

AMENDMENT MAY 2013

**ENVIRONMENTAL IMPACT ASSESSMENT
MARY'S MOUNT BLUE METAL QUARRY**

SECTION 4.5 TRAFFIC IMPACT ASSESSMENT & VOLUNTARY PLANNING AGREEMENT

PREPARED BY:

Ardill Payne and Partners





TRAFFIC IMPACT STUDY

PROPOSED EXPANSION OF
MARY'S MOUNT BLUE METAL QUARRY
Lot 161 DP 755508
334 Pownall Road, Mullaley, and
Lot 2 DP 865898
259 Barker Road, Mary's Mount

for:
Gunnedah Quarry Products Pty Ltd

May 2013
(Revision 3)

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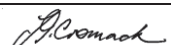
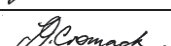
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1 Introduction

Ardill Payne & Partners (APP) has been engaged by Gunnedah Quarry Products Pty Ltd (GQP) to prepare a Traffic Impact Study to accompany the lodgement of an Environmental Impact Assessment (EIA) with Gunnedah Shire Council to expand the current quarrying operations.

A quarry operates on the site which was approved under the terms and conditions of DA 507167, issued by Gunnedah Shire Council on 8 February 2011. Current quarrying operations commenced around February 2011. The existing approval is for the extraction of 30,000m³ of blue metal gravel per annum, with approval to operate until 2016.

The proponent intends to expand the current operations in stages over a 37 year program. The estimated available resource within the proposed quarry is approx. 4.44 million cubic metres and the annual rate of extraction proposed is 120,000m³, or 360,000 tonnes. Processing and stockpiling of the quarried material will occur on site.

This report provides details regarding the current traffic situation and the level of service provided by both Barker Road – Goolhi Road to Kamilaroi Highway at Emerald Hill, and Goolhi Road - Quia Road – Blackjack Road to Oxley Highway west of Gunnedah, and the impact the proposed modification will have on these roads.

1.1 Current Approval

The resource currently being extracted is blue metal gravel. The current approval (Development Consent 507167) includes:

- available resource approx. 530,000 m³ (approx. 1.59 million tonnes) – being the total amount of material to be extracted over the life of the quarry
- the consent approves an annual extraction rate of no more than 30,000 m³/annum (approx. 50,000 tonnes)
- maximum extractive operational life of 17 years
- haulage via Barker Road to Goolhi Road
- Contributions to Council of \$10,618 per annum towards the construction and maintenance of Barker Road, under Section 94 of the EP&A Act, 1979

- haulage of extracted material to not occur during operation of the school bus service at the intersection of Barker Road and Goolhi Road.

A Section 96 application has been lodged with Gunnedah Shire Council to modify Development Consent 507167 as follows:

- annual extraction rate of no more than 30,000 m³/annum (approx. 90,000 tonnes). The original SEE incorrectly stated that 30,000m³ equates to 50,000 tonnes. The conversion of m³ to tonnes was incorrect – the correct conversion is to 90,000 tonnes, based on a dry particle density of 3 t/m³.
- a resultant change to the number of laden truck movements from 8 to 13.

1.2 Proposed Expansion

Gunnedah Quarry Products intends to expand the current operations in stages over a 37 year program. The estimated available resource within the proposed quarry is approx. 4.44 million cubic metres. The annual rate of extraction proposed is 120,000m³, which equates to 360,000 tonnes based on a dry particle density of 3 t/m³ (refer Material Test Report provided at **Attachment 1**). Processing and stockpiling of the quarried material will occur on site.

(Note: in this document, 'cubic metre' refers to 'bank cubic metre', which is defined as a cubic metre of material in-situ. Cubic metres are converted to tonnes using the Dry Particle Density of the material, which is defined as the density of the solid particles (refer Material Test Report)).

Haulage routes will follow Barker Road – Goolhi Road to Kamilaroi Highway at Emerald Hill, and Goolhi Road - Quia Road – Blackjack Road to Oxley Highway west of Gunnedah.

1.3 Land Use History

The site has previously been used for extractive operations, both prior to and under the terms and conditions of DA 507167. The site comprises areas disturbed by extractive operations and bushland.

1.4 Consultation

Stewart Surveys and the proponents have consulted with Gunnedah Shire Council to review the project and any Council requirements which are to be addressed. Preliminary discussions have been held with Council regarding proposed road upgrades, roads contributions and a Voluntary Planning Agreement for the project.

The proponents have met with the Mary's Mount Action Group to receive feedback on their concerns. Key issues raised were the impacts of the haul route on school bus routes and road safety on Goolhi Road, and health impacts associated with dust. These issues are addressed in this report.

2 Existing Conditions

The subject site is located off Barker Road, Mary's Mount. The site and surrounds are described in the sub-sections below:

2.1 Location and Cadastral Description

The land is situated within the Gunnedah Shire Council Local Government Area. The land is described in real property terms as Lot 161 DP 75558. The subject site is located on the property known as "Burleith". Access to the site also traverses Lot 2 DP 865898 being known as "Beulah".

The site is located approximately 33km west of Gunnedah on Barkers Road, off Goolhi Road. The site is approximately 16km east of Mullaley (refer **Figure 1**).

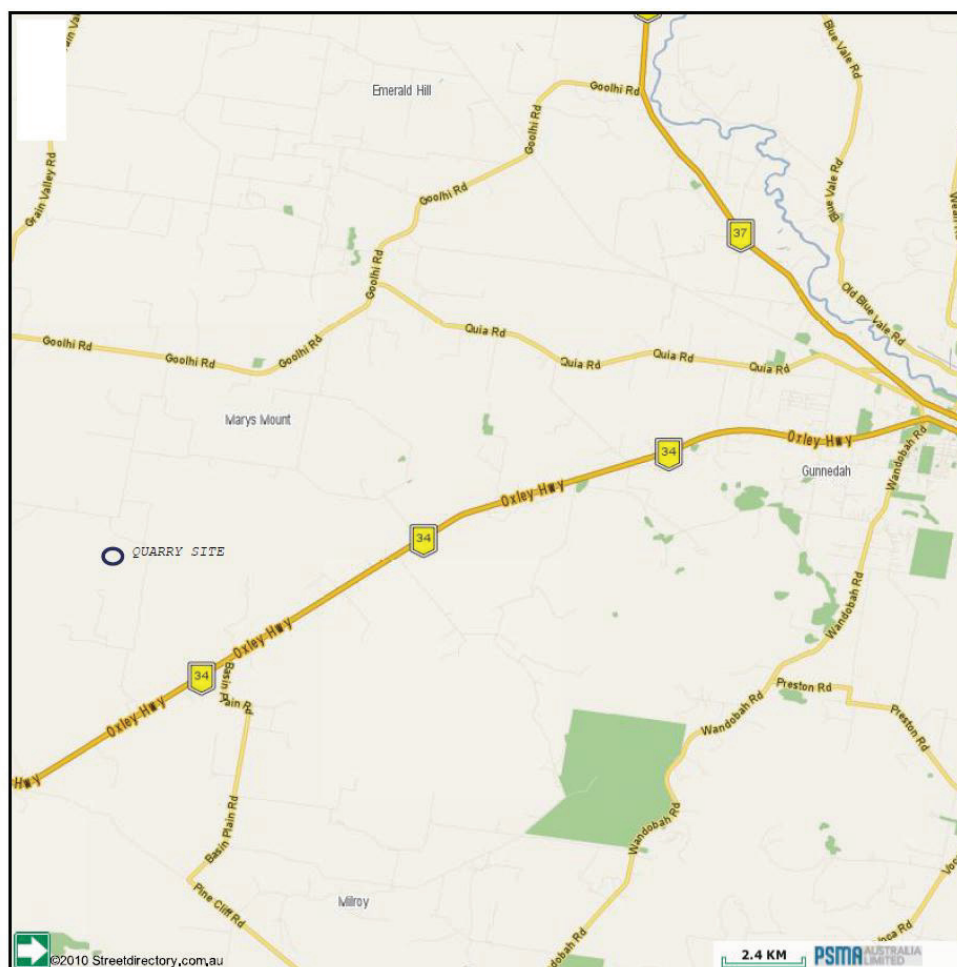


Figure 1: Locality Plan

2.2 Zoning

The land upon which the extractive operations exist is zoned RU1 Primary Production Zone under the Gunnedah LEP, 2012. Extractive industries are permissible uses within the RU1 zone.

2.3 Existing Land Use

The subject site is located on the side of a hill, not on prime agricultural land, and contains cleared areas (being areas the subject of extractive operations) and timbered bushland.

2.4 Adjoining Land Use

The adjoining locality is characterised by low intensity agricultural uses, stands of woodland, trees in pasture grasses previously cleared for grazing, and sparsely scattered rural dwellings.

2.5 Haul Route

The proposed haul routes are:

- along Barker Road – Mary’s Mount Road – Goolhi Road to Kamilaroi Highway at Emerald Hill, and
- along Quia Road – Blackjack Road to Oxley Highway west of Gunnedah.

Currently all haul routes along public roads are designated for B-Doubles.

Service vehicles generally access the site from Gunnedah via the proposed haul routes.

Current descriptions and conditions of the haul route roads as follows:

2.5.1 Barker Road

Barker Road is an unsealed rural road from the quarry site entrance to the intersection with Mary's Mount Road. The length is approximately 2.6km.

The road has an 8m wide gravel formation. The speed limit is 100kph. Sight distance is 250m + in both directions at the site entrance.



Photo 1: View along Barker Road from Quarry entrance

The road is generally flat and straight. Pavement condition is generally good. Gunnedah Quarry Products voluntarily grade Barker Road to maintain good road conditions.

2.5.2 Mary's Mount Road

Mary's Mount Road is an unsealed rural road from the end of Barker Road to Goolhi Road. The length is approximately 4.2km.

The road has an 8m wide gravel formation. The speed limit is 100kph. Sight distance is 250m + in both directions at the intersection with Barker Road.

There are two right angle bends in the road with radii of approximately 20-25m that must be negotiated at low speed.

The road is generally flat and the pavement is in good condition. Gunnedah Quarry Products voluntarily grade Mary's Mount Road to maintain good road conditions.



