YTC RESOURCES LIMITED

Hera Project, via Nymagee

Traffic Assessment

Prepared by

Traffic Solutions Pty Ltd

September 2011

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Traffic Assessment

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1. INTRODUCTION

This report has been prepared to accompany an application to the NSW Department of Planning (DoP) for a proposed mine within the 'The Peak' property located approximately 4 km south of Nymagee on Burthong Road and described as Lot 664 DP 761702. The lease on the 'Peak' property is held by YTC Resources Limited under Western Lands Lease No. WLL2455. The Project Site, described as the area that encompasses Project-related disturbance, is located wholly within the 'Peak' property (**Figure 1**).

The existing entrance to the "The Peak" property is located on the Burthong Road approximately 4 km south of the Cobar-Nymagee Road, Nymagee.

YTC Resources Limited (the Proponent) is proposing to extract and process on site up to 350,000 tonnes per year and transport an average of approximately 50,000 tonnes (t) of the bulk concentrate per year.

The operation will employ approximately up to 94 full-time personnel operating over 24 hours a day, 7 days a week.

The Project is a major project and as such requires the preparation of an *Environmental Assessment* to be submitted to the DoP. The Traffic requirements, encapsulated in the Director-General's requirements that need to be addressed in the *Environmental Assessment* are as follows. A copy of the DoP's letter, dated 24 November 2011, is attached as **Appendix A** of this report

> ***"Traffic** – including a detailed description of the measures that would be implemented during construction and operation to minimise impacts on Burthong Road, Cobar-Condobolin Road, Hermidale-Nymagee Road and Kidman Way."*

The Roads and Traffic Authority's requirements are noted in a letter from them attached in **Appendix A** of this report while the requirements of the Cobar Shire Council are reproduced below.

Cobar Shire Council advised of the following requirements relating to traffic:

> *"The traffic impacts from the development, including the suitability of existing road network to service the development and increased maintenance that may be required to Councils road network."*

To that end, this document examines the implications of the Project and will assess the following.

1. Potential traffic generation.
2. Impacts of the estimated traffic generation on the existing road network.
3. Proposed truck access driveway location and suitability.
4. Proposed external transport routes.

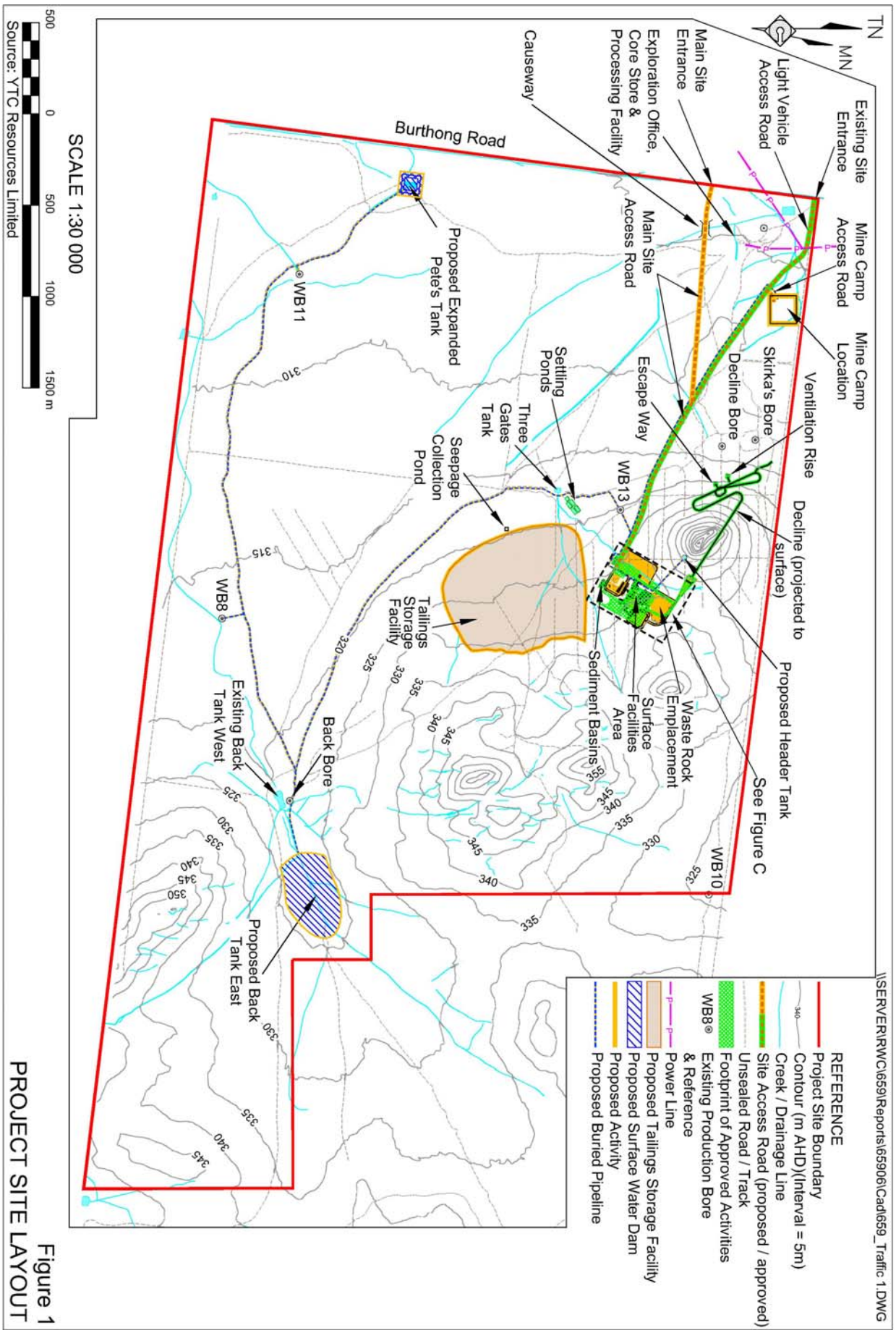


Figure 1
PROJECT SITE LAYOUT

2. PROPOSED DEVELOPMENT

2.1 The Project Site

The Project Site is located within the "The Peak" property described as Lot 664, DP 761702 off Burthong Road, Nymagee and comprises a total area of 1,532 ha (**Figure 1**).

2.2 Project Overview

As identified in Section 1.7 of the *Environmental Assessment*, a number of components of the Hera Project have been previously approved. These include the following (**Figure 1**).

- Construction and use of infrastructure required for an underground mine including a box cut, portal and decline, magazine and ventilation rises.
- Construction and use an integrated ore stockpile area and temporary Waste Rock Emplacement.
- Installation and use of one or more diesel generators within the power station and the associated Fuel Storage and Recycling Area.
- Construction and use of site offices, ablutions facilities, vehicle parking, workshop, laydown area and associated infrastructure.
- Establishment of on-site communications facilities.
- Construction and use of water management structures.
- Construction and use of an access road (referred to in this document as the Light Vehicle Access Road). For the purposes of this application, the Light Vehicle Access Road would be used by light vehicles only.

The Project would include the following activities which would require approval (**Figure 1**).

- Extraction of waste rock and ore material, using underground sublevel open-stope mining methods at the maximum rate of material would be approximately 350 000t per year for approximately 5.5 years.
- Construction and use of a Surface Facilities Area that would incorporate a range of approved infrastructure, including expanded site offices for the Proponent and Contractors, ablutions facilities, vehicle parking, power station, fuel storage, refuelling area, workshop and laydown areas.
- Construction and use of a Processing Plant within the Surface Facilities Area comprising crushing and grinding, gravity separation, flotation, leach and gold recovery circuits and ancillary infrastructure to produce approximately 33 000oz of gold, 74 000oz of silver, 10 000t of lead and 10 000t of zinc per year.
- Construction and use of a temporary Waste Rock Emplacement, incorporating an acid rock drainage encapsulation area and an associated Leachate Management Pond.
- Construction and use of a Tailings Storage Facility with the associated Seepage Collection Pond.
- Construction of a Mine Camp and Mine Camp Access Road for mine personnel.

- Construction and use of a surface water harvesting system, including expansion of Pete's Tank and construction of Back Tank East and associated water reticulation system.
- Construction and use of the Main Site Access Road and the associated intersection to allow site access from Burthong Road by light and heavy vehicles.
- Transportation of concentrate from the Project Site to the Proponent's customers via public roads surrounding the Project Site.
- Construction and use of ancillary infrastructure, including soil stockpiles, core storage yards, internal roads and tracks, and sediment and erosion management structures not already approved.
- Construction and rehabilitation of a final landform that would be geotechnically stable and suitable for an end land use of agriculture or nature conservation.

This report mainly deals with the external impacts to the surrounding road system from employees and delivery vehicles plus the transportation of bulk concentrate from the subject site.

Table 2.1 provides the proposed hours of operation for site activities. Transportation of concentrate will be undertaken between the hours of 7.00 am – 10.00 pm.

Table 2.1
Proposed Hours of Operation

Activity	Proposed Days of Operation	Proposed Hours of Operation
Vegetation clearing and topsoil stripping	7 days a week, during each campaign	7.00 am – 6.00 pm
Construction operations – Box cut	7 days a week	7.00 am – 6.00 pm
Construction operations – Remainder	7 days a week	24 hours per day
Underground mining operations	7 days a week	24 hours per day
Maintenance operations	7 days a week	24 hours per day
Processing operations	7 days a week	24 hours per day
Product Transportation operations	7 days a week	7:00 am to 10.00 pm
Rehabilitation operations	7 days a week	7:00 am to 6.00 pm
Source: YTC Resources Limited		

The Project would employ up to approximately 100 equivalent full time personnel for the duration of the Project. The life of the mine is expected to be approximately 7 years.

The Project includes establishment of a 72-bed Mine Camp for mine personnel. . The Mine Camp is proposed in lieu of a regular commuter bus service between the Project Site and Cobar.

The two 12-hour shift times will be 7.00 am – 7.00 pm and 7.00 am – 7.00 pm on a rotational basis with:

- 2 weeks on / 1 week off for contract employees and
- 9 days on and 5 days off for the Proponent's employees.

Traffic types associated with the Project would include the following:

- Light vehicles – including passenger vehicles and light trucks and buses. It is noted that the Proponent is providing a 60 bed Mine Camp during the operational stage of the Project:
  - to reduce the number of employees and contractors travelling to/from the Project Site;
  - to minimise safety risks associated with fatigue; and
  - to reduce Project-related traffic levels.
- Heavy vehicles – including rigid trucks, semi-trailers and B-Doubles and or road trains delivering consumables and supplies to the Project Site and transporting the bulk concentrate to the Proponent's customers.
- Oversize and overweight vehicles – delivering components of the processing plant and mobile fleet, primarily during site establishment and construction phase of the Project. The Proponent would ensure that all oversize and overweight vehicles would operate under the appropriate permits and approvals and would be appropriately escorted, when required.

Table 2.2 presents the anticipated vehicle movements during the construction and operation stages of the Project.

Table 2.2
Anticipated Vehicle Movements

Vehicle Type	**Anticipated 85th Percentile Daily Movements[1]**
Site Establishment and Construction Phase	
Light Vehicles	60
Heavy Vehicles[2]	10
Oversize/Over Weight Vehicles[3]	4
Operational Phase	
Light Vehicles	30
Heavy Vehicles[2]	12
Oversize/Over Weight Vehicles[3]	0
Note 1: One return trip = two movements Note 2: Includes semi-trailers and B-Double trucks and road trains Note 3: The Proponent would ensure that oversize and overweight vehicles would have the appropriate permits and approvals and would be appropriately escorted, when required	
Source: YTC Resources Limited	

The total estimated daily vehicle trips that would be generated by the Project is in the order of 74 daily vehicle trips (60 light and 14 heavy) during the site establishment and construction phase, which is considerably higher than the operational phase which is expected to generate 30 light vehicles and six heavy vehicles per day (see **Table 2.2**).

Transportation of the bulk concentrate product from the Project Site would be by road-registered articulated, semi-trailer or B-Double vehicles which have a maximum payload of up to 30 t and 42 t respectively, depending on the vehicle construction characteristics. (Source http://www.rta.nsw.gov.au/heavyvehicles/iap/triples.html)

Given these payloads and the proposal to transport 50,000 tonne of bulk concentrate per year and assuming the following:

1. Working days concentrate is transported from 7.00 am – 10.00 pm (i.e. 15 hours)
2. Transport of concentrate occurring 7 days a week.
3. 52 working weeks a year.

the following average calculations can be made:

- Average tonnage per day is 50,000t/364 days= 137.4 tonne/day
- Average number of loads per day for articulated semi-trailer is 137.4 t / 30 t = 4.58 (9.2 trips)
- Average number of loads per day for B-double is 137.4 t / 42 t = 3.27 (6.5 trips)

Therefore the heavy vehicle trips per day estimated for the purpose of transporting the bulk concentrate from the Project Site to the Proponent's customers is in the range of 3 – 5 loads per day which is 6 – 10 trips per day.

Assuming that the majority of heavy vehicle movements to and from the Project Site occur between 7.00 am and 10.00 pm and the majority of light vehicles would be used by the Proponent's employee and contractor vehicles entering and leaving the site during shift changeover times (i.e. potential occurrence weekly / fortnightly, not daily) at 7.00 am and 7.00 pm **Table 2.3** presents the calculated peak hour traffic generation estimation.

Table 2.3
Calculated Peak Hour Traffic Generation

Time	Arrival	Departure
Prior to 7.00 am		1 heavy vehicle
After 7.00 am	30 light vehicles	30 light vehicles
Prior to 7.00 pm	30 light vehicles	1 heavy vehicle
After 7.00 pm		30 light vehicles

The Proponent anticipates that there would be two principal transportation routes to access the Project Site as follows (**Figure 2**).

