previous consultation removed. Applicant tried consulting with Broken Hill City Council and Transport for NSW and received no response.	Reinstate previous consultation and add the additional consultation.	
(b) include a: • driver's code of conduct for the development; and • traffic management system for managing over-dimensional vehicles;	Partial	Appendix 1 – Road Transport Protocol and code of conduct. Last revised 2019. PPE doesn't include face masks (for covid), not sure if the company is/isn't implementing this or that it's needed (would be up to their policy) but it seems like something that would have happened in the last few years.	Driver's code of conduct could use a review to ensure it is still for purpose.	Closed

BROKEN HILL NORTH PROJECT
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(c) describe the measures that would be implemented to ensure: • compliance with the operating conditions in this consent; • drivers are aware of potential safety issues along the haulage route; and • drivers of development-related vehicles comply with the driver's code of conduct;	Yes	Section 12.2 – refers to compliance and reporting and not measures to be implemented to ensure compliance with the operating conditions – should refer to Table's 5 and 6. Other dot points refer to Section 9.1 and the Appendix so if you group the referencing together this does link to Tables 5 and 6. Includes measures for drivers development to comply with code of conduct.		
(d) include detailed plans and implementation schedules for the road upgrades specified in Table 5, including funding arrangements for the upgrade of the Argent Street/Iodide Street and Iodide Street/Crystal Street intersections;	Partial	Section 9.2 – provides details that works are expected to be completed by 30 June 2019.	Provide update on road upgrade measures as it is three years past this expected conclusion date.	Section 9.2 updated. Closed
(e) include a protocol for undertaking road maintenance of the relevant section of Gypsum Street (identified in the terms of the VPA detailed in Appendix 3);	Yes	Section 9.3 – provides details of protocols for undertaking maintenance of Gypsum Street between applicant and Council.		
(f) include a program to monitor and report on the Applicant's cumulative ore laden truck movements from the site and Potosi Mine to South Mine; and	Partial	Section 12.2 – compliance review – provides details of monthly data capture and reporting including for transportation from the Potosi and North Mine. Doesn't include details of South Mine.	Add details of South Mine.	Section 12.2 updated Closed
(g) include a program to monitor and report on the effectiveness of the implementation of the measures in this plan and compliance with the operating conditions.	Yes	Section 12.2 – compliance review – includes details of how non-compliance reporting would be dealt with.		

BROKEN HILL NORTH PROJECT
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28. The Applicant must implement the approved Transport Management Plan for the development.	Yes	Applicant notes requirement.		
RMS should be TfNSW				