Photo 2: Mary's Mount Road and bends

2.5.3 Goolhi Road

Goolhi Road is a sealed rural road from the Mary's Mount Road intersection to the Kamilaroi Highway.

From Mary's Mount Road to Quia Road, the road has a 6m wide bitumen seal on an 8m wide gravel formation. The length is approximately 8.3km. The speed limit is 100kph.

Sight distance is 250m + in both directions at the intersection with Mary's Mount Road. Two large gums at the intersection should be removed to improve safety.



Photo 3: Intersection Goolhi Road, looking along Mary's Mount Road

In some locations along the road, trucks drop their wheels over the edge of the bitumen seal to negotiate the bends. The road verges also drop away steeply in places. Truck drivers communicate via UHF radio to warn other drivers of their approach.

From Quia Road to the Kamilaroi Highway, via Emerald Hill, the road generally has a 6m wide bitumen seal on an 8m wide gravel formation. The length is approximately 13.3km. The speed limit is 100kph. Sight distance is 250m + in both directions at the intersection with Quia Road.

At Emerald Hill, Goolhi Road crosses the Werris Creek – Mungindi Railway line. The crossing has active protection measures in place (flashing lights and boom gates to warn motorists that a train is approaching). Through Emerald Hill, the bitumen width narrows to approximately 5m.



Photo 4: Level Crossing at Emerald Hill

At Emerald Hill, there is also a bulk grain handling facility located just off Goolhi Road beside the rail line.

The road is generally flat, with gentle bends and grades. There is generally no line marking. The pavement narrows with some tighter bends through Emerald Hill. Pavement and surface condition is generally good.

2.5.4 Quia Road

Quia Road is a sealed rural road from the Goolhi Road intersection to the Blackjack Road roundabout. The length is approximately 16.2km.

The road has a 6-7m wide bitumen seal on an 8-9m wide gravel formation. The speed limit is generally 100kph, reducing to 80kph near the garbage tip.

The road is generally flat, with gentle bends and grades. Pavement and surface condition is generally good.



Photo 5: Intersection Goolhi Road and Quia Road

2.5.5 Blackjack Road

Blackjack Road is a sealed road between Quia Road and the Oxley Highway. The length is approximately 3km.

The road has a 6m wide bitumen seal on an 8m wide gravel formation, and is centre line marked. The speed limit is 100kph.

The road is straight and the pavement condition is generally good.

2.5.6 Kamilaroi Highway

The Kamilaroi Highway is a Roads & Maritime Services (RMS) classified State Highway (National Route 37, soon to be renumbered State Route B51). This is the main road between Gunnedah and Narrabri.

The road is of a 2 lane, 2 way rural highway standard with an 8m wide bitumen seal, edge and centre line marked, and 2 x 3.5m wide lanes. Bitumen sealed shoulders are approximately 0.5m in width. The road is in good condition and has a 100kph speed limit in its rural state and 50kph in built up areas.

The intersection with Goolhi Road is approximately 8.2km from the Gunnedah PO. The intersection provides a deceleration and acceleration lane for traffic turning left in or left out of Goolhi Road. Sight distances at the intersection are approximately 250m + in all directions. Haul trucks (both quarry and grain) currently use this intersection without any recorded incidents. The last recorded accident at the intersection (single vehicle (car), hit guardrail) occurred in August 2007.

2.5.7 Oxley Highway

The Oxley Highway is an RMS classified State Highway (National Route 34, soon to be renumbered State Route B56). This is the main road between Gunnedah and Coonabarabran.

The road is of a 2 lane, 2 way rural highway standard with an 8m wide bitumen seal, edge and centre line marked, and 2 x 3.5m wide lanes. Bitumen sealed shoulders are approximately 0.5m in width. The road is in good condition and has a 100kph speed limit in its rural state and 50kph in built up areas.

The intersection with Blackjack Road is approximately 5km from the Gunnedah PO. The intersection is a typical CHR rural intersection and includes acceleration and deceleration lanes in both directions. Sight distances at the intersection are approximately 250m + in all directions.

2.6 Existing Traffic Flows

Traffic volume data is shown in **Tables 1, 2 & 3**. Note that since current quarrying operations commenced in early 2011, most of this data was recorded prior to the commencement of the current operations. Quarrying operations prior to the commencement of GQP operations were believed to be in the order of 500 tonnes per annum, which would have minimal impact on the recorded traffic volumes.

Table 1: Existing Traffic Counts – RMS Traffic Volume Data

| Station | Road | Location | 1998 AADT | 2004 AADT |
|---------|---------------|----------------------------|-----------|-----------|
| 92.294 | Kamilaroi Hwy | North of Emerald Hill Road | 2244 | 1966 |
| 92.165 | Kamilaroi Hwy | West of Warrumbungle St | - | 3715 |
| 92.646 | Oxley Hwy | On railway overhead bridge | 7267 | 5069 |
| 92.052 | Oxley Hwy | 20km W of Conadilly St | 1412 | 1448 |

Source: Traffic Volume Data for Hunter and Northern Regions 2004, RMS

Table 2: Existing Traffic Counts – Local Roads

| Site | Date | Road | Location | ADT 5 day | ADT 7 day | %HV |
|------|---------------------|-------------------------|----------------------------------|-----------|-----------|------|
| 1 | 3/09 – 5/11 | Mary's Mount Road | E of Barker Road | - | 27 | - |
| 2 | 3/09 – 5/11 | Grain Valley Rd | To Boggabri | - | 73 | - |
| 3 | 3/09 – 5/11 | Grain Valley Rd | To Mullaley | - | 82 | - |
| 4 | 15/08/07 – 3/9/07 | Quia Road | E of Torrens Rd | 1930 | 1431 | 14.5 |
| 5 | 12/10/10 – 26/10/10 | Mullaley Rd (Oxley Hwy) | Between Farrar Rd & Roundabout | 6004 | 5156 | 8.9 |
| 6 | 15/03/12 – 20/4/12 | Quia Road | E of Torrens Rd | 750 | 657 | 30.5 |
| 7 | 5/13 – 6/13 | Goolhi Road | Between Marys Mount Rd & Quia Rd | - | 380 | 21 |

Source: Gunnedah Shire Council (ADT is average daily traffic flow for a 24 hr period)

Table 3: Vehicle Classes – Local Roads

| Classes (Actual Count) | | | | | | | | | | | | | | |
|------------------------|------------|-------|------------|------|--------|------|-----|---------|-----|-----|-----|-----|-----|-----|
| Site | No of Days | Total | Classes ** | | | | | | | | | | | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | | LV | | Med HV | | | Long HV | | | | BD | DRT | TRT |
| 4 | 19 | 26786 | 22098 | 808 | 2084 | 389 | 57 | 80 | 133 | 241 | 516 | 367 | 13 | 0 |
| 5 | 14 | 71795 | 63278 | 2105 | 3419 | 970 | 507 | 54 | 160 | 154 | 805 | 315 | 25 | 3 |
| 6 | 35 | 23738 | 15847 | 643 | 4466 | 1472 | 341 | 77 | 133 | 70 | 523 | 160 | 6 | 0 |

** Austroads vehicle classification system 2006

2.7 Accident History

The haul routes do not have a history of serious accidents. Between August 2007 and October 2009 there were five recorded accidents, only one of which involved a heavy vehicle. One accident, involving a car and a motorcycle, resulted in an injury to the rider. All of the accidents occurred on sealed roads or highways (Council accident records, email Sam Devine, Gunnedah Shire Council, 8/4/13)

2.8 Public Transport

There are a number of bus services operating in the area. Hawkins Coach Lines and Hopes Bus Service operate school bus services along the haul route. Various national route, inter-district and school bus and coach services travel via the Kamilaroi and Oxley Highways. Haulage operations currently cease while school buses use the haul route.

There are no school zones in the vicinity of the quarry.

2.9 Pedestrians and Cyclists

Currently there is little pedestrian or cycling activity in the vicinity of the quarry given the rural nature of the locality and the road conditions.

3 Current Operations

A quarry operates on the site which was approved under the terms and conditions of DA 507167. The current quarrying operation extracts blue metal gravel for use as railway ballast, crusher dust, concrete aggregate, roadbase to RMS Spec 3051, mine stemming gravel and many other civil construction and commercial building applications.

The extraction of the material is via mechanical means. Crushing and screening of material is carried out on-site via fixed or mobile plant.

3.1 Site Layout

All activities involved in the extraction, crushing, screening and loading of materials are completed on-site (refer **Figure 2**).

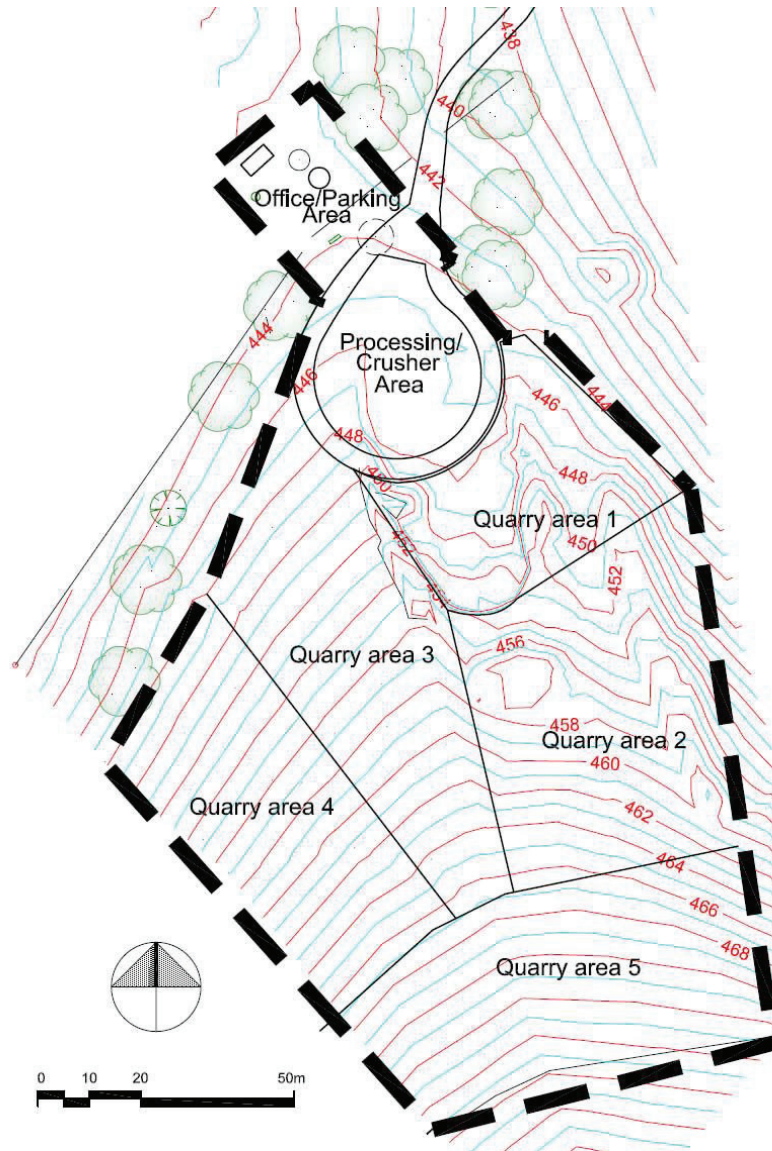
3.2 Personnel

One to two on-site plant operators and a site foreman are currently employed at the site in conjunction with day-to-day operations. Additional personnel are used as needed on a limited basis, and during peak extraction periods.