- From the northwest, or southwest via Kidman Way, Priory Tank Road and Burthong Road.
- From the southeast via Nymagee-Condobolin Road, Milford Street, Harwood Street and Burthong Road.
- From the northeast via the Barrier Highway, Hermidale – Nymagee Road, Milford Street, Harwood Street and Burthong Road.

The Proponent anticipates that 90% of light and all heavy vehicles accessing the Project Site would do so from the north and west via Kidman Way, Cobar-Condobolin Road and Burthong Road.

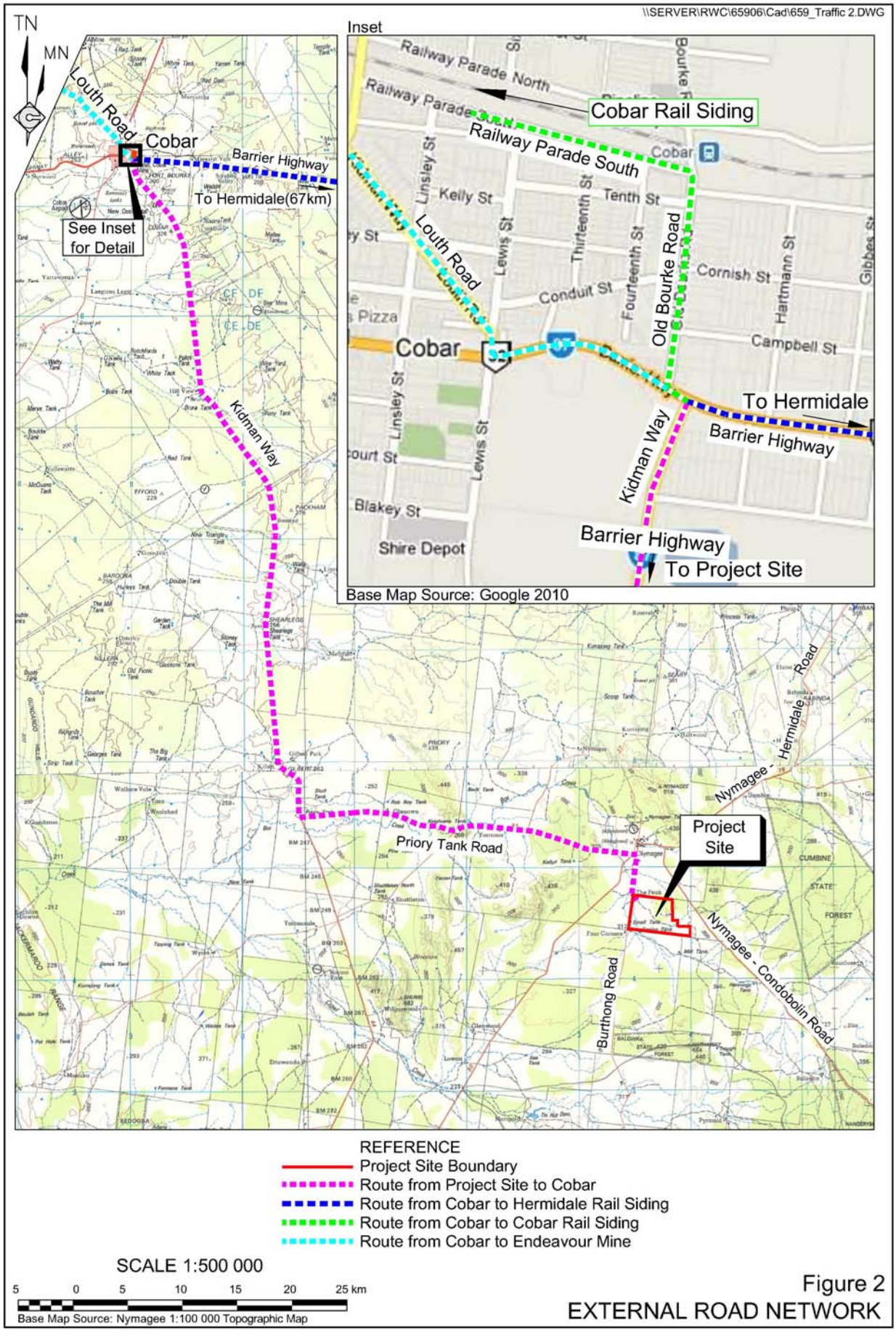


Figure 2
EXTERNAL ROAD NETWORK

It is recognised that employee's private (light) vehicles may access the Project Site from the northeast and east via the Hermidale – Nymagee Road, Milford Street and Burthong Road. However, the Proponent should actively discourage any heavy vehicles from using that road through contractual arrangements and a Driver's Code of Conduct. This should ensure only a limited number of light vehicles would use the Hermidale – Nymagee Road. In addition, the Proponent should require that all persons accessing the Project Site comply with restrictions on use of the Hermidale – Nymagee Road imposed by any conditions of consent.

An evaluation of the available heavy vehicle route options to/from the Project Site as part of the preliminary investigations for the Hera Project was undertaken by Traffic Solutions Pty Ltd in April 2010. The results of that assessment revealed that the Nymagee-Hermidale Road route was less suitable than the proposed heavy vehicle transportation route due to the 25 km of unsealed road and the impact upon residential properties at Nymagee and Hermidale. A copy of the assessment entitled "Heavy Vehicle Route Assessment" is attached as **Appendix B** of this report

3. EXISTING CONDITIONS

3.1 Road Hierarchy

The Roads and Traffic Authority (RTA) Schedule of Classified Roads and State and Regional Roads, dated 31st January 2011, provides the following classification of roads in the vicinity of the Project Site, of which state and main roads are the RTA's responsibility, whereas Regional Roads are under the Local Council's (Cobar Shire) care and control with funding assistance from the RTA.

Road Name	Classification
Kidman Way	Main Road No. 61
Nymagee – Hermidale Road	Regional Road No. 228
Priority Tank Road to Lachlan Shire Boundary	Regional Road No. 61
Nymagee – Gilgunnia Road	Regional Road 419
Nymagee – Burthong Road	Local Road

Cobar Shire Council has the road classifications as follows:

Road Name	Classification
Kidman Way	Main Road No. 410
Nymagee – Hermidale Road	Main Road No. 228
Priority Tank Road to Lachlan Shire Boundary	Main Road No. 461
Nymagee – Gilgunnia Road	Main Road No. 419
Nymagee – Burthong Road	Secondary Road No. 19

Figures 3 and **4** provides extracts from the RTA and Council Road Hierarchy plans.

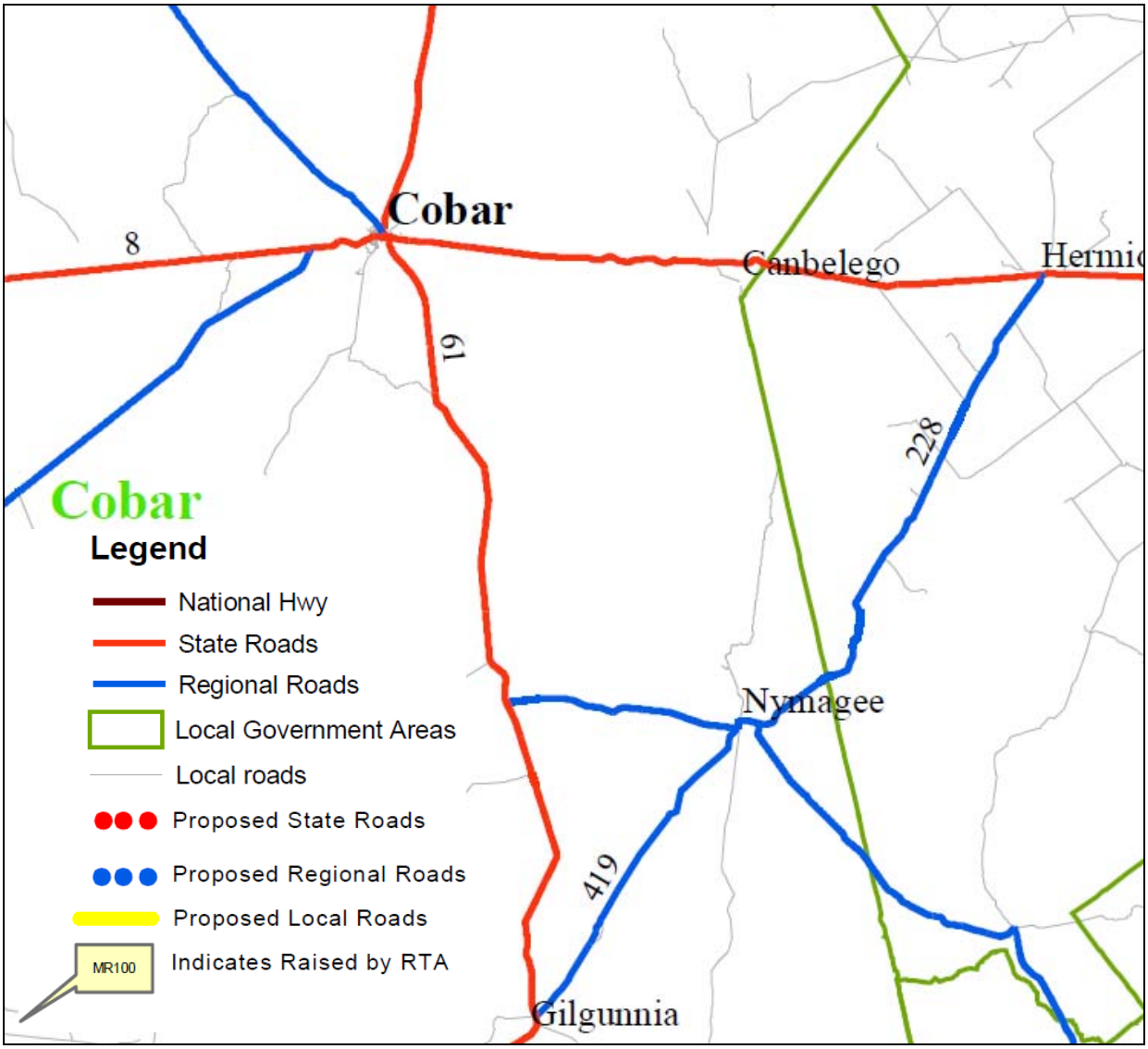


Figure 3 **Road Classification Review Proposals Submitted to the Panel Western Region**

The RTA is responsible for assessing and approving B-Double and Road Train Routes in NSW. A review of the RTA documentation that accompanies the Travel Route restrictions map reveals that road trains may be operated for the purpose of transporting any goods or livestock west of a line taken from the NSW/QLD border at Mungindi through Collarenebri, Walgett, Byrock, Nyngan, Cobar and Ivanhoe to the NSW/VIC border at Wentworth.

Figure 5 provides an extract of the existing Restricted Access Vehicle (RAV) Route maps for the general area surrounding the Project Site. The road train area is marked on the Road Train and B-double route maps.

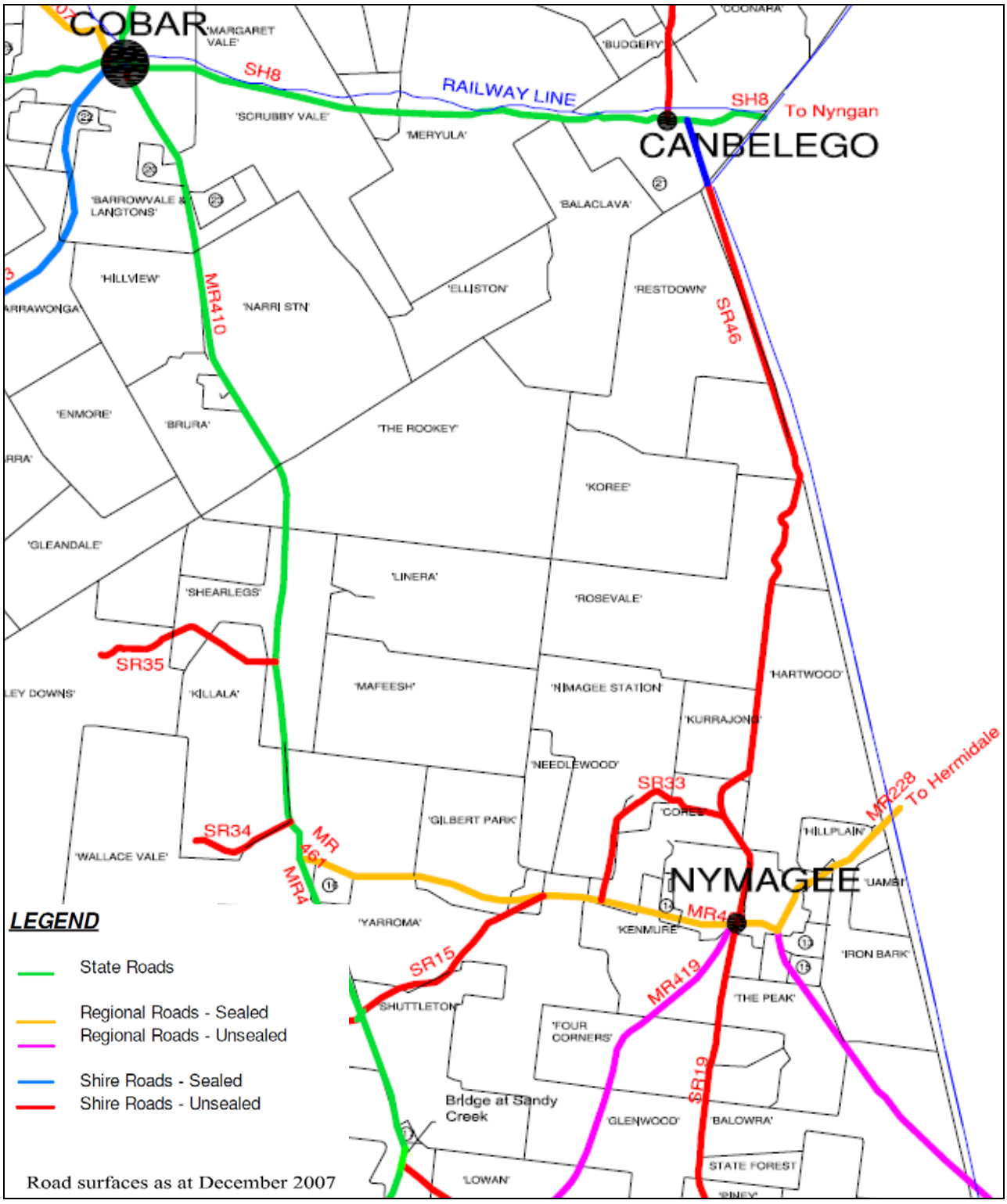


Figure 4 Cobar Council Road Classification/Surfaces Map 2007

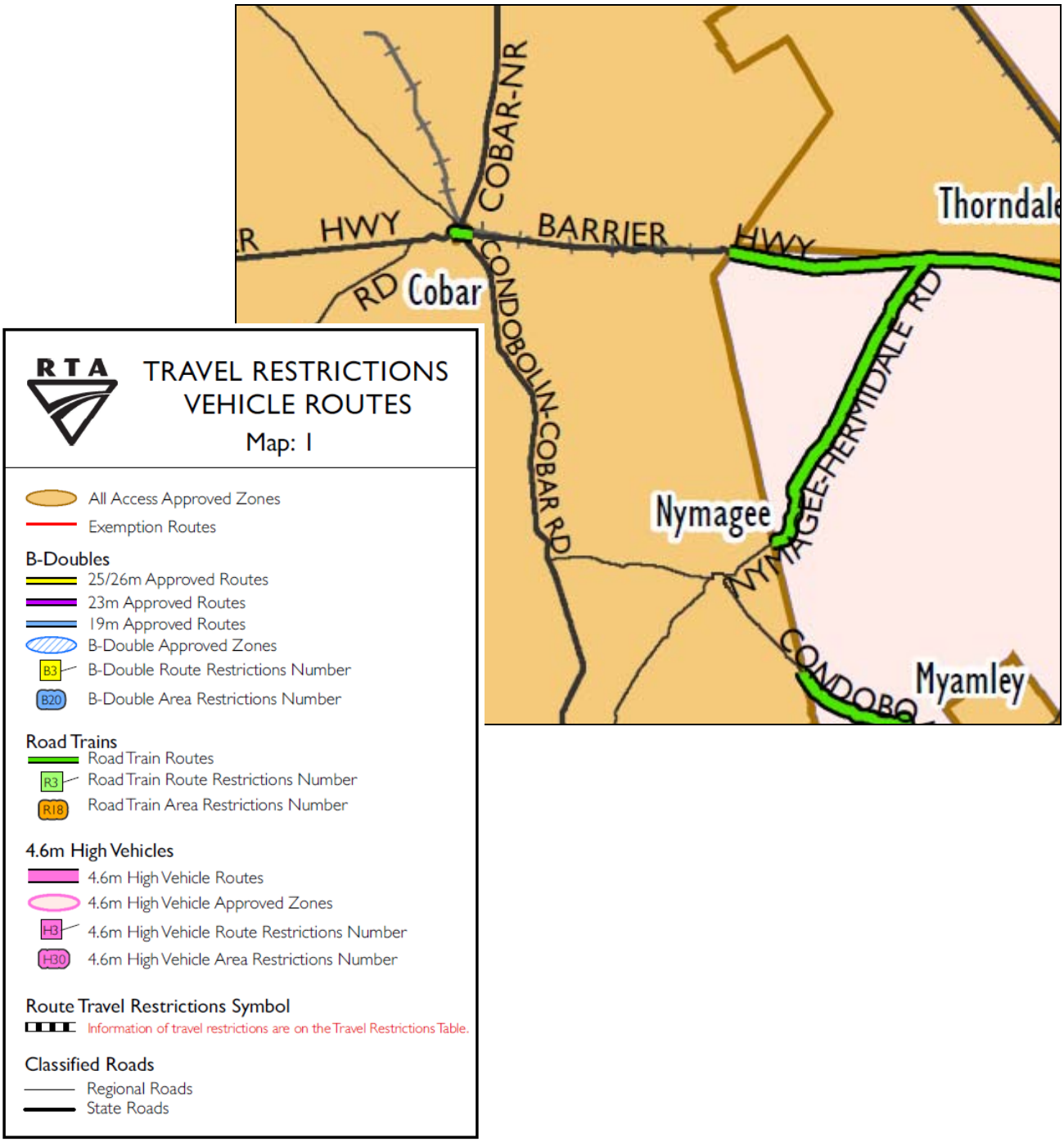


Figure 5 RTA Restricted Access Vehicle Map

The RTA documentation reveals urban areas of Cobar are excluded from road train use except on the following routes within Cobar.

- Barrier Hwy (Marshall St)
- Kidman Way from Nymagee road (MR61) and Bourke road (MR421)
- Lewis St (north of the Barrier Hwy) thence Louth Rd
- Barton St (north of the Barrier Hwy) thence Frederick St – Kidman Way

- Lewis St (south of Barrier Hwy) thence Blakey St – Woodiwiss St – Lerida St to the Cobar Airport turnoff
- Bathurst St (from Barrier Hwy) – Becker St – Monaghan St to access the Caltex Service Station
- Murray St (from Barrier Hwy) – Prince St – Bourke St to access the Mobil Service Station
- Murray St (from Barrier Hwy) – Becker St – Bourke St to access the Shell Service Station
- Murray St (from Barrier Hwy) to Woodiwiss Ave
- South Railway Parade (entire length)
- Old Bourke Road (entire length)
- All streets in the East Cobar Industrial Estate east of Old Bourke St

It is recommended that the Project use one of the above-noted routes for the transport of the bulk concentrate transportation through Cobar.

3.2 Traffic and Parking Controls

The main features of the existing traffic controls in the vicinity of the Project Site are as follows.

- Kidman Way is a sealed road with 110 km/h speed limit.
- Priority Tank Road to Lachlan Shire Boundary is a sealed road with 110 km/h speed limit.
- Nymagee – Hermidale Road is a part sealed road with 25 km of unsealed 100 km/h speed limit.
- Nymagee – Burthong Road is a sealed road with 100 km/h speed limit in the vicinity of the site and 50 km/h through Nymagee.

There are no restrictions on parking in the vicinity of the Project Site.

3.3 Existing Traffic Flows

An indication of the current traffic volumes in the vicinity of the Project Site is provided by the RTA's Annual Average Daily Traffic Data (AADT) 2005 for the Western Region. The RTA provides daily volume data for the following locations in the vicinity of the Project Site (**Table 3.1**).

The count sites on Kidman Way have been recorded by the RTA since 1992 and provide details of traffic volume trends at two locations – Kidman Way (8 km south of Cobar) and Kidman Way (north of Priority Tank – Lachlan Shire Boundary). The following provides details of traffic volumes at these locations (**Table 3.2**).

Table 3.1
RTA Annual Average Daily Traffic Data

Road	Location	AADT
Kidman Way	8 km south of Cobar	500 (2005)
Kidman Way	North of Priority Tank–Lachlan Shire Boundary Road	157 (2005)
Nymagee – Hermidale Road	2 km south of Barrier Hwy	56 (2005)
Priority Tank–Lachlan Shire Boundary Road	South of Nymagee-Hermidale Road	27 (1992)
Nymagee – Gilgunnia Road	South of Priority Tank–Lachlan Shire Boundary Rd	72 (1992)
Nymagee – Hermidale Road	East of Priority Tank – Lachlan Shire Boundary Road	28 (1992)

Table 3.2
Annual Average Daily Traffic Data – 1992 to 2005

	AADT				
	1992	**1996**	**1999**	**2002**	**2005**
Kidman Way (8 km south of Cobar)	237	170	232	287	500
Kidman Way (north of Priority Tank – Lachlan Shire Boundary)	83	107	209	251	157

This data reveals that traffic flows along Kidman Way fluctuate.

The RTA data does not provide classification or hourly information for the above sites. However, it is suggested that the peak hour flows along Kidman Way (south of Cobar) would be less than 50 vehicles per hour. It is also suggested that the daily flows along Burthong Road would be less than that on the Nymagee – Gilgunnia Road route being of the order of less than 5 vehicles per hour.

3.4 Midblock Roadway Capacity

With regards to the capacity of rural roads, the data from the RTA's 'Guide to Traffic Generating Developments' (Section 4.2.4, Table 4.5) is reproduced in **Table 3.3.**

The data presented in the table assumes the following criteria:

- Terrain level with 20% no overtaking.
- Rolling with 40% no overtaking.
- Mountainous with 60% no overtaking.
- 3.7 m traffic lane width with side clearances of at least 2 m.
- 60/40 directional split of traffic.

Table 3.3
Two way peak hour flow on two-way rural roads (vehicle/hour), 100 km/h

Terrain	Level of Service	Percentage of heavy vehicles			
		0	**5**	**10**	**15**
Level	B	630	590	560	530
	C	1030	970	920	870
	D	1630	1550	1480	1410
	E	2630	2500	2390	2290
Rolling	B	500	420	360	310
	C	920	760	650	570
	D	1370	1140	970	700
	E	2420	2000	1720	1510
Mountainous	B	340	230	180	150
	C	600	410	320	260
	D	1050	680	500	400
	E	2160	1400	1040	820

Using this table, the existing operation of all the roads in this area operate at a very good level of service 'A'

3.5 Existing Intersection Operation

Onsite observations reveal that all intersections along the route from Cobar to the Project Site operate at a very good level of service with no delays.

All of the intersections along the heavy vehicle transport route are sealed with 1-lane in each direction and no sealed shoulders.

4. KEY ISSUES

4.1 Vehicle Access and Parking

Vehicular access to the Project Site will be via an existing intersection and a proposed new intersection 500 m south of the existing intersection on Burthong Road. An already approved access road, referred to as the 'Light Vehicle Access Road' in **Figure 1**, will link the existing site intersection to the Main Site Access Road and will allow access to the Mine Camp via the proposed Mine Camp Access Road. The new intersection will be used by both heavy and light vehicles and will be the main entrance for access to the Surface Facilities Area and the underground development by all types of traffic. It will be a recommendation of this report that, for both intersections, a Basic left turn rural intersection treatment (BAL) be constructed in accordance with RTA's AUSTROADS guidelines and sealed for approximately 50 m into the Project Site along the respective access roads. A schematic of the recommended BAL intersection is shown in **Figure 6**.

A site inspection conducted in April 2010 had revealed that the existing intersection between Burthong Road and the existing site access road easily exceeds the Australian Standard requirements AS 2890.1 and 2 for the posted speed limit along Burthong Road. Notwithstanding this, the existing entrance should be upgraded as noted above, although the turning radii could be smaller than for the proposed new intersection given that this entrance will only be used for light vehicles. A sign-post to this effect should be erected at this entrance.

Neither the RTA guidelines nor Cobar Shire Council's "*Development Control Plans"* have any parking requirements applicable to this Project. Given the large area of the Project Site the Proponent should be able to provide sufficient car parking facilities within the Mine Camp location for up to 60 mine personnel plus visitors, and within the Surface Facilities Area (see **Figure 1**) for all other employees of the Proponent, contractors and visitors to the site. The two car parks within the Surface Facilities Area are of ample areas to be able to cater for the parking of day staff cars, buses and trucks as required.

4.2 Estimated Project-Related Traffic Generation

As described in Section 2 of this report, transportation of the bulk concentrate product will be conducted 7 days a week, generally between 7.00 am – 10.00 pm on a full-time basis. Assuming full-time production of up to 50,000 t of the bulk concentrate product will be transported from the site, and that only articulated vehicles are utilised (semi-trailers) a maximum of 5 loads per day (10 trips) on average will occur. This equates to less than 1 trip per hour.

During shift change-over times there is a potential of 61 peak hour vehicle trips to be generated at 7.00 am and 7.00 pm approximately every 2 weeks on a rotational basis.

However, during the site establishment and construction phase, the Proponent estimates approximately 74 daily vehicle trips will be generated or an average of 4.5 vehicle trips per hour.

4.3 Impact on Midblock Capacity

The estimated existing peak hour flows along Burthong Road would be less than 5 vehicles per hour, as already noted in Section 3.3.

The addition of approximately 4.5 additional peak-hour vehicle trips every hour during the site establishment and construction phase of the Project and approximately 61 additional peak-hour vehicle trips every 2 weeks during operations will not alter the existing operation level of service 'A' for the surrounding roads.