3.3 Hours of Operation

Approved hours of operation are:

- Monday to Friday 7:00am – 6:00pm (daylight savings time)
- Monday to Friday 7:00am – 5:00pm (non-daylight savings time)
- Saturday 8:00am – 3:00pm (machinery maintenance)
- Sunday and Public Holidays – closed.



Plan courtesy of Stewart Surveys

Figure 2: Current Site Layout

3.4 Transportation

Material extracted from the site is loaded onto trucks with an average carrying capacity of approx. 30 tonnes, for haulage to a number of locations throughout the region. Approximately 80% of haulage is with truck and dog (capacity 32 tonnes) and 20% with single semi-trailers (capacity 27 tonnes).

Haulage is via both Barker Road – Goolhi Road to Kamilaroi Highway at Emerald Hill, and Goolhi Road - Quia Road to Oxley Highway at Gunnedah.

3.5 Maintenance

Under the current DA approval, GQP pay to Council a monetary contribution in the amount of \$10,618 per annum for the construction and maintenance of Barker Road.

In addition, GQP also voluntarily grade Barker Road and Mary's Mount Road to maintain good road conditions. Whenever GQP are undertaking haulage operations they apply a watercart to the sections of gravel road in front of each property access and at the Goolhi Road intersection.

3.6 Circulation and Parking

A network of internal roads provides access around the site.

There is more than adequate level parking area available on site for staff and service vehicles.

4 Proposed Expansion

GQP is proposing to expand the current operations in manageable stages over a 37 year program. The estimated available resource within the proposed quarry is 4.44 million cubic metres. The annual rate of extraction proposed is 120,000m³, which equates to 360,000 tonnes. Processing and stockpiling of the quarried material will occur on site.

The extraction of the material will be primarily via mechanical means; however it will be necessary to undertake some drill and blast. Crushing and screening of material is carried out on-site via fixed or mobile plant.

GQP is proposing to campaign mine the site, meaning the product will be excavated and stockpiled. When a sufficient volume of material is stockpiled, excavation will cease and processing will begin

Descriptions of site layout, plant and equipment, personnel, transportation, site access, sight distance, circulation and parking for the proposed expansion are described in the subsections below.

4.1 Site Layout

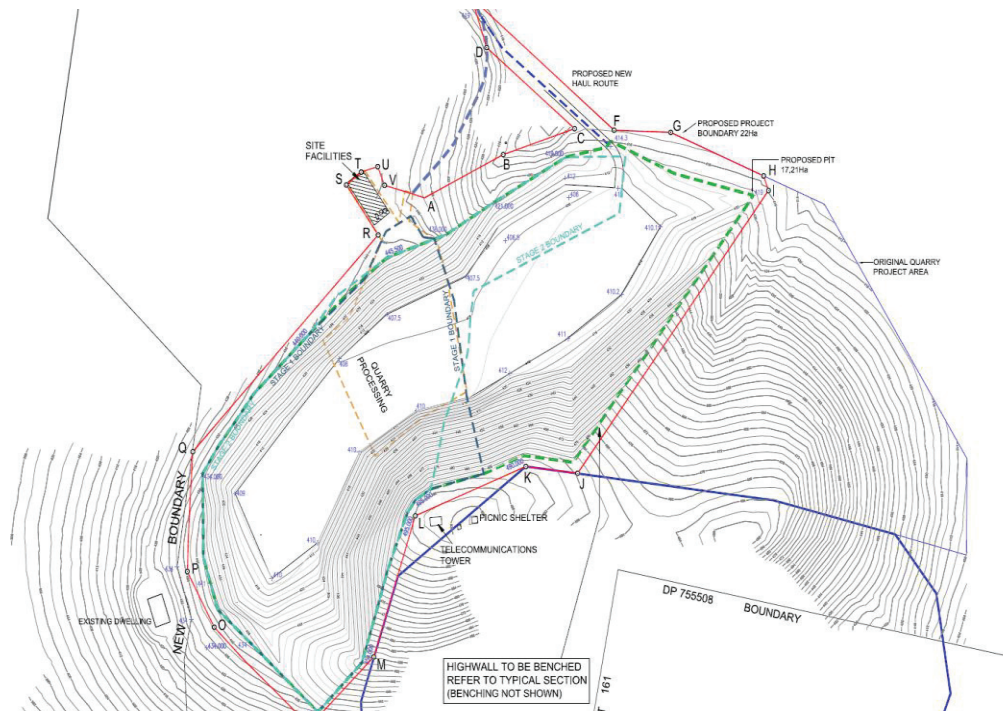
All activities involved in the extraction, crushing, screening and loading of materials will be completed on-site (refer **Figure 3**).

4.2 Plant and Equipment

The equipment used for the extraction, crushing and screening, and loading of haulage vehicles will include:

- excavators
- drill and blast equipment
- front end loaders
- crushing and screening plant
- haulage trucks (truck and dog, single semi-trailers and B-doubles).
Most haulage is undertaken by sub-contractors
- water cart (dust suppression)
- grader, dozer and roller (access road maintenance).

Additional plant and equipment may be utilised during peak extraction periods.



Plan courtesy of Stewart Surveys

Figure 3: Proposed Site Layout

4.3 Personnel

Fifteen staff (plant operators and site supervisors) will be employed at the site in conjunction with day-to-day operations. Additional personnel may be needed on a limited basis, and during peak extraction periods.

4.4 Hours of Operation

Hours of operation are proposed to be:

- Monday to Friday 7:00am – 6:00pm (daylight savings time)
- Monday to Friday 7:00am – 5:00pm (non-daylight savings time)
- Saturday 8:00am – 3:00pm (mainly machine maintenance, but possibly some haulage during peak times)
- Sunday and Public Holidays – closed.

4.5 Transportation

Material extracted from the site will be loaded onto trucks for haulage to a number of locations throughout the region. Approximately 75% of haulage will be with truck and dog (capacity 32 tonnes), 20% with single semi-trailers (capacity 27 tonnes), and 5% with B-doubles (capacity 38 tonnes). This gives an average carrying capacity of approx. 31 tonnes.

The haul routes will be via both Barker Road – Goolhi Road to Kamilaroi Highway at Emerald Hill, and Goolhi Road - Quia Road – Blackjack Road to Oxley Highway west of Gunnedah (refer **Figure 4**).

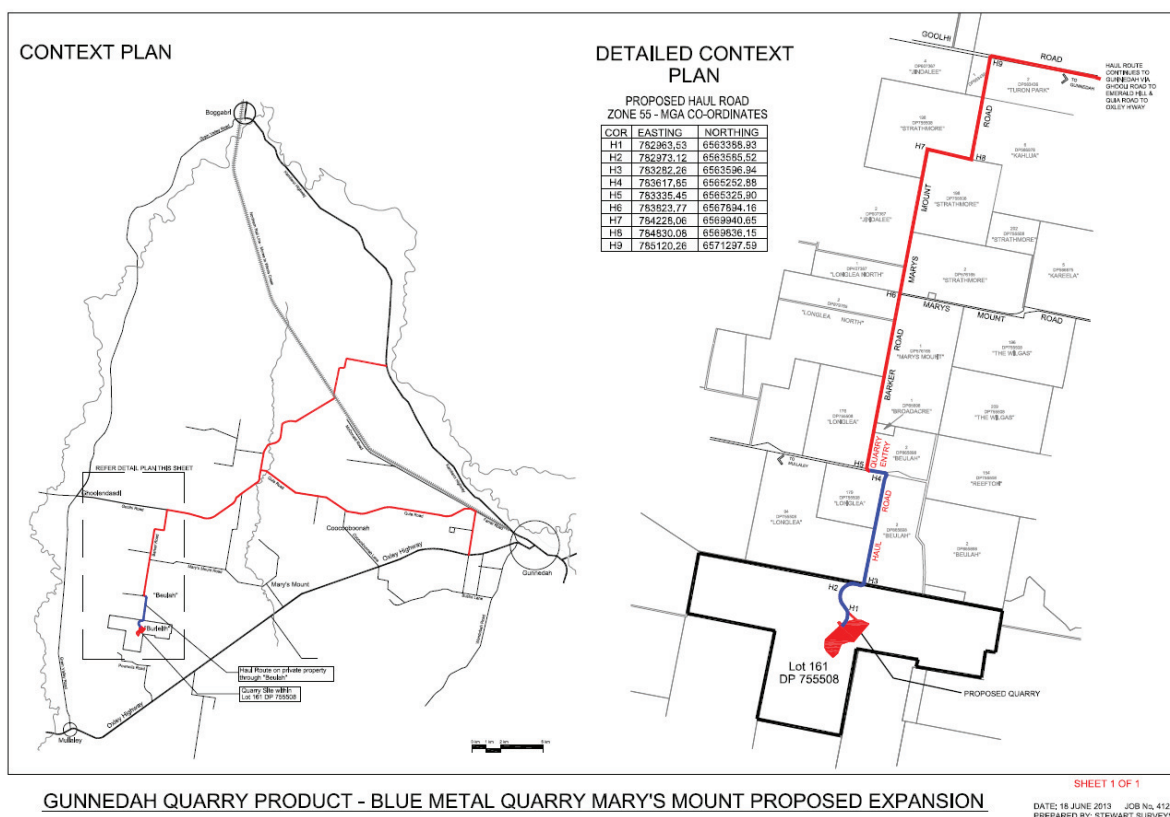


Figure 4: Proposed Haul Routes

The quarry operator has a commitment to speed management, ensuring compliance with truck load limits and a “covered load” policy to ameliorate the impact of the development on other road users and the road network.