4.4 Impact upon Key Intersections

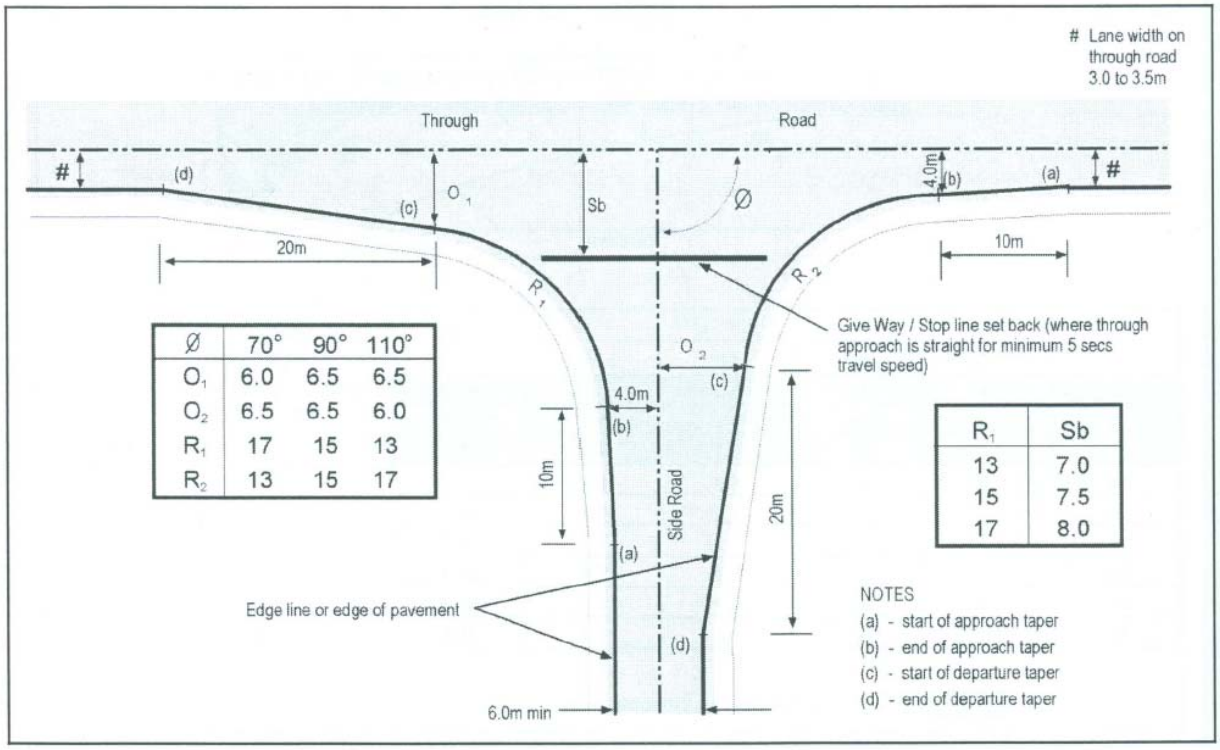
The intersections within the surrounding areas of the Project Site have ample available capacity to cater the addition of approximately 61 additional peak hour vehicle trips. The addition of this volume of vehicles will not alter the existing operation level of service 'A' for these intersections.

As noted above, the RTA's AUSROADS guidelines provide an indication of the minimum requirements for these types of intersections. The minimum intersection treatment for both the site access intersections on Burthong Road (the existing intersection and the proposed new intersection) should be a Type 'BAL' right turn treatment, the details of which are shown in shown in **Figure 6**.

It will be a recommendation of this report that the site access intersections on Burthong Road be constructed to this format.

4.5 Heavy Vehicle Site Access

As stated previously, the largest size vehicles expected to enter the Project Site are road trains. The ability for this size vehicle to travel along the intended heavy vehicle haulage route has been assessed in a separate assessment attached as **Appendix B**.



Ø	70°	90°	110°
O_1	6.0	6.5	6.5
O_2	6.5	6.5	6.0
R_1	17	15	13
R_2	13	15	17

R_1	Sb
13	7.0
15	7.5
17	8.0

Figure 6.24 — Details of Type BAL Layout for Rural Sites where Side Road AADT ≥ 50 and / or Specifically for Articulated Vehicles

Figure 6 RTA Type 'BAL' Intersection Configuration

The heavy vehicle haulage route assessment did not identify any impediments to these vehicles (i.e. road trains) operating on the proposed site intersections and the proposed Main Site Access Road. Consequently, the Project Site would be able to cater for all heavy vehicles of sizes up to 36 m articulated semi-trailers.

4.6 Product Transportation Routes

As part of the investigations for this proposal, this firm was requested to evaluate the available heavy vehicle route options to/from the subject site. The results of the assessment revealed that the Nymagee-Hermidale Road route was less suitable due to the 25 km of unsealed road and impact upon residential properties at Hermidale. A copy of the Heavy Vehicle Route Assessment is attached as **Appendix B** of this report.

The maximum expected heavy vehicle loads per day is 5 (10 trips). The proposed haulage routes are designated for road trains and the additional heavy vehicle traffic generated by the mine will not have an unacceptable impact upon the operation of the existing haulage routes.

5. CONCLUSIONS AND RECOMMENDATION

This traffic impact assessment, comprising the impacts of the traffic generated from the Hera Project on the road network surrounding the Project Site, has been undertaken to address the Director-General's requirements for the Project, and the requirements of the Cobar Shire Council and the NSW Roads and Traffic Authority (RTA). These requirements are listed in **Table 5.1**, and the section where each requirement is addressed is indicated alongside each requirement.

The traffic assessment conducted for the Project-related activities has revealed that:

- The Project Site size will have ample areas within the Mine Camp and Surface Facilities Area locations to accommodate all the Project-related vehicles that will enter the site.
- The existing very good Level of Service 'A' on the existing road system and the intersections surrounding the Project site will not change with the estimated additional Construction and Project-related traffic generation.
- It is recommended that the new proposed intersection on Burthong Road and the Main Site Access Road be designed and constructed as a type BAL intersection, in accordance with the RTA's AUSROADS guidelines, sufficient for use by 36 m road train vehicles to be used in the Project.

Table 5.1
Coverage of Requirements nominated by RTA and Cobar Shire Council

Page 1 of 4

Government Agency	Paraphrased Requirement	Response/Relevant Sections
	TRAFFIC AND TRANSPORTATION	
Cobar Shire Council	The traffic impacts from the development, including the suitability of existing road network to service the development and increased maintenance that may be required to Councils road network.	Section 4. Asset Management is not addressed in this assessment
RTA	RTA recommends that a Traffic Impact Study forms part of the *Environmental Assessment* and that the study addresses the following key issues: • Hours and days of construction and operation for each stage of the Project. • Onsite personnel: – number of employees, contractors and other service providers – number of shift workers for each shift and shift start and end hours – a number of non-shift workers and start and end hours. • Mine Camp: – maximum number of persons to be accommodated; – transport arrangements for residents.	Table 2.1 Section 2.2 Section 2.2

Table 5.1 (cont'd)
Coverage of Requirements nominated by RTA and Cobar Shire Council

Government Agency	Paraphrased Requirement	Response/Relevant Sections
	TRAFFIC AND TRANSPORTATION	
RTA	• For the construction, operation and decommissioning of the Project and for each class of vehicle (as described by the Austroads Vehicle Classification System): – Volumes; – peak periods, time of day and length of period; – origin and destination; – travel routes and the vehicle classes and volumes using each route.	Section 2.2
	• Parking arrangements: – in Cobar and Nymagee for employees and contractors using the commuter bus; – number and location of onsite parking spaces.	N/A on site camp provided. Section 4.1. N/A on site camp provided.
	• The proposed means of encouraging, or requiring, the use of commuter buses to the Project site by employees and contractors from Cobar and Nymagee for both the construction and operation. The RTA suggests the proposed use of commuter buses should be included as an objective for achieving a safe and healthy working environment.	Table 2.2
	• The number a type of oversize and overmass vehicles and loads expected for the construction, operation and decommissioning of the Project.	Figure 2
	• That the shortest and least trafficked route has been given priority for the movement of construction materials, machinery and product transport to minimize the risk and impact to other motorists so far as is reasonably practicable.	Sections 2.2
	• That accesses to and intersection of the public road network have been minimized by careful route selection and utilization of existing accesses as far as is reasonably practicable.	Section 4.1
	• The impact of Project traffic on the adjacent road network and any other nearby major developments including a description of the existing design and any proposed improvements to the intersection of the: – two site accesses and Burthong Road – Condobolin – Cobar Road (MR461) and the Kidman Way (MR410) – Kidman Way (MR410 and the Barrier Highway (HW8) – Old Bourke Road and the Barrier Highway (HW8) – Cobar – Louth Road (MR407) and the Bourke – Cobar Road (MR421) – Lewis Street (MR421) and the Barrier Highway (HW8) – access to the Hermidale rail siding and the Barrier Highway (HW8)	Section 4 Section 4.1
	• Proposed access treatments should be identified and be in accordance with the *Austroads Guide to Road Design* and any relevant RTA *Supplements to Austroads Guides.*	

Table 5.1 (cont'd)
Coverage of Requirements nominated by RTA and Cobar Shire Council

Government Agency	Paraphrased Requirement	Response/Relevant Sections
	TRAFFIC AND TRANSPORTATION	
RTA	• The proposed mitigating measures to address Project related traffic generation.	Sections 4.
	• The proposed means of ensuring that Project-heavy vehicle traffic does not use the Nymagee – Hermidale Road (MR228). Should it be determined that this route may, or is likely to, be used by Project-related heavy vehicles the Proponent should enter a contribution agreement with the roads authorities (Cobar Shire Council and Bogan Shire Council) for the maintenance of that Road.	Section 2.2
	• The unloading and loading of transport and service vehicles particularly addressing the issue of oversize and overmass vehicles.	Section 2.
	• Local climate conditions that may affect road safety for Project related traffic (e.g. fog, ice, flood).	
	The RTA also notes for your information the following matters to be addressed when transporting oversize and overmass loads:	
	• Transport of components (oversize and overmass loads).	Table 2.2 – Applications will be made for oversize or overmass vehicles as required.
	– Transportation of oversize components via the public road system should be minimised where possible. Alternative transport options including rail transport should be considered.	
	– The Proponent will be required to obtain permits for any oversize and overmass vehicles and loads.	
	– The Proponent will be required to submit detailed Traffic Management Plans indicating the proposed routes and associated impacts (temporary street closures, removal and replacement of road infrastructure, etc) which will be required in order for the necessary materials and machinery to be delivered to site. Traffic Management Plans are also to include assessment of how high risk locations that prevent safe two-way passage of traffic are to be negotiated. It is essential that the Proponent is accountable for this process rather than the haulage contractor.	
	– If any parts of the proposed route are unable to cater for the transport of components the Proponent is required to improve any part of the road along the route so that it can cater for the length, size and volume of loads. This may include the Proponent constructing stopping bays (suitable hard stand areas) at distances and dimensions determined by the RTA. These areas would be required along the proposed route to allow the following vehicle queue to pass.	
	– The RTA requires that any disturbances to traffic lanes, shoulder, verge or otherwise within the road reserve be reinstated to the pre-existing or better condition. This includes any impact on the road pavement, culverts, bridges, causeways, stock grids, signage and traffic islands.	

Table 5.1 (cont'd)
Coverage of Requirements nominated by RTA and Cobar Shire Council

Government Agency	Paraphrased Requirement	Response/Relevant Sections
TRAFFIC AND TRANSPORTATION		
RTA	– A full and independent risk analysis and inspection of the transport route will be required and the RTA supplied with the report. Further analysis and reporting to assess possible damage to and repair of the route will be required on a regular basis. – Vehicles transporting loads will not be permitted to travel in convoys or platoons. – Queues of vehicles behind slow moving large loads increase the risk of rear end crashes when queues become excessive. A queue of three heavy vehicles or 15 light vehicles is that which would be required to be cleared to prevent the risk of rear-end crashes and risky overtaking manoeuvres. – Consideration should be given for the best time of day to minimise traffic impacts. This will require the Proponent to liaise with the RTA Special Permits Unit. Overnight transport is not normally allowed under a Special Permit. – The Proponent may be required to liaise with other State transport authorities should the origin of materials and machinery to be transported be outside of New South Wales. If this is the case the requirements of those other authorities are to be communicated to the RTA for co-ordination. – The requirements outlined in the RTA publication Operating Conditions: specific permits for oversize and overmass vehicles and loads and will need to be followed. This publication is available online at www.rta.nsw.gov.au/heavyvehicles/oversizeovermass.	Table 2.2 – Applications will be made for oversize or overmass vehicles as required.
	• A Traffic Management Plan will need to be prepared to manage the additional traffic generated by the development during the construction (and decommissioning) stages. The Traffic Management Plan will address the management of accesses to classified roads including: – unsealed shoulder widening which will need to be undertaken for the right turn lane and left turn lane into access points. Design plans including the geometric road design and pavement design will need to be submitted to the RTA for approval. Following the completion of construction works the Proponent will be required to rehabilitate the shoulders to the satisfaction of the RTA. The layout and pavement design of the accesses will be required to cater for all oversize and overmass vehicles and loads. – The clearing and maintenance of vegetation for the duration of construction to provide safe intersection site distance in accordance with the *Austroads Guide to Road Design* at all accesses. – The RTA will require a commitment from the Proponent to provide funding for the maintenance and repair of any affected classified roads for the duration of transportation of oversize and overmass vehicles and loads to the satisfaction of the RTA.	Not available. Considered to be required as a condition of consent

Appendices

Total number of pages including blank pages = 18

Appendix A Copy of DoP & RTA Letters

Appendix B Heavy Vehicle Route Assessment

(Number of pages including blank pages = 40)

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Appendix A

Copy of DoP and RTA Letters

(Number of pages including blank pages = 12)

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NSW GOVERNMENT | Planning

Mining & Industry Projects
Contact George Mobayed
Phone: 9228 6467
Fax: 9228 6466
Email: george.mobayed@planning.nsw.gov.au

Mr Rimas Kairaitis
Chief Executive Officer
YTC Resources Limited
2 Corporation Place
ORANGE NSW 2800

Dear Mr Kairaitis

Hera Project (10_0191)
Director-General's Requirements

I refer to your application for the above Project.