4.6 Maintenance

Gunnedah Quarry Products proposes to enter into a Voluntary Planning Agreement (VPA) with Council for the construction and maintenance of the haul roads.

The VPA will consider:

- the number of truck movements
- the capacity of the haul trucks
- the haul routes
- condition of the haul roads
- staged upgrades of the gravel haul roads
- upgrades of existing intersections
- upgrade of Goolhi Road at Emerald Hill
- maintenance of the sealed roads.

4.7 Access and Sight Distance

The existing site access and egress onto Barker Road will remain. This access is currently used by haulage vehicles without any known problems. Haulage will be via the routes as previously described.

For a design speed of 100km/h and a reaction time of 2.0 seconds, a minimum safe intersection sight distance (SISD) of 248m is required in each direction (Austroads '*Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections*', Table 3.2, 2010).

The stopping sight distance (SSD) for a car on a sealed road is 165m (Austroads '*Guide to Road Design – Part 3: Geometric Design*', Table 5.4, 2010). The stopping sight distance (SSD) for a truck is 191m (Austroads, Table 5.5). The available sight distance at the site entry and at all intersections on the haul route is in excess of 250m in all directions, which satisfies the Austroads requirements.

4.8 Circulation

A network of internal roads, suitable for heavy vehicle use, provides access around the site. A new internal haul road, approved under DA 507167, will be constructed prior to commencement of the expanded operations.

5 Parking Assessment

The assessment of parking requirements has been based on:

- AS/NZS2890.1-2004 “Parking Facilities – Part 1: Off-street Car Parking”
- AS2890.2-2002 “Parking Facilities – Part 2: Off-street commercial vehicle facilities”
- RTA Guide to Traffic Generating Developments, 2002.

These requirements are summarised in **Table 4**.

Table 4: Parking Requirements for Development

| Parking Generation Unit | Number | Parking Requirement | Parking Spaces Required |
|-------------------------|--------|---------------------|-------------------------|
| Employees | 15 | 1 per 2 employees | 8 |

Deliveries are limited to fuel for extraction plant and plant service vehicles, and occur infrequently, mainly during off-peak times.

There is more than adequate level parking area available on site for staff and service vehicles. Haulage is typically by sub-contractors, therefore haulage vehicles will generally not park on site. However there is more than adequate space available in and around the loading area for queuing of vehicles.

The provision of formal parking areas is not warranted.

6 Traffic Generation

6.1 Traffic Generation

The proposal seeks approval for an annual extraction rate of 120,000 m³/annum (solid), or approx. 360,000 tonnes.

Approximately 75% of haulage will be with truck and dog (capacity 32 tonnes), 20% with single semi-trailers (capacity 27 tonnes), and 5% with B-doubles (capacity 38 tonnes). This gives an average carrying capacity of approx. 31 tonnes.

The density of the resource material is 3.0 t/m³ (solid) (refer Material Test Report provided at **Attachment 1**) or 1.775 t/m³ (loose) (refer sample load test results provided at **Attachment 2**). Bulking factor varies with the material produced, but is approx. 70%.

Based on a material density of 1.775 t/m³, a 32 tonne truck and dog requires 18m³ to reach carrying capacity, which is within the volumetric capacity of the truck (ie truck and dog will be full). Likewise, a single semi-trailer will be 56% full (at 27 tonnes) and a B-double will be 30% full (at 38 tonnes).

Actual daily extraction rates vary in accordance with a number of factors including:

- weather (particularly during rain events)
- resource supply
- fluctuations in demand.

Notwithstanding the above, the total number of truck movements per year generated by the operations is limited by the yearly cap.

Haulage can be undertaken from the site 5½ days per week, 52 weeks per year, however, the above-referenced variations will reduce this to approximately 264 working days per year, which equates to 48 working weeks per year.

Based on an annual extraction rate of 360,000 tonnes and 264 working days per year, the average daily extraction rate is 1,364 tonnes/day. Based on an average truck payload of 31 tonnes, this equates to 44 truck loads per day being transported from the site.

As GQP is proposing to campaign mine the site, the product will be excavated and stockpiled. When a sufficient volume of material is stockpiled, excavation will cease and processing will begin. On this basis, peak traffic generation rates will be determined by load time (assuming that sufficient haul trucks are available) or haul cycle time (assuming limited number of trucks available).

Assuming a load time of 10 minutes per truck, peak days can produce maximums of up to 60 truck loads per day (6 truck loads per hour, or 12 truck movements per hour). This equates to a daily output of up to 1,860 tonnes/day. It should be noted that these peak rates cannot be sustained as the site would be generating approximately 490,000 tonnes p.a., which is in excess of the yearly cap.

Traffic generation has been estimated assuming the use of haulage trucks with an average load capacity of 31 tonnes. This equates to a maximum of 11,613 truck loads per year, or 23,226 truck movements per year, based on the maximum extraction rate of 360,000 tonnes/annum (a return trip counts as two truck movements).

Table 5 is indicative of the average heavy vehicle traffic rates that will be generated by the operations if the average daily extraction rate (1,364 tonnes/day) is achieved.

Table 5: Average HV Traffic Generation Rates

| Truck Capacity | Loads/day | Truck Movements/day | Truck Movements/hr |
|----------------|-----------|---------------------|--------------------|
| 31 tonnes | 44 | 88 | <9 |

Table 6 is indicative of the peak traffic rates that will be generated by the operations if the maximum daily extraction rate of 1,860 tonnes/day is achieved.

Table 6: Peak HV Traffic Generation Rates

| Truck Capacity | Loads/day | Truck Movements/day | Truck Movements/hr |
|----------------|-----------|---------------------|--------------------|
| 31 tonnes | 60 | 120 | 12 |

The site will typically be operated by up to 15 site staff, who will generate on average an additional 30 vehicle movements per day (3 vehicle movements per hour).

Service vehicles will attend the site (typically 1/week), and occasionally plant and equipment will be removed from the site for maintenance and/or repairs (typically 2/month). It is envisaged that this requirement would result in no more than 144 additional vehicle movements per year, or less than 1 vehicle movement per day, which is negligible.

The Section 96 application to modify Development Consent 507167 estimated average heavy vehicle movements generated by an annual extraction rate of 90,000 tonnes/annum to be 26 truck movements per day. Therefore the proposed expansion of the quarry to increase the annual extraction rate to 360,000 tonnes/annum will increase average heavy vehicle movements to 88 truck movements per day (an increase of 62 truck movements per day). Peak movements will increase from 66 truck movements per day to 120 truck movements per day (an increase of 54 truck movements per day).

Personnel vehicle movements will increase from 6 to 30 vehicle movements per day (an increase of 54 vehicle movements per day). Service vehicle movements are negligible and will remain relatively unchanged.

6.2 Trip Distribution

It is estimated that traffic movements from the quarry will typically be split 75% to Barker Road – Goolhi Road – Kamilaroi Highway, and 25% to Goolhi Road - Quia Road – Blackjack Road – Oxley Highway. This may vary on occasion due to market demands.

7 Impacts of the Proposed Development

The impacts of the proposal on traffic efficiency, amenity, safety, intersections, road pavements, public transport, noise and dust are assessed in the following sections.

7.1 Impact on Traffic Efficiency

To aid interpretation on the impacts on traffic flows, the RMS's "Guide to Traffic Generating Developments" provides acceptable ranges of peak vehicle flows for various "levels of service" experienced on rural roads. The intention is to at least maintain the existing "level of service" for the roads adjacent to the site. Road capacity "levels of service" are defined by the RMS for rural roads as shown in **Table 7**, with the highest level of service being Level A (free flow), with service deteriorating to Level F (forced flow).

Table 7: Two-Way Peak Hour Flows on Two Lane Rural Roads

| Terrain | Level of Service | 15% Heavy Vehicles (veh/hr) – 80km/h ¹ | 15% Heavy Vehicles (veh/hr) – 100km/h |
|---------|------------------|---|---------------------------------------|
| Level | B | 477 | 530 |
| | C | 783 | 870 |
| | D | 1269 | 1410 |
| | E | 2061 | 2290 |

Note 1: Capacities for 80km/h are between 85-95% of the capacities for 100km/h.

The following performance standards are recommended:

Weekday Peak Hour Flows

Major Roads: Level of service C
 Minor Roads: Level of service C (desirable)

Recreational Peak Hours (weekends)

Major Roads: Level of service D
 Minor Roads: Level of service D (desirable)

The “level of service” on the local roads is currently Level B or better (<530 veh/hr from Table 2). The estimated traffic movements generated by the expanded quarrying operations (up to 15 vehicle movements per hour) will not alter the “level of service” currently experienced on the local roads, and will therefore not impose any major social or physical detriment upon the local residents and road users.

The “level of service” on the highways is currently Level B or better (<530 veh/hr from Table 1). The estimated traffic movements generated by the expanded quarrying operations (up to 11.25 vehicle movements per hour, assuming 75:25 split) will not alter the “level of service” currently experienced on the highways. Therefore the level of impact on the Kamilaroi and Oxley Highways will be minimal due to the trip distribution. The heavy vehicle movements generated by the quarrying operations represents less than 5% of the traffic on the Highways at average extraction rates. The traffic volumes are well within the prescribed RMS service levels.

7.2 Impact on Traffic Amenity

The existing gravel roads generally have an 8m wide formation. The existing sealed roads generally have a 6m wide bitumen seal on an 8m formation. Some sections of Quia Road have recently been upgraded to a 7m wide bitumen seal on a 9m formation. The speed limit is typically 100kph.

Austroads ‘*Guide to Road Design Part 3: Geometric Design*’, 2010, as amended by the RMS Supplement, specifies minimum design standards for rural roads. The RMS Supplement specifies, for a road with an AADT of less than 150, the minimum standard is a single 3.5m lane with 1-1.5m wide shoulders; for a road with an AADT of 150-1000, the minimum standard is 2 x 3.5m lanes with 1-2m wide shoulders.

The AADT on the local gravel roads (Barker Road and Mary’s Mount Road) is less than 150, therefore the width of these roads is considered adequate to meet the minimum Austroads design standard (as amended by the RMS Supplement). GQP propose to upgrade the pavement and provide a 7m wide bitumen seal for both Barker Road and Mary’s Mount Road (from the quarry entrance to the Goolhi Road intersection). It is proposed that these upgrade works be completed within a 3 year period from date of granting of consent.

GQP also propose to upgrade the pavement and provide a bitumen seal to the internal haul road from the quarry entrance to the stockpile area.

The AADT on the sealed roads is between 150 and 1000. As the %HV on these roads varies, and is influenced by seasonal variations, the existing road conditions are considered adequate to meet the minimum Austroads design standard. The narrow winding section of Goolhi Road through Emerald Hill shall be widened to provide a 7m bitumen seal. The length requiring upgrade is approx. 150m – the length of reconstruction will be subject to survey and engineering design.

7.3 Impact on Intersections

The Goolhi Road / Mary's Mount Road intersection is a typical rural T-intersection (Goolhi Road has priority) and has no auxiliary lanes for right or left turn movements. Currently Mary's Mount Road is an unsealed road.

Table 6.1 of Austroads '*Guide to Traffic Management – Part 3: Traffic Studies and Analysis*', gives intersection volumes below which capacity analysis is unnecessary. For a two lane major road, when the traffic flow on the major road is 400 veh/hr, the intersection capacity is exceeded when the flow in the minor road is greater than 250 veh/hr (two-way flows). The traffic flow is 38 veh/hr in Goolhi Road and 3 veh/hr in Mary's Mount Road (from Table 2). Therefore the capacity of the intersection is not exceeded under existing conditions.

The additional flows generated by the development increase the traffic flows by up to 15 vehicle movements per hour. Therefore the design traffic flows do not exceed the intersection capacity.

It is recommended that this intersection be upgraded to meet the minimum BAL standards required by the Austroad's guidelines for vehicles turning left into Mary's Mount Road.

The Kamilaroi Highway / Goolhi Road intersection is a 'Give Way' controlled rural T-intersection. The intersection provides a deceleration and acceleration lane for traffic turning left in or left out of Goolhi Road. Haul trucks (both mining and agriculture) currently use this intersection without any recorded incidents.

The traffic flow is 197 veh/hr on the Kamilaroi Highway (from Table 1) and 38 veh/hr in Goolhi Road (from Table 2). Therefore in accordance

with Table 6.1 of Austroads the capacity of the intersection is not exceeded under existing conditions.

The additional flows generated by the development increase the traffic flows at the intersection by up to 11.25 vehicle movements per hour (75:25 split). Therefore the design traffic flows do not exceed the intersection capacity.

Figure 4.9(a) of Austroads '*Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections*', gives warrants for turn treatments at intersections on major roads. For a design speed of $\geq 100\text{kph}$, when the traffic flow on the major road is 200 veh/hr, and the turning volume is in the order of 50 veh/hr, a CHR(S) turn treatment is the minimum required. Given the number of heavy vehicles using the intersection, it is recommended that a full length CHR turn treatment be applied.

The Goolhi Road / Quia Road intersection is a 'Give Way' controlled intersection (Goolhi Road has priority). Again the intersection configuration is adequate to cater for the increased heavy vehicle movements. It is recommended that the loose gravel that has accumulated in the middle of the intersection be swept to remove the hazard.

The additional flows generated by the development do not warrant further detailed analysis of the intersections.

7.4 Impact on Traffic Safety

The current quarry has operated at the site without any known adverse impacts or incidents.

Auxiliary lanes are provided on the Oxley Highway to allow for both left and right turn movements into and out of Blackjack Road. The design of this intersection is considered suitable for the additional heavy vehicle movements.

Similarly, auxiliary lanes are provided on the Kamilaroi Highway to allow for left turn movements into and out of Goolhi Road. However, given the potential increase in heavy vehicle turn movements at this intersection, it is recommended that a full length CHR turn treatment be applied for right turns into Goolhi Road.

Pedestrian and cyclist numbers are low in the vicinity of the quarry. Where using main roads and highways, pedestrians and cyclists currently share these roads with mining and agricultural haulage trucks, with little known problems. Additional traffic generated by the quarry expansion represents only a very small percentage of traffic on the highways.

The following safety improvements are recommended:

- There are two right angle bends in Mary's Mount Road with radii of approximately 20-25m that are currently negotiated at low speed. GQP has approached the adjoining landowner without success to negotiate a land swap to facilitate the realignment of the bends. Therefore the existing alignment will be retained with warning signs erected in the approaches to indicate the approaching bend and the appropriate (reduced) speed at which to negotiate the bend.
- The intersection of Goolhi Road / Mary's Mount Road be upgraded to meet the minimum BAL standards required by the Austroad's guidelines for vehicles turning left into Mary's Mount Road.
- The narrow winding section of Goolhi Road through Emerald Hill shall be widened to provide a 7m bitumen seal. The length requiring upgrade is approx. 150m – the length of reconstruction will be subject to survey and engineering design. Widening will need to consider existing cadastral boundaries and services.
- It is further recommended that the posted speed limit through Emerald Hill be reduced to 50kph, or alternatively warning signs shall be erected in the approaches to advise motorists to reduce speed.
- The intersection of Kamilaroi Highway / Goolhi Road be upgraded to meet the minimum CHR standards required by the Austroad's guidelines for vehicles turning right into Goolhi Road.
- Signs shall be erected in the vicinity of the quarry, as required, to advise motorists of additional truck movements in the area.

Peak traffic generation of up to 15 vehicle movements per hour is unlikely to raise any adverse safety issues for local transport and users of the local and regional road network.

7.5 Impacts on Road Pavements

The theoretical impact on the road pavement is measured by the Equivalent Standard Axle (ESA) load applied by the additional traffic to the life cycle ESA of the existing road pavement.

The quarry operations as a whole will generate approximately 0.9×10^5 design ESA's (assuming AADT 118 vpd and 75% heavy vehicles). In a total design life cycle ESA of the existing bitumen sealed pavements of approximately 5×10^6 ESA's (assuming 300mm pavement depth and subgrade CBR of 10 – Figure 8.4, Austroads 'Guide to Pavement Technology: Part 2 – Pavement Structural Design', 2012), this equates to approximately 18% of the total design traffic for the roads. Given that the local economy supports large scale agricultural and mining operations, it is assumed that the existing sealed roads have been designed for significant heavy vehicle use. The level of impact on the road pavements will decrease as the traffic is distributed throughout the local road network.

GQP propose to upgrade the road pavements and provide a bitumen seal to the sections of Barker Road and Mary's Mount Road that comprise the haul route. As the pavement designs will be fit for purpose, the pavement life of these roads will not be compromised by the additional traffic generated by the quarry.

7.6 Impact on Public Transport

Where using main roads, haulage trucks share these roads with public transport. This is the case with current haulage activities in the area, with no known problems.

Haulage operations currently cease while school buses are using the haul route. Truck drivers shall continue to be made aware (via Tool Box meetings and/or site induction) of the existing school bus routes along Goolhi and Quia Roads, bus stop locations, school zones and timetables. GQP shall confirm school bus timetables and routes with the bus companies at the beginning of each school year, and adjust the haulage schedule as required. File notes shall be retained to confirm the dialogue with the bus companies

A 'Code of Conduct' for haulage operators shall be prepared. All sub-contractors shall be made aware of this code. The code shall inform drivers of all known safety considerations along the haul routes, including school bus routes and timetable, school zones, concealed

driveways, seasonal haulage operations, wet weather safety, and any other known local hazards.

The construction of a bus pick-up/set-down area was approved under DA 507167. This will be located on the northern shoulder of Goolhi Road, east of the intersection with Mary's Mount Road, and will be constructed prior to commencement of the expanded operations.

The proposal raises no demand for the provision of public transport as a maximum of 15 employees are engaged at the site. Private transport is used for personal access.

7.7 Noise Impacts

This application to increase truck movements will potentially increase the environmental road traffic noise impacts along the haul routes.

A detailed Noise Impact Assessment (NIA) has been prepared to support and inform the EIA for the expansion of the quarry. The document is titled *'Noise and Blasting Impact Assessment, Gunnedah Gravel Products Quarry Expansion, Mary's Mount, NSW'* and was prepared by Spectrum Acoustics, Noise and Vibration Consultants (dated April 2013, Project No. 13779).

The NIA assessed the road traffic noise that would be generated by 31 truck loads per day (62 truck movements per day). The NIA reported that:

- *"Taking the daytime traffic noise criterion of 55dB(A), $L_{eq}(1hour)$ as SPL_N and solving equation (2) for N gives a maximum of more than 50 trucks per hour to equal the noise criterion at this receiver"* (being the closest residence to the Barker Road section of the haul route, being 'Longlea North' which is 270m west of Barker Road).
- *"The proponent has advised that approximately 31 trucks per day (62 movements including arrival and departure) would be generated. On average there would be fewer than six truck movements per hour resulting in a traffic noise level of 43dB(A), $L_{eq}(1hour)$ which is well below the RNP noise criterion.*
- *For a heavy vehicle (B-double) travelling at 100 km/h on a tar-sealed road, Spectrum Acoustics has previously measured maximum noise levels up to 68 dB(A), based on hundreds of measurements. At a distance of 140m this would reduce to 65 dB(A). Using equation 1 and assuming six tuck movements per hour gives a predicted level*

of 51 dB(A), $L_{eq}(1 \text{ hour})$ at the nearest residence to Ghooli Road. This is below the 55 dB(A) criterion”.