I have attached a copy of the Director-General's requirements for the project. These requirements have been prepared in consultation with the relevant agencies and are based on the information your company has provided to date. I have also attached a copy of the agencies' comments for your information.

Please note that the Director-General may alter these requirements at any time.

If your proposal is likely to have a significant impact on matters of National Environmental Significance, it will require an approval under the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation. It is your responsibility to contact the Department of Sustainability, Environment, Water, Population and Communities in Canberra (6274 1111 or http://www.environment.gov.au) to determine if the project will require an approval under the EPBC Act. If it is subsequently determined that an approval is required under the EPBC Act, please contact the Department immediately as supplementary Director-General's requirements may need to be issued.

I would appreciate it if you would contact the Department at least two weeks before you propose to submit your Environmental Assessment. This would enable the Department to:

- confirm the applicable fee (see Division 1A, Part 15 of the *Environmental Planning and Assessment Regulation 2000)*; and
- determine the number (hard-copy and CD-ROM) of copies of the Environmental Assessment that will be required for exhibition purposes.

Once it receives the Environmental Assessment, the Department will review it in consultation with the relevant agencies to determine if it adequately addresses the Director-General's requirements, and may require you to revise it prior to public exhibition.

The Department is required to make all the relevant information associated with the project publicly available on its website. Consequently, I would appreciate it if you would ensure that all the documents you subsequently submit to the Department are in a suitable format for the web, and arrange for an electronic version of the Environmental Assessment to be hosted on a suitable website during the exhibition period.

NSW Department of Planning, 23-33 Bridge Street (GPO Box 39), SYDNEY NSW 2001
www.planning.nsw.gov.au

If you have any enquiries about these requirements, please contact George Mobayed.

Yours sincerely

Howard Reed 23.11.10
A/Director
Mining & Industry Projects
as delegate of the Director-General

Director-General's Requirements

Section 75F of the *Environmental Planning and Assessment Act 1979*

Application Number	10_0191
Project	The Hera Gold Project, which includes: • constructing, operating and rehabilitating an underground mine and associated infrastructure; • extracting and processing up to 350,000 tonnes of gold and base metals ore per year for between 5 and 7 years; and • transporting the processed ore from the site via road.
Location	Nymagee, 75 kilometres south of Cobar
Proponent	YTC Resources Limited
Date of Issue	23 November 2010
General Requirements	The Environmental Assessment must include • an executive summary; • a detailed description of the project including: – the need for the project; – a detailed resource and land use assessment; – alternatives considered, including a detailed justification for the proposed mine plan; – likely staging of the project; and – plans of any proposed building works; • a risk assessment of the potential environmental impacts of the project, identifying the key issues for further assessment; • a detailed assessment of the key issues specified below and any other significant issues identified in the risk assessment (see above), which includes: – a description of the existing environment and its values, using sufficient baseline data; – an assessment of the potential impacts of all stages of the project, including any cumulative impacts, taking into consideration any relevant guidelines, policies, plans and statutory provisions (see below); – a description of the measures that would be implemented to avoid, minimise and, if necessary, offset the potential impacts of the project, and ensure that the project is in the public interest and meets the net benefit test – detailed contingency plans for managing any potentially significant risks to the environment; • a statement of commitments; • a conclusion justifying the project on economic, social and environmental grounds, taking into consideration whether the project is consistent with the objects of the *Environmental Planning and Assessment Act 1979*, including the principles of ecological sustainable development; and • a signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false nor misleading.
Key Issues	• **Soil and Water** – including: – a detailed site water balance; – a detailed groundwater model; – potential water quality impacts on the environment and other water users; and – a description of final landform water management; • **Waste** – including: – accurate estimates of the quantity and nature of the potential waste

Department of Planning, 23-33 Bridge Street (GPO Box 39), Sydney, NSW 2001
Website www.planning.nsw.gov.au

	streams of the project, including tailings and waste rock and potential acid mine drainage; – a detailed description of the measures that would be implemented to minimise, reuse, recycle and dispose of any waste produced on site; • **Biodiversity** – including: – accurate estimates of any vegetation disturbance associated with the project; – impacts on threatened species or populations or their habitats, endangered ecological communities, groundwater dependent ecosystems and native vegetation generally; – a detailed description of the measures that would be implemented to maintain or improve the regional biodiversity values in the medium to long term; • **Traffic** – including a detailed description of the measures that would be implemented during construction and operation to minimise impacts on Burthong Road, Cobar-Condobolin Road, Hermidale-Nymagee Road and Kidman Way; • **Noise and Blasting** – including construction, operational and road traffic noise; • **Heritage** – both Aboriginal and non-Aboriginal; • **Air Quality;** • **Hazards –** including a detailed description of the management of cyanide including transport, storage and handling; • **Visual** – including landform and lighting impacts; • **Energy** – calculate the scope 1, 2 and 3 emissions of the mining operations and describe what measures would be implemented to ensure these operations are energy efficient; • **Rehabilitation** – including a detailed strategy that describes: – how the site would be progressively rehabilitated and integrated into the landscape; and – what measures would be put in place for the long term protection and management of the site following cessation of mining, taking into consideration any relevant strategic land use planning or resource management plans or policies; and • **Socio-economic** – including a detailed description of the management of mine employee accommodation.
References	The environmental assessment of the project must take into account relevant State Government guidelines, policies and plans. While not exhaustive, the following attachment contains a list of some guidelines, policies and plans that may be relevant to the environmental assessment of this project on the existing and proposed development in the vicinity of the site.
Consultation	During the preparation of the Environmental Assessment, you should undertake an appropriate level of consultation with the relevant local, State or Commonwealth government authorities, service providers, community groups or affected landowners. In particular you must consult with the: • Commonwealth Department of Sustainability, Environment, Water, Population and Communities; • Department of Environment, Climate Change and Water; • NSW Office of Water; • Department of Industry & Investment; • Department of Transport and Infrastructure; • NSW Heritage Office; • Sydney Catchment Authority; and • Cobar Shire Council. Both the consultation process, and the issues raised during this consultation process, must be described in the environmental assessment.
Deemed Refusal Period	90 days

Policies, Guidelines & Plans

Risk	
	AS/NZS 4360:2004 Risk Management (Standards Australia)
	HB 203: 203:2006 Environmental Risk Management – Principles & Process (Standards Australia)
	Risk Management Handbook for the Mining Industry (DPI)
	Risk Management Policy Framework for Dam Safety (Dam Safety Committee)
Soil and Water	
Soil	Rural Land Capability Mapping (DLWC)
	Agricultural Land Classification (DPI)
	Draft Guidelines for the Assessment & Management of Groundwater Contamination (DECC)
Surface Water	National Water Quality Management Strategy: Water quality management - an outline of the policies (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Policies and principles - a reference document (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Implementation guidelines (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
	State Water Management Outcomes Plan
	NSW Government Water Quality and River Flow Environmental Objectives (DECC)
	Managing Urban Stormwater: Soils & Construction (Landcom)
	Managing Urban Stormwater: Treatment Techniques (DECC)
	Managing Urban Stormwater: Source Control (DECC)
Groundwater	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	NSW State Groundwater Policy Framework Document (DLWC)
	NSW State Groundwater Quality Protection Policy (DLWC)
	NSW State Groundwater Quantity Management Policy (DLWC) Draft
Waste	
	NSW Waste Avoidance and Resource Recovery Strategy 2007 (DECC)
	NSW Waste Avoidance and Resource Recovery Strategy Performance Report 2006 (DECC)
	Waste Classification Guidelines: Part 1 Classification of Waste (DECC) 2008
Biodiversity	
	Draft Guidelines for Threatened Species Assessment under Part 3A of the *Environmental Planning and Assessment Act 1979* (DEC)
	NSW Groundwater Dependent Ecosystem Policy (DLWC)
	Policy & Guidelines - Aquatic Habitat Management and Fish Conservation (NSW Fisheries)
	Policy & Guidelines - Fish Friendly Waterway Crossings (NSW Fisheries)
Traffic & Transport	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RTA)
Noise & Blasting	
	NSW Industrial Noise Policy (DECC)
	Environmental Criteria for Road Traffic Noise (NSW EPA) May 1999

	Environmental Noise Management Manual (RTA) Dec 2001
	Interim Construction Noise Guideline (DECC)
	Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration (ANZECC) Sep 1990
	Assessing Vibration: a technical guideline (DEC) Feb 2006
Heritage	
Aboriginal	Ask First; A Guide to Respecting Indigenous Heritage Places and Values (AHC) 2002
	Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC)
Non- Aboriginal	The Australia ICOMOS Burra Charter for Places of Cultural Significance 1999
	The Australian Natural Heritage Charter (For the Conservation of Places of Natural Heritage Significance) 2nd ed. 2002
	Statements of Heritage Impact (NSW Heritage Office)
	NSW Heritage Manual: Assessing Heritage Significance (NSW Heritage Office) 2001
	NSW Heritage Manual: Conservation Management Documents 1996
	NSW Heritage Manual: Heritage Terms and Abbreviations 1996
	Historical Archaeology Code of Practice (NSW Heritage Council DoP) 2006
Air Quality	
	Protection of the Environment Operations (Clean Air) Regulation 2002
	Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Hazards	
	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
	Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines (DUAP)
	Multi-Level Risk Assessment
	Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis
Greenhouse Gas	
	AGO Factors and Methods Workbook (AGO)
	Guidelines for Energy Savings Action Plans (DEUS, 2005)
Rehabilitation	
	Strategic Framework for Mine Closure (ANZMEC & Minerals Council of Australia)
	Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia)
	Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia)

NSW GOVERNMENT | RTA

Nagindar Singh
RW Corkery & Co Pty Ltd
62 Hill Street
ORANGE NSW 2800

Dear Sir

10_0191; Hera Project; Key Issues for Environmental Assessment

Thank you for your email sent 23 February 2011 referring the *Hera Project, Via Nymagee Preliminary Environmental Assessment* to the Roads and Traffic Authority of New South Wales (RTA).

Following review of the *Preliminary Environmental Assessment* the RTA recommends that a Traffic Impact Study forms part of the *Environmental Assessment* and that the study addressed the following key issues:

- Hours and days of construction and operation for each stage of the project.
- Onsite personnel:
  - number of employees, contractors and other service providers
  - number of shift workers for each shift and shift start and end hours
  - number of non-shift workers and start and end hours.
- Mine Camp:
  - maximum number of persons to be accommodated;
  - transport arrangements for residents.
- For the construction, operation and decommissioning of the project and for each class of vehicle (as described by the Austroads Vehicle Classification System):
  - Volumes;
  - peak periods, time of day and length of period;
  - origin and destination;
  - travel routes and the vehicle classes and volumes using each route.
- Parking arrangements:
  - in Cobar and Nymagee for employees and contractors using the commuter bus;
  - number and location of onsite parking spaces.
- The proposed means of encouraging, or requiring, the use of commuter busses to the project site by employees and contractors from Cobar and Nymagee for both the construction and operation. The RTA suggests the proposed use of commuter busses should be included as an objective for achieving a safe and healthy working environment.
- The number a type of oversize and overmass vehicles and loads expected for the construction, operation and decommissioning of the project.
- That the shortest and least trafficked route has been given priority for the movement of construction materials, machinery and product transport to minimise the risk and impact to other motorists so far as is reasonably practicable.

Roads and Traffic Authority

51-55 Currajong Street, PARKES NSW 2870
PO Box 334, PARKES NSW 2870 (DX 20256)
www.rta.nsw.gov.au | 13 17 82

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- That accesses to and intersection of the public road network have been minimised by careful route selection and utilisation of existing accesses as far as is reasonably practicable.
- The impact of project traffic on the adjacent road network and any other nearby major developments including a description of the existing design and any proposed improvements to the intersection of the:
  - two site accesses and Burthong Road
  - Condobolin – Cobar Road (MR461) and the Kidman Way (MR410)
  - Kidman Way (MR410) and the Barrier Highway (HW8)
  - Old Bourke Road and the Barrier Highway (HW8)
  - Cobar – Louth Road (MR407) and the Bourke – Cobar Road (MR421)
  - Lewis Street (MR421) and the Barrier Highway (HW8)
  - access to the Hermidale rail siding and the Barrier Highway (HW8).
- Proposed access treatments should be identified and be in accordance with the *Austroads Guide to Road Design* and any relevant RTA *Supplements to Austroads Guides*.
- The proposed use of the two site accesses to Burthong Road.
- Proposed mitigating measures to address project related traffic generation.
- The proposed means of ensuring that project-related heavy vehicle traffic does not use the Nymagee – Hermidale Road (MR228). Should it be determined that this route may, or is likely to, be used by project-related heavy vehicles the proponent should enter a contribution agreement with the roads authorities (Cobar Shire Council and Bogan Shire Council) for the maintenance of that Road.
- The unloading and loading of transport and service vehicles particularly addressing the issue of oversize and overmass vehicles.
- Local climate conditions that may affect road safety for project related traffic (eg. fog, ice, flood).