The NIA concluded that:

- *With one exception, no noise criterion exceedances at residential receivers*
- *With one exception, no blasting criterion exceedances at residential receivers*
- *No exceedance of off-site traffic noise criteria at any receiver*
- *The exception to the above findings is residence R10 “Berleith” 1 which is within 100m of the western extent of the quarry footprint. Noise and blasting impacts at this residence are predicted to exceed the relevant criteria at all times”.*

7.8 Dust Impacts

This application to increase truck movements will potentially increase the environmental impacts of dust.

Pacific Environment Limited report ‘*Proposed Mary’s Mount Quarry Expansion – Amended Project Report*’ (dated 6 May 2013, Job No. 7338) concluded that:

- *“The results of the modelling indicate that the predicted incremental TSP at the closest residential receivers are all below the impact assessment criteria. PM_{10} and dust deposition was predicted to be above the assessment criteria at R1, which is located within 50m of the pit. No exceedances were predicted at any other of the nearby residences”.*
- *“A cumulative assessment, incorporating existing background levels, indicates that the Project is unlikely to result in any additional exceedances of relevant impact assessment criteria at the neighbouring receivers”.*

The report made the following recommendations with respect to the access road and heavy vehicle haulage:

- The use of earth moving equipment can be significant sources of dust, and emissions should be controlled through the use of water sprays during road construction. Where conditions are excessively

dusty and windy, and fugitive dust can be seen leaving the site, work practices should be modified by limiting scraper / grader activity.

- All vehicles on-site should be confined to a designated route with speed limits enforced
- Trips and trip distances should be controlled and reduced where possible, for example by coordinating delivery and removal of materials to avoid unnecessary trips
- Dirt that has been tracked onto sealed roads should be cleaned as soon as practicable
- When conditions are excessively dusty and windy, and dust can be seen leaving the works site the use of a water truck (for water spraying of travel routes) should be used
- Seal the main access roads as soon as practical.

7.9 Considerations under Clause 16(1) of SEPP (Mining, Petroleum Production and Extractive Industries) 2007

Clause 16(1) states:

- 1) *Before granting consent for development for the purposes of mining or extractive industry that involves the transport of materials, the consent authority must consider whether or not the consent should be issued subject to conditions that do any one or more of the following:*
 - (a) *require that some or all of the transport of materials in connection with the development is not to be by public road,*
 - (b) *limit or preclude truck movements, in connection with the development, that occur on roads in residential areas or on roads near to schools,*
 - (c) *require the preparation and implementation, in relation to the development, of a code of conduct relating to the transport of materials on public roads.*

Section 7.6 of this report addresses haulage operations along school bus routes. In summary:

- Haulage operations to cease while school buses are using the haul route
- Truck drivers shall be made aware (via Tool Box meetings and/or site induction) of the existing school bus routes along Goolhi and Quia Roads, bus stop locations and timetables
- GQP shall confirm school bus timetables and routes with the bus companies at the beginning of each school year, and adjust the

haulage schedule as required. File notes shall be retained to confirm the dialogue with the bus companies.

- A 'Code of Conduct' for haulage operators shall be prepared. All sub-contractors shall be made aware of this code.
- The construction of a bus pick-up/set-down area on Goolhi Road (approved under DA 507167) will be constructed prior to commencement of the expanded operations.

8 Conclusions and Recommendations

8.1 Conclusions

An assessment of a variety of traffic issues associated with the development was undertaken by Ardill Payne & Partners. This assessment examines what impact the increased traffic movements from the quarry will have on the local traffic flows and road network.

The issues addressed in this report and the associated conclusions are summarised below:

- **Access** – the site access location is suitable for the heavy vehicle movements, and intersection sight distance is adequate. GQP proposes to upgrade and bitumen seal the internal access road from Barker Road to the stockpile area.
- **Parking** – adequate space is provided onsite for employee and visitors parking.
- **Traffic Efficiency** – traffic movements will increase due to the quarry operation, but will not alter the 'level of service' currently experienced on local roads, nor impose any major social or physical detriment upon the local residents and road users.
- **Traffic Amenity** – the existing sealed roads are considered adequate to meet the minimum Austroads design standards. GQP proposes to upgrade the pavement and provide a 7m wide bitumen seal for both Barker Road and Mary's Mount Road from the quarry entrance to the Goolhi Road intersection.
- **Intersections** – the additional flows generated by the development do not exceed the capacity of existing intersections. It is recommended that the Goolhi Road / Mary's Mount Road intersection be upgraded to provide for vehicles turning left into Mary's Mount Road. It is recommended that the Kamilaroi Highway / Goolhi Road intersection be upgraded to provide for vehicles turning right into Goolhi Road.
- **Traffic Safety** – traffic movements generated by the development are unlikely to raise any adverse safety issues for local transport and users of the local and regional road network. Additional signage and reduction in speed will be necessary at the two right angle bends in Mary's Mount Road. The narrow winding section of Goolhi Road through Emerald Hill shall be widened to 7m, and a reduced speed limit shall be considered. Alternatively warning signs shall be

erected in the approaches to advise motorists to reduce speed. Signs to be erected as required to advise motorists of truck movements in the vicinity of the quarry.

- **Road Pavements** – the traffic generated by the quarry represents approximately 18% of the total design traffic on the local sealed road network. The pavement life is not significantly compromised by the heavy traffic generated by this development. GQP proposes to upgrade and seal existing gravel roads on the haul route. GQP proposes to enter into a Voluntary Planning Agreement with Council for the construction and maintenance of the haul roads.
- **Public Transport** – the proposal raises no demand for the provision of public transport as a maximum of 15 employees are engaged at the site. Haulage operations shall cease while school buses are using the haul route. GQP shall confirm school bus timetables and routes with the bus companies at the beginning of each school year, and adjust the haulage schedule as required. A 'Code of Conduct' for haulage operators shall be prepared.
- **Noise and Dust** – Having regard to studies prepared for the EIA for the expansion of the quarry, there are no noise and dust criterion exceedances in respect of the increased truck movements. Dust emissions will be further reduced by sealing the existing gravel roads on the haul route.

In view of the above it is assessed that the safety and efficiency of the local road network will not be unduly affected by the increase in the number of truck movements that will be generated by the proposal.

8.2 Recommendations

It is recommended that the proponent implement the following as their contribution to improve amenity and safety in relation to the traffic impacts of the application.

1. Upgrade the pavement and provide a 7m wide bitumen seal to both Barker Road and Mary's Mount Road (from the quarry entrance to the Goolhi Road intersection).
2. Retain the existing alignment of the two right angle bends in Mary's Mount Road and provide warning signs in the approaches and a reduced speed to apply.
3. Upgrade the Goolhi Road / Mary's Mount Road intersection to meet the minimum BAL standards required by the Austroads guidelines for vehicles turning left into Mary's Mount Road.

4. Widen the narrow winding section of Goolhi Road through Emerald Hill to provide a 7m wide bitumen seal. The length requiring upgrade is approx. 150m – the length of reconstruction will be subject to survey and engineering design. Widening to consider existing cadastral boundaries and services. It is further recommended that the posted speed limit through Emerald Hill be reduced to 50kph, or alternatively warning signs shall be erected in the approaches to advise motorists to reduce speed.
5. Upgrade the Kamilaroi Highway / Goolhi Road intersection to meet the minimum CHR standards required by the Austroads guidelines for vehicles turning right into Goolhi Road.
6. Upgrade the pavement and bitumen seal the internal haul road from the stockpile area to the quarry entrance.
7. Erect signs in the vicinity of the quarry, as required, to advise motorists of additional truck movements in the area.
8. Sweep and remove the build-up of loose gravel in the Goolhi Road / Quia Road intersection to remove the hazard.
9. Cease haulage operations while school buses are using the haul route.
10. Inform truck drivers (via Tool Box meetings and/or site induction) of the existing school bus routes along Goolhi and Quia Roads, bus stop locations, school zones and timetables.
11. Confirm school bus timetables and routes with the bus companies at the beginning of each school year, and adjust the haulage schedule as required. Retain file notes to confirm the dialogue with the bus companies.
12. Prepare a 'Code of Conduct' for haulage operators. Inform all sub-contractors of the requirements of this code. The code shall inform drivers of all known safety considerations along the haul routes, including school bus routes and timetable, school zones, concealed driveways, seasonal haulage operations, wet weather safety, and any other known local hazards.

It is proposed that the implementation of recommendations 1 to 5 inclusive will be completed within a 3 year period from the beginning of the expanded operations. Gunnedah Quarry Products proposes to enter into a Voluntary Planning Agreement (VPA) with Council for these construction works and the payment of a contribution for the maintenance of the haul roads.

9 Scope of Engagement

This report has been prepared by Ardill Payne & Partners (APP) at the request of Gunnedah Quarry Products Pty Ltd for the purpose of a Traffic Impact Study to accompany the lodgement of an Environmental Impact Assessment (EIA) with Gunnedah Shire Council to expand the current quarrying operations, and is not to be used for any other purpose or by any other person or corporation.

This report has been prepared from the information provided to us and from other information obtained as a result of enquiries made by us. APP accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this document for a purpose other than that described above.

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APP declares that it does not have, nor expects to have, a beneficial interest in the subject project.

To avoid this advice being used inappropriately it is recommended that you consult with APP before conveying the information to another who may not fully understand the objectives of the report. This report is meant only for the subject site/project and should not be applied to any other.