The RTA also notes for your information the following matters to be addressed when transporting oversize and overmass loads:

- Transport of components (oversize and over-mass loads)
  - Transportation of oversize components via the public road system should be minimised where possible. Alternative transport options including rail transport should be considered.
  - The applicant will be required to obtain permits for any oversize and overmass vehicles and loads.
  - The applicant will be required to submit detailed Traffic Management Plans indicating the proposed routes and associated impacts (temporary street closures, removal and replacement of road infrastructure, etc.) which will be required in order for the necessary materials and machinery to be delivered to site. Traffic Management Plans are also to include assessment of how high risk locations that prevent safe two-way passage of traffic are to be negotiated. It is essential that the applicant is accountable for this process rather than the haulage contractor.
  - If any parts of the proposed route are unable to cater for the transport of components the applicant is required to improve any part of the road along the route so that it can cater for the length, size and volume of loads. This may include the applicant constructing stopping bays (suitable hard stand areas) at distances and dimensions determined by the RTA. These areas would be required along the proposed route to allow the following vehicle queue to pass.
  - The RTA requires that any disturbances to traffic lanes, shoulder, verge or otherwise within the road reserve be reinstated to the pre-existing or better condition. This includes any impact on the road pavement, culverts, bridges, causeways, stock grids, signage and traffic islands.
  - A full and independent risk analysis and inspection of the transport route will be required and the RTA supplied with the report. Further analysis and reporting to assess possible damage to and repair of the route will be required on a regular basis.

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- Vehicles transporting loads will not be permitted to travel in convoys or platoons.
- Queues of vehicles behind slow moving large loads increase the risk of rear end crashes when queues become excessive. A queue of three heavy vehicles or 15 light vehicles is that which would be required to be cleared to prevent the risk of rear-end crashes and risky overtaking manoeuvres.
- Consideration should be given for the best time of day to minimise traffic impacts. This will require the applicant to liaise with the RTA Special Permits Unit. Overnight transport is not normally allowed under a Special Permit.
- The applicant may be required to liaise with other State transport authorities should the origin of materials and machinery to be transported be outside of New South Wales. If this is the case the requirements of those other authorities are to be communicated to the RTA for co-ordination.
- The requirements outlined in the RTA publication *Operating Conditions: specific permits for oversize and overmass vehicles and loads* will need to be followed. This publication is available online at www.rta.nsw.gov.au/heavyvehicles/oversizeovermass .

- A Traffic Management Plan will need to be prepared to manage the additional traffic generated by the development during the construction (and decommissioning) stages. The Traffic Management Plan will address the management of accesses to classified roads including:
  - Unsealed shoulder widening which will need to be undertaken for the right turn lane and left turn lane into access points. Design plans including the geometric road design and pavement design will need to be submitted to the RTA for approval. Following the completion of construction works the applicant will be required to rehabilitate the shoulders to the satisfaction of the RTA. The layout and pavement design of the accesses will be required to cater for all oversize and overmass vehicles and loads.
  - The clearing and maintenance of vegetation for the duration of construction to provide safe intersection site distance in accordance with the *Austroads Guide to Road Design* at all accesses.
- The RTA will require a commitment from the applicant to provide funding for the maintenance and repair of any affected classified roads for the duration of transportation of oversize and overmass vehicles and loads to the satisfaction of the RTA.
- All arrangements for the control of traffic on classified roads shall be in accordance with the RTA publication *Traffic Control at Work Sites*. A Road Occupancy Licence will be required prior to any works commencing within three metres of the traffic lanes and submission of the Traffic Management Plan will be part of Road Occupancy Licence.
- If the applicant is required to undertake works on, over, under or connecting to a classified road or any other road in which the RTA has a statutory interest a formal agreement in the form of a Works Authorisation Deed (WAD) will be required between the applicant and the RTA.
- All works associated with the project including consultation and planning will be at no cost to the RTA.

Should you require any further information please contact Susie Mackay (02) 6861 1688.

The RTA awaits receipt of the *Environmental Assessment* to comment further on the proposed project.

Yours sincerely

Tony Hendry
Road Safety and Traffic Manager
Western
04.03.2011

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Appendix B

Heavy Vehicle Route Assessment

(Number of pages including blank pages = 26)

Note: A colour copy of Appendix B is available on the Project CD

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Traffic Solutions Pty Ltd

HERA MINE PROJECT, NYMAGEE – BURTHONG ROAD, NYMAGEE

HEAVY VEHICLE ROUTES ASSESSMENT

April 2010

Ref: 09.10.088

P.O Box Springwood NSW 2777 Phone / Fax: (02) 4751 6354 Email: trafficsolutions@ozemail.com.au

CONTENTS

1. INTRODUCTION

This report has been prepared to assess the possible heavy vehicle haulage routes from the Hera Project Site on the Nymagee – Burthong Road, Nymagee.

This report is the result of route inspections undertaken on the 26th and 27th March 2010 and examines 4 possible routes which are being investigated to be used as part of transporting the material away from the Hera Project and will:

- Describe the different routes.
- Assess the status of each route.
- Assess the route for adequacy to cope with expected vehicle sizes.
- Describe the existing traffic conditions, controls and existing vehicle size approvals for each route.
- Determine the time taken for heavy vehicles to access to/from the site.
- Determine the road distances for each route to/from the site.

It should be noted that this is an assessment of the route from a practical traffic viewpoint and ability for heavy vehicles to physically travel this route. This assessment does not include a pavement analysis.

2. POTENTIAL HEAVY VEHICLE HAULAGE ROUTES

It is understood that there are two scenarios for trucking of material from the site, the first scenario would involve trucking approximately 200,000 tonnes of ore per annum in 50t Road Train style side tipper truck to the following locations

- Endeavour Mine – The Endeavour mine is operated by CBH Resources and is located approximately 45km North of Cobar
- Peak Gold Mine – The Peak Gold Mine is located approximately 5km south of Cobar and is operated by New Gold Resources

For this scenario YTC have estimated that there would be annual estimated tonnage of 200,000 which for 50t payload equates to 4000 trips per annum or 10 – 11 per 24 hour period

The second scenario would involve trucking Concentrates from the Hera site. The annual rate would be 20,000 tonnes of concentrate. This material would likely be in 25 tonne containers loaded to a road train style truck. The movements annualised equate to 1 – 2 per day. However it is likely in this scenario they would be trucked up to 4 – 5 per day on an intermittent basis to the following locations:

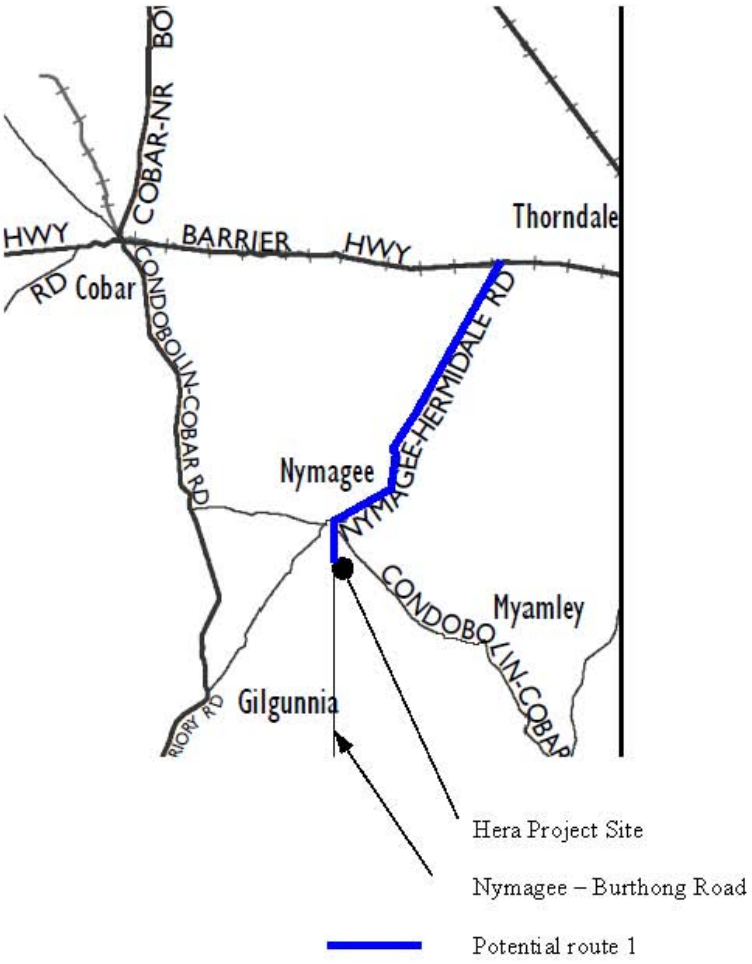
- Endeavour Mine – The Endeavour mine is operated by CBH Resources and is located approximately 45km North of Cobar.
- Peak Gold Mine – The Peak Gold Mine is located approximately 5km south of Cobar and is operated by New Gold Resources.
- Hermidale Rail siding – currently the site at which Tritton Resources offload copper concentrates for rail to port.
- Cobar – Rail siding where the containers could be loaded for rail to port.

This report will assess the 4 possible routes trucks may be using from the Hera Site on the Nymagee – Burthong Road at Nymagee. These routes will be treated as separate routes and labelled as

ROUTE 1 – Hera Site to Hermidale rail siding.
ROUTE 2 – Hera Project to Peak Gold Mine
ROUTE 3 – Hera Project to Cobar rail siding
ROUTE 4 – Hera Project to Endeavour Mine

The following Figures show the proposed transport routes from the Hera Site to the various sites.

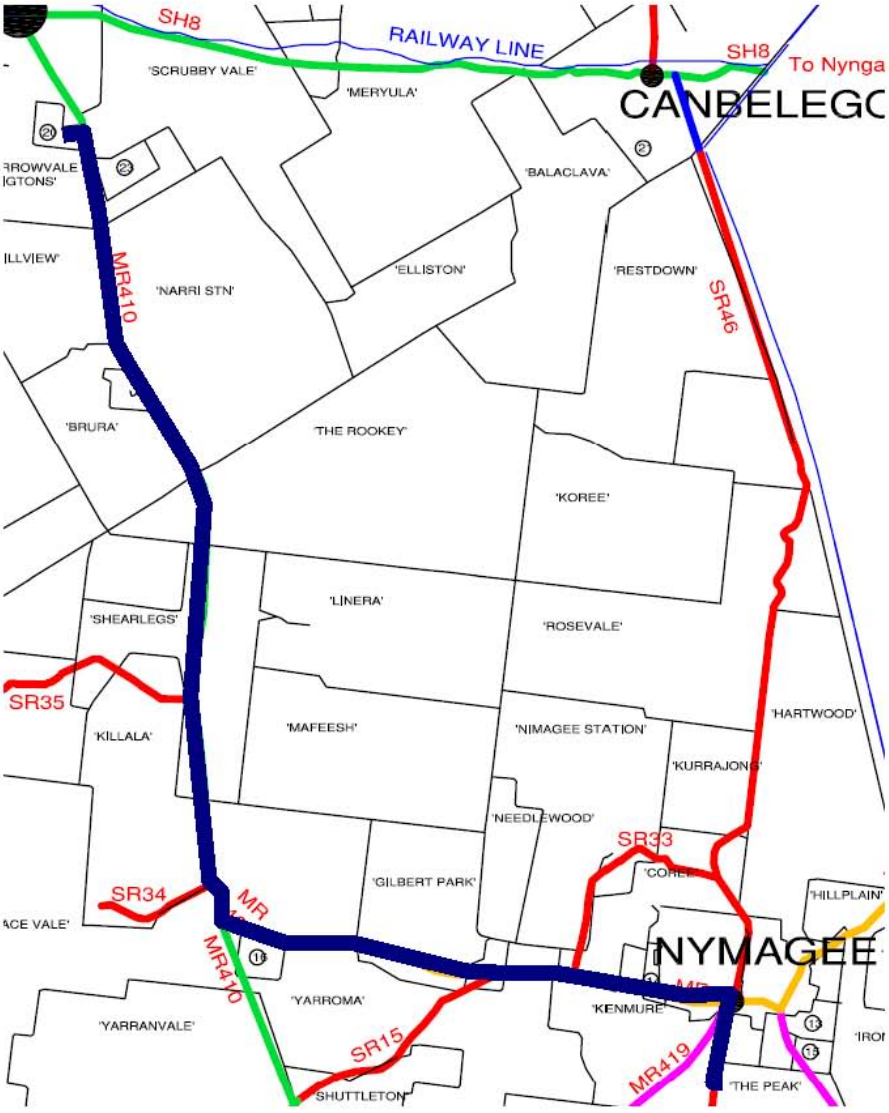
ROUTE 1- Hera Site to Hermidale rail siding.



Hermidale Rail siding

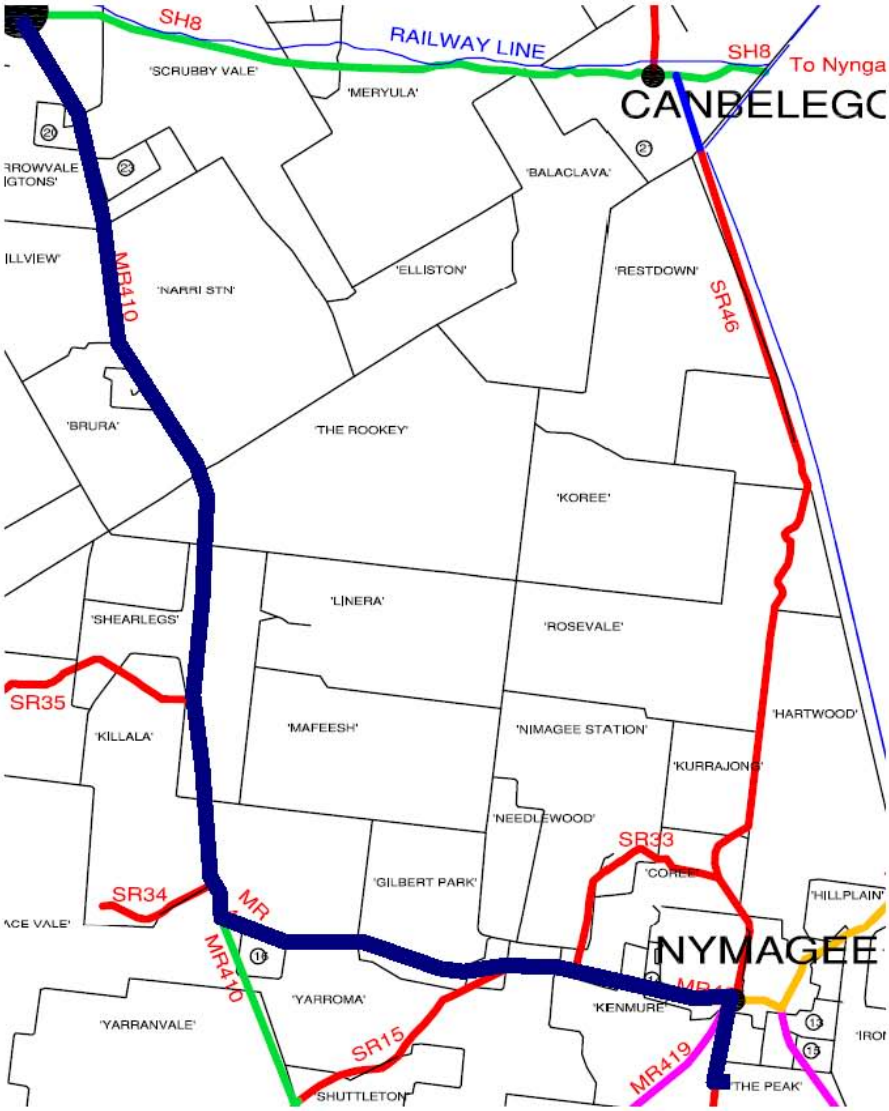
Potential route 1

ROUTE 2 – Hera Project to Peak Gold Mine



Potential Route 2

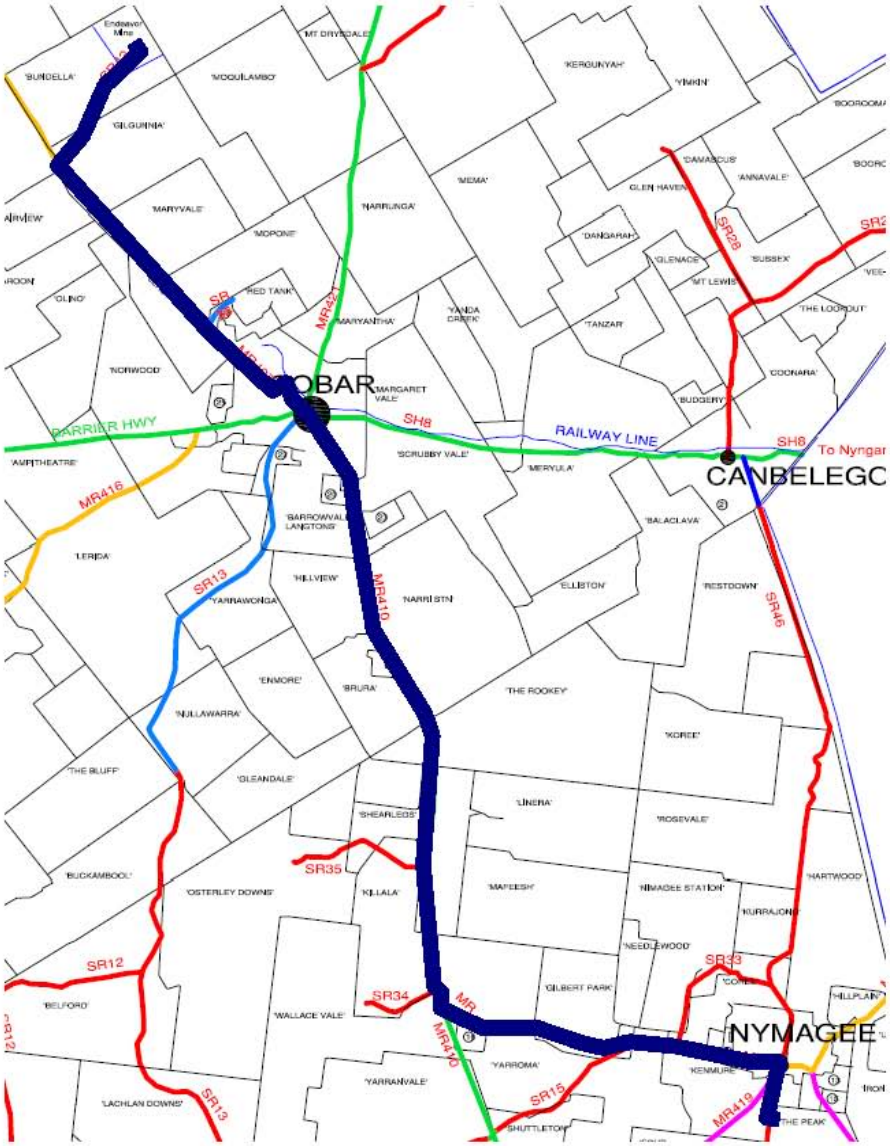
ROUTE 3 - Hera Project to Cobar Rail Siding



Potential Route 3

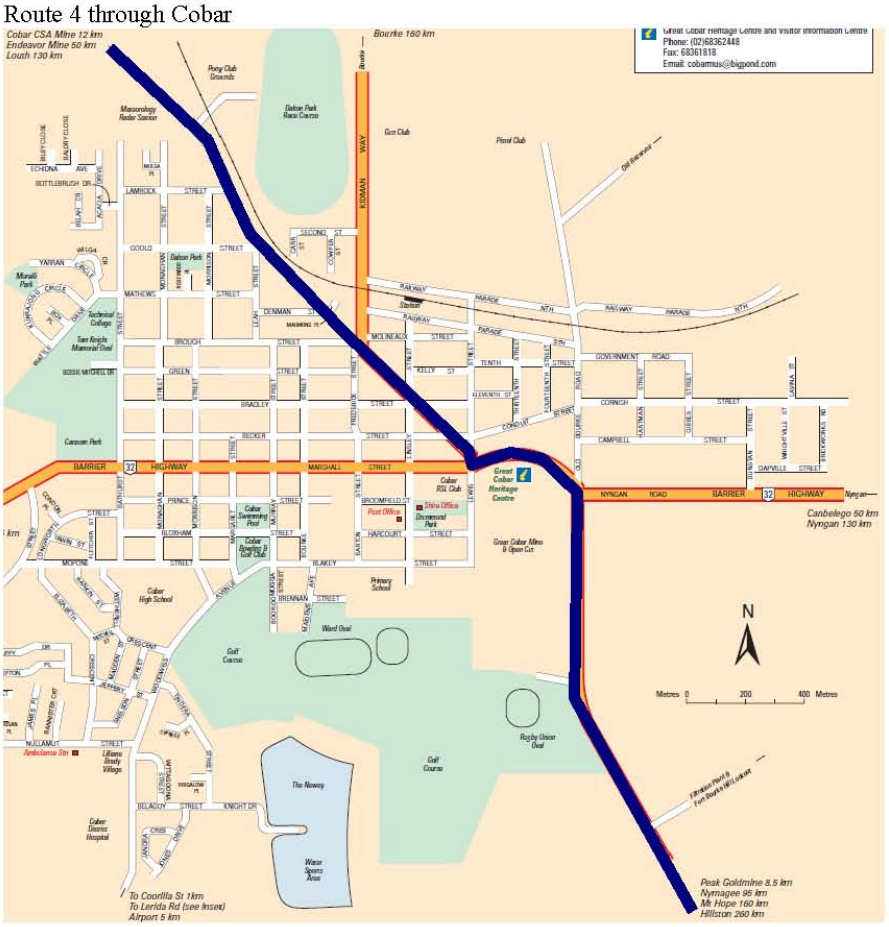
Potential Route 3

ROUTE 4 – Hera Project to Endeavour Mine



ROUTE 4

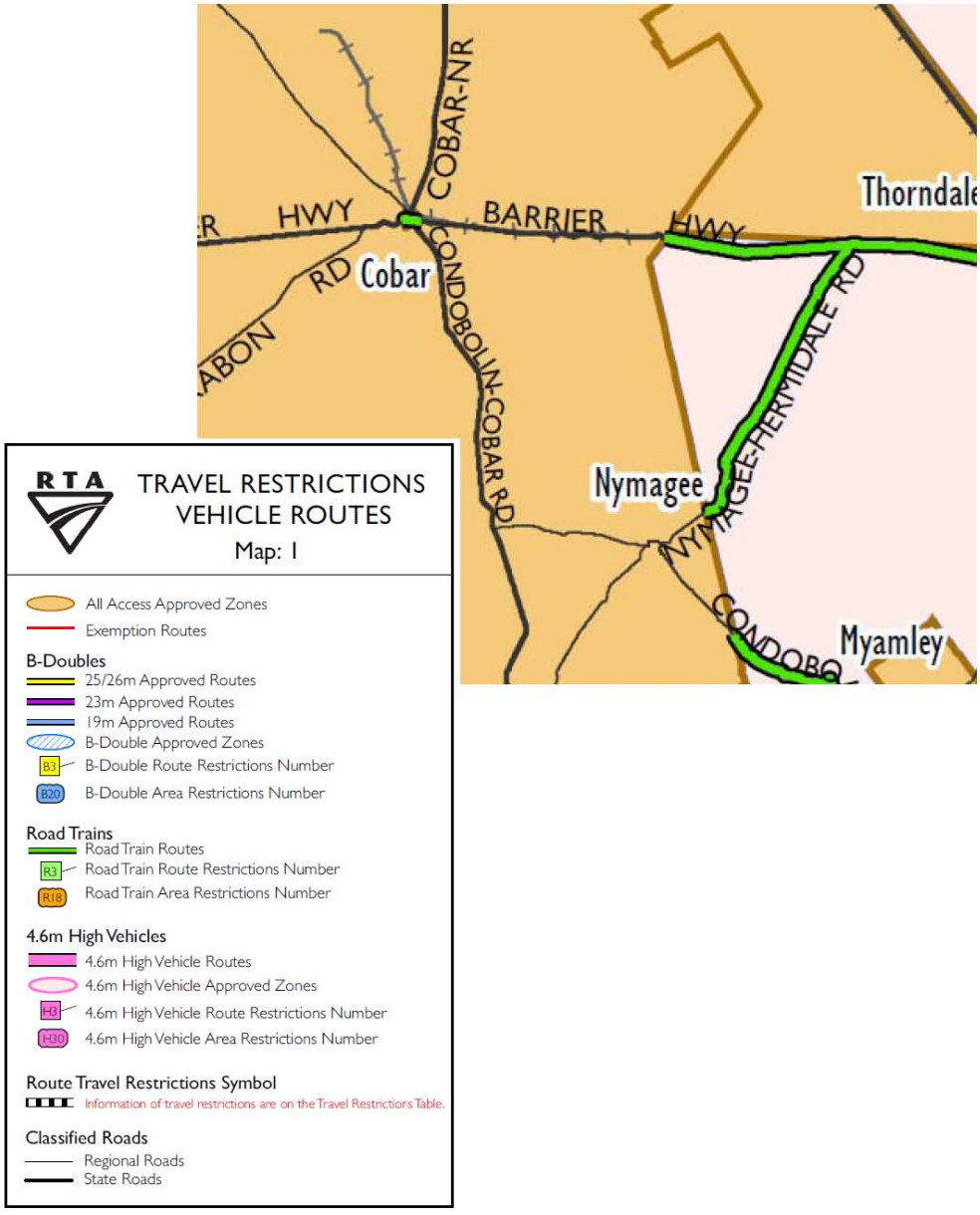
Route 4 through Cobar



Route 4 through Cobar

3. EXISTING HEAVY VEHICLE APPROVED ROUTES

The RTA is responsible for assessing and approving B-Double and Road Train Routes in NSW. The following provides an extract of the existing approvals in this area:



A review of the RTA documentation that accompanies the Travel Route restrictions map reveals that road trains may be operated for the purpose of transporting any goods or livestock west of a line taken from the NSW/Qld border at Mungindi through Collarenebri, Walgett, Byrock, Nyngan, Cobar and Ivanhoe to the NSW/Vic border at Wentworth. [The road train area is marked on the Road Train and B-double route map]. The urban areas of Broken Hill, Cobar, Euabalong and Euabalong West are excluded from road train use except on the following routes in Cobar:

- Barrier Hwy (Marshall St)

- Kidman Way from Nymagee road (MR61) and Bourke road (MR421)

- Lewis St (north of the Barrier Hwy) thence Louth Rd

- Barton St (north of the Barrier Hwy) thence Frederick St – Kidman Way

- Lewis St (south of Barrier Hwy) thence Blakey St – Woodiwiss St – Lerida St to the Cobar Airport turnoff

- Bathurst St (from Barrier Hwy) – Becker St – Monaghan St to access the Caltex Service Station

- Murray St (from Barrier Hwy)- Prince St – Bourke St to access the Mobil Service Station

- Murray St (from Barrier Hwy) – Becker St – Bourke St to access the Shell Service Station

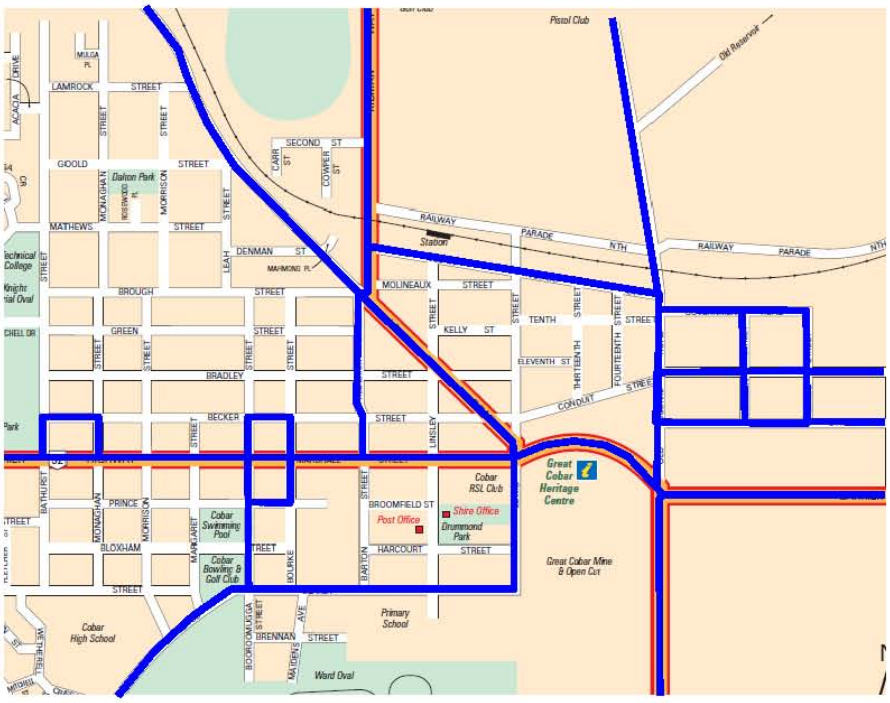
- Murray St (from Barrier Hwy) to Woodiwiss Ave

- South Railway Parade (entire length)

- Old Bourke Road (entire length)

- All streets in the East Cobar Industrial Estate east of Old Bourke St

Approved road train routes in Cobar shown



Consequently, all of the potential routes are existing approved road train routes. Attached as appendix A is a copy of the RTA travel restriction route map.