10 Attachments

Attachment 1 Material Test Report

Attachment 2 Sample Load Test Results

ATTACHMENT 1



East West Enviroag Pty Limited

82 Plain Street Tamworth NSW 2340

ABN 82 125 442 382 124 ph 02 6762 1733 fax 02 6765 9109

PARTICLE DENSITY AND WATER ABSORPTION OF COARSE AGGREGATE

TEST REPORT

☒ AS1141.6.1 ☐ RTA T211

| | | | |
|---|------------------|------------------------------------|--|
| CLIENT: Mackellar Excavations | | REPORT No: EW121015-17 | |
| CLIENT ADDRESS: PO Box 259, Gunnedah NSW 2380 | | | |
| PROJECT: Material Evaluation | | PROJECT No: EW121015 | |
| DATE OF TESTING: 5/9/12 | | DATE OF REPORT: 19/9/12 | |
| LOCATION: Gunnedah Quarry | | SAMPLING CLAUSE: AS1141.3.1,6.9.5B | |
| TECHNICIAN: M.C. | | DATE SAMPLED: 15/8/12 | |
| SAMPLE DATA | | | |
| Sample Number: | 9 | | |
| Sample Location: | Stockpile | | |
| Date Sampled: | 15/08/2012 | | |
| Sample Description: | Ballast | | |
| TEST RESULTS | | | |
| Apparent Particle Density | t/m ³ | 2.06 | |
| Dry Particle Density | t/m ³ | 2.99 | |
| Saturated Surface Dry Particle Density | t/m ³ | 3.01 | |
| Water Absorption | % | 0.7 | |

Sampled by: East West Enviroag

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The test, calibrations or measurements covered by this document have been performed in accordance with NATA requirements which include the requirements of ISO/IEC 17025 and are traceable to Australian national standards of measurement. This document shall not be reproduced, except in full. NATA Accredited Laboratory Number: 12360

Signed: _____

Approved Signatory

Signatory Name: S Mitchell

Document ID: REP-120

Issue No: 1

Date of Issue: 7-May-12

Material Test Report

Report No: WARA12S-08358-1

Issue No: 2

This report replaces all previous issues of report no 'WARA12S-08358-1'.

This document is issued in accordance with NATAS accreditation requirements. Accredited for compliance with ISO/IEC 17025.

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Chris Blackford

Approved Signatory: Chris Blackford
(Geotechnician)

NATA Accredited Laboratory Number: 431
Date of Issue: 8/06/2012

Client: Coffey Geotechnics (Warabrook)
19 Warabrook Boulevard
Warabrook NSW 2304

Principal:

Project No.: INFOWARA01193AA

Project Name: GEOTWARA21045AC - Pages River Passing Loop

Lot No.: UHVA/PR/TK/001/0013 **TRN:** BA026

Sample Details

Sample ID: WARA12S-08358
Client Sample: 318
Date Sampled: 09/05/2012
Source: Pages River
Material: Ballast
Specification: Ballast (ETA-04-01)
Sampling Method: AS1141.3.1 Clause 6.9.2
Project Location: Murrurundi, NSW
Sample Location: Stockpile

Particle Size Distribution

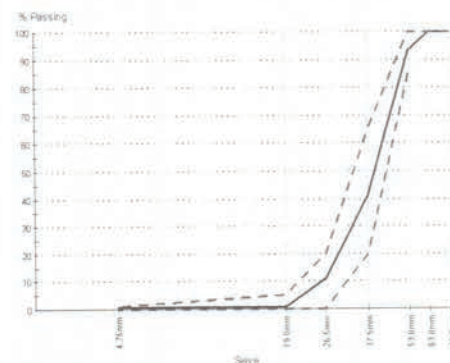
Method: AS 1141.11.1
Drying by: Oven
Date Tested: 18/05/2012
Note: Sample Not Washed

| Sieve Size | % Passing | Limits |
|------------|-----------|-----------|
| 75.0mm | 100 | 100 |
| 63.0mm | 100 | 100 |
| 53.0mm | 93 | 85 to 100 |
| 37.5mm | 41 | 20 to 65 |
| 26.5mm | 11 | 0 to 20 |
| 19.0mm | 1 | 0 to 5 |
| 4.75mm | 1 | 0 to 1 |

Other Test Results

| Description | Method | Result | Limits |
|---|-------------|----------------|--------|
| Finer 75µm (%) | AS 1141.12 | 0 | |
| Date Tested | | 21/05/2012 | |
| Misshapen Particles (%) | AS 1141.14 | 21 | ≤30 |
| Flat Particles (%) | | 16.3 | |
| Elongated Particles (%) | | 4.6 | |
| Flat & Elongated Particles (%) | | 0.2 | |
| Calliper Ratio | | 2:1 | |
| Date Tested | | 21/05/2012 | |
| Flakiness Index (%) | AS 1141.15 | 18 | ≤30 |
| Date Tested | | 21/05/2012 | |
| Aggregate Crushing Value (%) | AS 1141.21 | 21.1 | ≤25 |
| Size Of Fraction | | -26.5mm, +19mm | |
| Date Tested | | 18/05/2012 | |
| Weak Particles (%) | AS 1141.32 | 0.0 | ≤5 |
| Passing 2.36 mm Sieve (%) | | 0.0 | |
| Date Tested | | 18/05/2012 | |
| Uncompacted Bulk Density (t/m³) | AS 1141.4 | 1.36 | |
| Compacted Bulk Density (t/m³) | | 1.49 | ≥1.2 |
| Aggregate Moisture Condition | | Dried | |
| Nominal Size Of Sample (mm) | | 53 | |
| Date Tested | | 21/05/2012 | |
| Apparent Particle Density - Coarse (t/m³) | AS 1141.6.1 | 3.05 | |
| Particle Density Dry (t/m³) | | 3.02 | ≥2.5 |
| Particle Density SSD (t/m³) | | 3.03 | |
| Water Absorption (%) | | 0.3 | |
| Date Tested | | 21/05/2012 | |

Chart



Comments

N/A

ATTACHMENT 2

Mackellar Gravel Pit Sample Weights

| Truck Volume (measured) | | | |
|-------------------------|-----------|-----------|--------------------------|
| Length (m) | Width (m) | Depth (m) | Volume (m ³) |
| 3.8 | 2.3 | 0.515 | 4.5011 |

Weight measured in Mitsubishi Truck rego YGU-404

| | Tare Weight | Gross (t) | Net (t) | Bulk Density (t/m ³) |
|-----------|-------------|-----------|---------|----------------------------------|
| Ballast | 8.52 | 16.90 | 8.38 | 1.86 |
| Stemming | 8.52 | 16.00 | 7.48 | 1.66 |
| Road Base | 8.52 | 16.62 | 8.10 | 1.80 |

∴ Ave over bulk material is 1.77 t/m³ after Excavation and processing



Ballast



Stemming



Road Base

VOLUNTARY PLANNING AGREEMENT

DATED [] June 2013

BETWEEN

GUNNEDAH QUARRY PRODUCTS PTY LTD

“GQP”

and

GUNNEDAH SHIRE COUNCIL

“Council”

MARYS MOUNT QUARRY EXPANSION

s93F of the *Environmental Planning and Assessment Act 1979*

THIS AGREEMENT is made on the ____ day of _____ 2013

BETWEEN: GUNNEDAH QUARRY PRODUCTS PTY LTD

AND: GUNNEDAH SHIRE COUNCIL, 63 Elgin Street,
Gunnedah (Council)

Background

- A. On, ##, the Developer made a Development Application (DA No. 2012/185) to the Council for Development Consent to carry out the Development on the Land.
- B. That Development Application was accompanied by an offer by the Developer to enter into this Agreement to make Development Contributions towards the Public Facilities if that Development consent is granted.
- C. Until consent is granted to Development Application No. 2012/185, this Agreement constitutes the Developer's offer to make Development Contributions in connection with the Development of the land on the terms and conditions set out in this Agreement.

Operative provisions

1 DEFINITIONS AND INTERPRETATION

1.1 In this Agreement the following definitions apply:

Act means the *Environmental Planning and Assessment Act 1979* (NSW).

Dealing, in relation to the Land, means, without limitation, selling, transferring, assigning, mortgaging, charging, encumbering or otherwise dealing with the Land.

Defects Liability Period means the period of 180 days on and from the date on which the Council accepts the hand-over of the Work under Clause 8 of this Agreement.

Developer means the proponent of the Development Application, being Gunnedah Quarry Products Pty Ltd.

Development means any development, within the meaning of the Act, carried out on the Land and which is only permissible as a result of the grant of consent to Development Application No. 2012/185.

Development Application means a development application within the meaning of Part 4 of the Act.

Development Consent has the same meaning as in the Act.

Development Contribution means a monetary contribution, the dedication of land free of cost, the carrying out of a work, or the provision of any other material public benefit.

GST has the same meaning as in the GST Law.

GST Law has the meaning given to that term in *A New Tax System (Goods and Services Tax) Act 1999* (Cth) and any other Act or regulation relating to the imposition or administration of the GST.

Land means the land set out in Columns 1 and 2 of the Table to Schedule 1.

Landowner means the entity or person named in Column 3 of the Table to

Schedule 1 and includes the heirs, successors, assigns, servants, agents and contractors of the Landowner.

Party means a party to this agreement, including their successors and assigns.

Proponent means the Developer.

Provision means the Developer's provision under this Agreement.

Public Facility means a public amenity, a public service, a public facility, public land, public infrastructure, a public road, a public work, or any other act, matter or thing that meets a Public Purpose.

Public Purpose means any purpose that benefits the public or a section of the public, including but not limited to a purpose specified in s93F(2) of the Act.

Regulation means the *Environmental Planning and Assessment Regulation 2000*.

Work means the physical result of any building, engineering or construction work in, on, over or under land required to be carried out by the Developer under this Agreement.

1.2 In the interpretation of this Agreement, the following provisions apply unless the context otherwise requires:

1.2.1 Headings are inserted for convenience only and do not affect the interpretation of this Agreement.

1.2.2 A reference in this Agreement to a business day means a day other than a Saturday or Sunday on which banks are open for business generally in Sydney.

1.2.3 If the day on which any act, matter or thing is to be done under this Agreement is not a business day, the act, matter or thing must be done on the next business day.

1.2.4 A reference in this Agreement to dollars or \$ means Australian dollars and all amounts payable under this Agreement are payable in Australian dollars.

1.2.5 A reference in this Agreement to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued

under that legislation or legislative provision.