4. HEAVY VEHICLE ROUTES ASSESSMENT

As all of the routes in question are approved for road trains, they have not been assessed in detail for road widths. The following should be noted when reviewing the route assessment tables.

State Road – controlled and maintained by RTA

Regional Road – controlled and maintained by Council with part funding from RTA

Local Roads – Council controlled and maintained.

ROUTE 1 – Hera Project to Hermidale Rail siding

Table 4.1 – ROUTE 1	ROAD NAME	
	Nymagee – Burthong Road	**Nymagee – Hermidale Road**
CLASSIFICATION OF ROAD	Local	Regional Road
SURFACE OF ROAD	Sealed 7m wide variable	25 km unsealed variable width
DISTANCE	3.5km	80km
COUNCIL AREA	Cobar	Cobar and Bogan
SPEED LIMIT	100 km/h	110 km/h 50 km/h through Hermidale
COMMENTS	• Good condition road • no road works required	• no road works required • Road generally in good condition • Unsealed road is slow • Maintenance likely to be higher for unsealed road if traverses by additional heavy vehicle

Total distance of route: **85km/h**

Estimated travel time for heavy vehicles: **1 hour**

The following concerns are raised with this route:

1. 25 km/h of unsealed road which may attract higher contributions from Council.
2. No sealed loading area at siding and siding appears to be unused, Council may require siding road surface upgrade.
3. Route travels through Cobar and Bogan Council areas which would require duplicate applications.
4. Route travels past residential properties in Hermidale.

The following page provides photographs of the Hermidale rail siding.

Looking north east at Hermidale rail siding.

Looking south at Hermidale Rail siding.

ROUTE 2 – Hera Project to Peak Gold Mine

Table 4.2 – ROUTE 2	ROAD NAME		
	Nymagee – Burthong Road	**Priory Tank – Lachlan Shire Boundary (Cobar – Condobalin Road)**	**Kidman Way – Hillston Rd (south)**
CLASSIFICATION OF ROAD	Local	Regional Road	State Road
SURFACE OF ROAD	Sealed 7m wide variable	Sealed 7m wide variable	Sealed 7m wide variable
DISTANCE	3.5km	30.5km	63 km
COUNCIL AREA	Cobar		
SPEED LIMIT	100 km/h	110 km/h	110 km/h
COMMENTS	• Good condition road • no road works required	• no road works required • Road generally in good condition	• no road works required • Road generally in good condition

Total distance of route: **97km/h**

Estimated travel time for heavy vehicles: **1 hour**

No concerns are raised with this route.

ROUTE 3 - Hera Project to Cobar Rail Siding

Table 4.3 – ROUTE 3	ROAD NAME				
	Nymagee – Burthong Road	**Priory Tank – Lachlan Shire Boundary (Cobar – Condobalin Road)**	**Kidman Way – Hillston Rd (south)**	**Old Bourke Rd**	**Railway Parade south**
CLASSIFICATION OF ROAD	Local	Regional Road	State Road	Local Road	Local Road
SURFACE OF ROAD	Sealed 7m wide variable	Sealed 7m wide variable	Sealed 7m wide variable	Sealed	Sealed
DISTANCE	3.5km	30.5km	71 km	0.5 km	0.5 km
COUNCIL AREA	Cobar				
SPEED LIMIT	100 km/h	110 km/h	110/50km/h	50 km/h	50 km/h
COMMENTS	Road in good condition with no road works required	Road in good condition with no road works required	Road in good condition with no road works required	Road in good condition with no road works required	Road in good condition with no road works required

Total distance of route: **106km**

Estimated travel time for heavy vehicles: **1¼ hour**

The following concerns are raise with this route:

1. The intersection of Barrier Highway and Old Bourke Road currently does not have a right turn bay, although the route is approved for road trains it is possible that the RTA may require the intersection to be upgraded. See photo below.

2. No sealed loading area at siding and siding appears to be unused, Council may require siding road surface upgrade.

Looking south at Cobar rail siding

Looking north at Cobar rail siding

ROUTE 4 - Hera Project to Endeavour Mine

Table 4.4 – ROUTE 4	ROAD NAME					
	Nymagee – Burthong Road	**Priory Tank – Lachlan Shire Boundary (Cobar – Condobalin Road)**	**Kidman Way – Hillston Rd (south)**	**Barrier Highway**	**Louth Road**	**Bura Mine Access Rd**
CLASSIFICATION OF ROAD	Local	Regional Road	State Road	State Road	State and Regional Road	Local Road
SURFACE OF ROAD	Sealed 7m wide variable	Sealed 7m wide variable	Sealed 7m wide variable	Sealed	Sealed	Sealed
DISTANCE	3.5km	30.5km	71 km	0.5 km	0.5 km state road 35 km regional road	14.5km
COUNCIL AREA	Cobar					
SPEED LIMIT	100 km/h	110 km/h	110/50km/h	50 km/h	50/110km/h	110km/h
COMMENTS	Road in good condition with no road works required	Road in good condition with no road works required	Road in good condition with no road works required	Road in good condition with no road works required	Road in good condition with no road works required	Road in good condition with no road works required

Total distance of route: **155.5km**

Estimated travel time for heavy vehicles: **1 ¾ hours**

The following concerns are raise with this route:

1. Route travels past residential properties in Cobar.

4. CONCLUSIONS

In brief the following table provides a comparison of the assessment of the potential 4 heavy vehicle routes from the Hera Project.

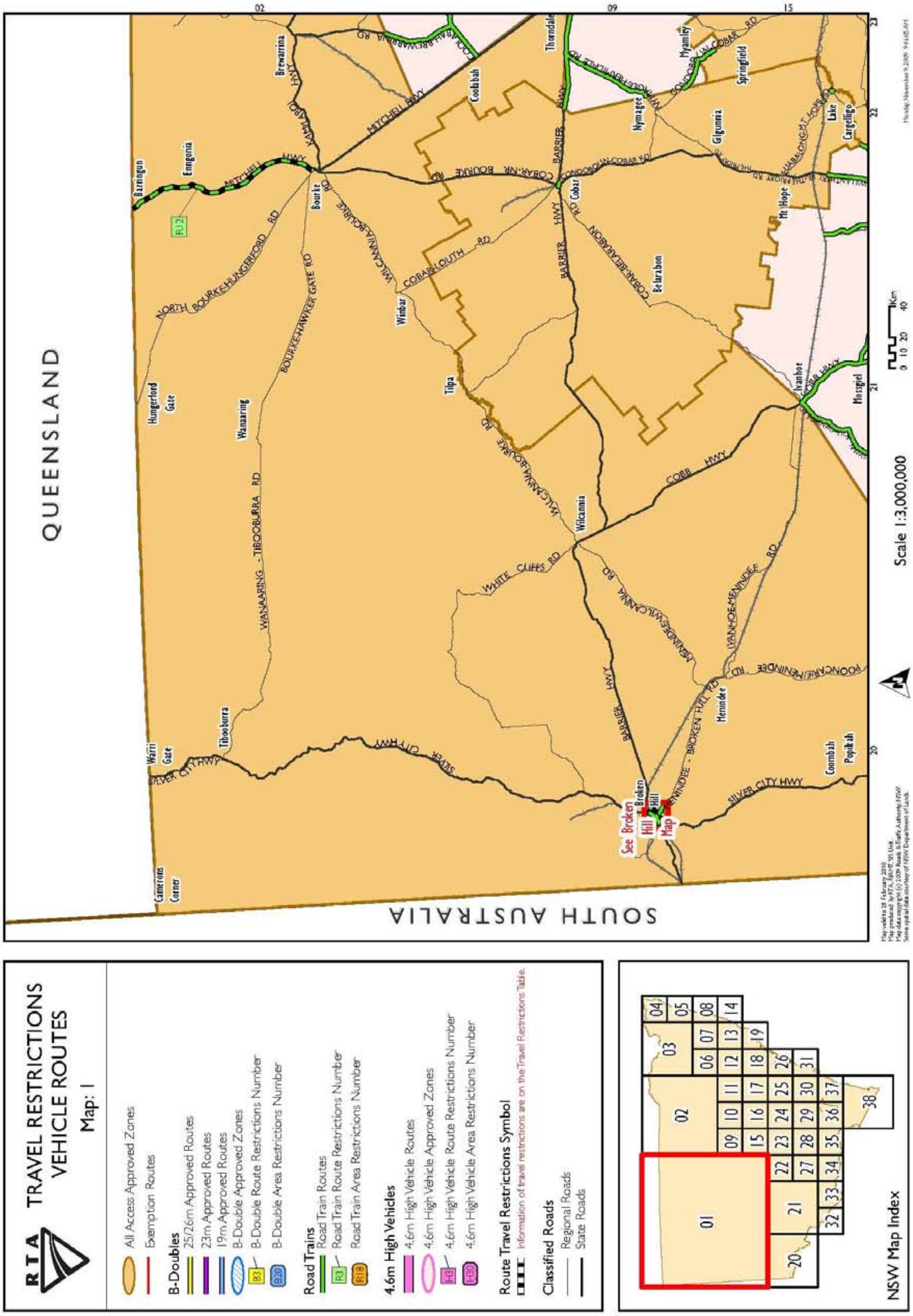
Route	Distance	Travel Time	Concerns/comments
ROUTE 1 – Hera Site to Hermidale rail siding.	85 Km	1 hour	• 25 km/h of unsealed road which may attract higher contributions from Council. • No sealed loading area at siding and siding appears to be unused, Council may require siding road surface upgrade. • Route travels through Cobar and Bogan Council areas which would require duplicate applications. • Route travels past residential properties in Hermidale.
ROUTE 2 – Hera Project to Peak Gold Mine	97 km	1 hour	No concerns with route
ROUTE 3 – Hera Project to Cobar Rail Siding	106 km	1 ¼ hours	• The intersection of Barrier Highway and Old Bourke Road currently does not have a right turn bay, although the route is approved for road trains it is possible that the RTA may require the intersection to be upgraded. • No sealed loading area at siding and siding appears to be unused, Council may require siding road surface upgrade.
ROUTE 4 – Hera Project to Endeavour Mine	155.5 km	1 ¾ hours	• Route travels past residential properties in Cobar.

Due to the confidential nature of the proposal, I have not held discussions with any Council officer. Consequently, I was unable to obtain information about Council's policy/practice with regards to contributions to road maintenance that may be imposed. (if any)

Should Council require contributions they could be calculated by tonne per kilometre or number of trucks per kilometre. Generally, a kilometre based rate is applied.

It is my opinion based upon distances, travel times and the points raised above that Route 2 – From the Hera Project to the Peak Gold Mine is the preferred route.

APPENDIX A – RTA APPROVED HEAVY VEHICLE ROUTE PLAN


RTA
TRAVEL RESTRICTIONS
VEHICLE ROUTES
Map: 1
All Access Approved Zones
Exemption Routes
B-Doubles
25/26m Approved Routes
23m Approved Routes
19m Approved Routes
B-Double Approved Zones
B-Double Route Restrictions Number
B-Double Area Restrictions Number
Road Trains
Road Train Routes
Road Train Route Restrictions Number
Road Train Area Restrictions Number
4.6m High Vehicles
4.6m High Vehicle Routes
4.6m High Vehicle Approved Zones
4.6m High Vehicle Route Restrictions Number
4.6m High Vehicle Area Restrictions Number
Route Travel Restrictions Symbol
Information of travel restrictions are on the Travel Restrictions Table.
Classified Roads
Regional Roads
State Roads
NSW Map Index
QUEENSLAND
SOUTH AUSTRALIA
Scale 1:3,000,000
See Broken Hill Map
Broken Hill
Bourke
Cobar
Wilcannia
Menindee
Ivanhoe
SILVER CITY HWY
BARRIER HWY
COBB HWY
MITCHELL HWY

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