- 1.2.6 A reference in this Agreement to any agreement, deed or document is to that agreement, deed or document as amended, novated, supplemented or replaced.
- 1.2.7 A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Agreement.
- 1.2.8 An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.
- 1.2.9 Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.
- 1.2.10 A word which denotes the singular denotes the plural, a word which denotes the plural denotes the singular, and a reference to any gender denotes the other genders.
- 1.2.11 References to the word 'include' or 'including' are to be construed without limitation.
- 1.2.12 A reference to this Agreement includes the agreement recorded in this Agreement.
- 1.2.13 A reference to a party to this Agreement includes a reference to the servants, agents and contractors of the party, and the party's successors and assigns.
- 1.2.14 Any schedules and attachments form part of this Agreement.
- 1.2.15 A reference to 'the reasonable satisfaction of the Council' means the reasonable satisfaction of the General Manager of the Council.
- 1.2.16 A reference to a matter being 'determined by the Council' means the matter being determined by the General Manager of the Council, acting in a reasonable manner.

2 OPERATION OF THIS AGREEMENT

2.1 This Agreement:

2.1.1 commences upon the grant of consent to the Development, and

2.1.2 applies to the carrying out of the Development on the Land.

2.2 The Proponent is not bound by the provisions of this Agreement requiring Development Contributions to be made unless:

2.2.1 development consent has been granted to the carrying out of the Development on the Land, and

2.2.2 the Proponent carries out the Development pursuant to that consent.

3 FURTHER AGREEMENTS RELATING TO THIS AGREEMENT

3.1 The Parties are to enter into such further agreements as are expressly required to be entered into by this Agreement.

3.2 The Parties may, at any time, enter into such other agreements relating to the subject matter of this Agreement as they consider to be necessary or desirable in order to give effect to this Agreement.

3.3 An agreement referred to in clause 3.1 or 3.2 is not to be inconsistent with this Agreement. In particular such an agreement may not alter the kind of Public Facility for which it is to be provided.

3.4 Without limiting clause 3.1 or 3.2, an agreement or arrangement referred to in those clauses may make provision for:

3.4.1 the particulars of any Public Facility required by this Agreement to be made available for a Public Purpose,

3.4.2 the location at which a Public Facility is to be provided and the time at which and the manner in which it will be made available,

3.4.3 the particulars of any work required by this Agreement to be undertaken by the Developer, and

3.4.4 the time at which and the manner in which a Work is to be handed over to the Council.

4 APPLICATION OF s94 and s94A OF THE ACT TO THE DEVELOPMENT

4.1 This Agreement excludes the application of s94A of the Act to this Development.

4.2 This Agreement excludes the application of s94 of the Act to the Development, in respect of unsealed rural roads, contingent upon and in respect of each section of the staged sealing of Barker Road and Marys Mount Road.

5 PROVISION OF DEVELOPMENT CONTRIBUTIONS UNDER THIS AGREEMENT

5.1 The Proponent is to make Development Contributions as provided by this Agreement.

5.2 Except as otherwise provided by this Agreement, a Development Contribution made under this Agreement is made in full and final satisfaction of all costs and expenses to be borne by the Proponent of and incidental to the Provision of the Public Facility to which it relates.

6 APPLICATION OF DEVELOPMENT CONTRIBUTIONS BY THE COUNCIL

6.1 The Council must apply a Development Contribution made under this Agreement towards the Public Purpose for which it is made and at the locations, in the manner and to the standards required by or under this Agreement.

7 UPGRADING OF LOCAL ROADS

7.1 The Proponent is to undertake the staged upgrading works to those sections of Barker Road and Marys Mount Road as shown on the plan at Schedule 2 of this Agreement and as detailed in clause 7.2.

7.2 The upgrading works are to be undertaken on a staged basis during Year 1, 2 or 3 from the date of commencement of extractive and haulage operations under the terms and conditions of the grant of consent to the Development:

7.2.1 Year 1 – upgrade and seal 100m either side of the three residences along Barker Road and Marys Mount Road and upgrade the intersection of Marys Mount Road with Goolhi Road including sealing of 200m of Mary Mount Road from that intersection.

7.2.2 Year 1 – widen the seal of the bends to the north of the railway crossing of Goolhi Road being at Emerald Hill to a width of 7m for a minimum of 150m (final length subject to survey and design)

7.2.3 Year 1 – upgrade the intersection of Kamilaroi Highway with Goolhi Road.

7.2.4 Year 2 – seal 3.74km of Marys Mount Road

7.2.5 Year 3 – seal 2.25km of Barkers Road

7.3 The cost of the upgrading works referenced in clause 7.2 is estimated to be \$2.7 million, and has been based on 2013 commercial rates.

8 MONETARY CONTRIBUTIONS PAYABLE BY THE PROPONENT

8.1 Subject to this Agreement, the Proponent, in respect of the extraction and haulage of material from the Development, is to make Monetary Contributions to the Council in the following manner:

8.1.1 \$0.40/tonne of extractive material, as loaded into trucks, and which has been extracted from the quarry and then travels along a public road (from date of commencement of extractive operations);

8.1.2 the contributions are to be paid to Council on a quarterly basis; and

8.1.3 all records of material hauled from the site are to be made available to Council upon request for reconciling of contribution amounts paid.

9 RECTIFICATION OF DEFECTS

9.1 The Proponent must at its own cost, comply with any Rectification Notice given to it by the Council in respect of the Works identified in Clause 7, during the Defects Liability Period to the reasonable satisfaction of the Council.

10 REGISTRATION OF THIS AGREEMENT

10.1 The Parties agree not to register this Agreement under s93H of the Act.

11 REVIEW OF THIS AGREEMENT

11.1 The Parties, acting in good faith and using their best endeavours, agree to review this Agreement if either party is of the opinion that any change of circumstances has occurred that materially affects the operation of this Agreement.

11.2 For the purposes of clause 11.1, the relevant changes include (but are not limited to) any change to a law that restricts or prohibits or enables the Council or any other planning authority to restrict or prohibit any aspect of the Development.

11.3 A failure by a Party to agree to participate in, or to take action requested by the other Party as a consequence of a review of this Agreement is not a dispute for the purposes of clauses 12 and 13.

12 DISPUTE RESOLUTION

- 12.1 A dispute is taken to arise if one Party gives another Party a notice in writing specifying the particulars of the dispute.
- 12.2 Should a dispute arise under this Agreement, the Parties shall firstly meet in an attempt to resolve the dispute.
- 12.3 If a notice is given under clause 12.1, the Parties are to meet within 14 days of the notice in an attempt to resolve the dispute.
- 12.4 If the dispute is not resolved within a further 28 days, the Parties must mediate the dispute in accordance with the Mediation Rules of the Law Society of New South Wales as set out in Schedule 3 or such amended or other Rules that are current at the time the dispute is mediated, and must request the President of the Law Society, or the President's nominee, to select a mediator.
- 12.5 If the dispute is not resolved by mediation within 28 days, or such longer period as may be necessary to allow any mediation process which has been commenced to be completed, then the Parties may exercise their legal rights in relation to the dispute, including the commencement of legal proceedings in a court of competent jurisdiction in New South Wales.

13 AUTHORISATION

- 13.1 The Landowner agrees that the Proponent and the Council may enter into this Agreement and consent to the same.
- 13.2 The Landowner is to do all such acts and sign all such documents as may be reasonably necessary to permit the Proponent and the Council to give full effect to this Agreement provided that the Proponent shall be liable to reimburse the Landowner its reasonable costs of any legal services it requires to assist it to comply with this sub-clause 13.2 and this Agreement.

14 NOTICES

- 14.1 Any notice, consent, information, application or request that must or may be given or made to a Party under this Agreement is only given or made if it is in writing and sent in one of the following ways:
- (a) delivered or posted to that Party at its address set out in Schedule 1.
 - (b) faxed to that Party at its fax number set out in Schedule 1.
 - (c) emailed to that Party at its email address set out in Schedule 1.
- 14.2 If a Party gives the other Party 3 business days notice of a change of its address, fax number or email, any notice, consent, information, application or request is only given or made by that other Party if it is delivered, posted, faxed or emailed to the latest address or fax number.
- 14.3 Any notice, consent, information, application or request is to be treated as given or made if it is:
- (a) delivered, when it is left at the relevant address,
 - (b) sent by post, 2 business days after it is posted,
 - (c) sent by fax, as soon as the sender receives from the sender's fax machine a report of an error free transmission to the correct fax number,
 - (d) sent by email and the sender does not receive a delivery failure message from the sender's internet service provider within a period of 24 hours of the email being sent.
- 14.4 If any notice, consent, information, application or request is delivered, or an error free transmission report in relation to it is received, on a day that is not a business day, or if on a business day, after 5pm on that day in the place of the Party to whom it is sent, it is to be treated as having been given or made at the beginning of the next business day.

15 APPROVALS AND CONSENT

- 15.1 Except as otherwise set out in this Agreement, and subject to any statutory

obligations, a Party may give or withhold an approval or consent to be given under this Agreement in that Party's absolute discretion and subject to any conditions determined by the Party. A Party is not obliged to give its reasons for giving or withholding consent or for giving consent subject to conditions.

16 COSTS

- 16.1 The Proponent agrees to bear the Council's reasonable costs of any legal services it requires to assist it to enter into this Agreement.

17 ENTIRE AGREEMENT

- 17.1 This Agreement contains everything to which the Parties have agreed in relation to the matters it deals with. No Party can rely on an earlier document, or anything said or done by another Party, or by a director, officer, agent or employee of that Party, before this Agreement was executed, except as permitted by law.

18 FURTHER ACTS

- 18.1 Each Party must promptly execute all documents and do all things that another Party from time to time reasonably requests to affect, perfect or complete this Agreement and all transactions incidental to it.

19 GOVERNING LAW AND JURISDICTION

- 19.1 This Agreement is governed by the law of New South Wales. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

20 JOINT AND INDIVIDUAL LIABILITY AND BENEFITS

- 20.1 Except as otherwise set out in this Agreement, any agreement, covenant, representation or warranty under this Agreement by 2 or more persons binds them jointly and each of them individually, and any benefit in favour of 2 or more persons is for the benefit of them jointly and each of them individually.

21 NO FETTER

- 21.1 Nothing in this Agreement shall be construed as requiring Council to do anything that would cause it to be in breach of any its obligations at law, and without limitation, nothing shall be construed as limiting or fettering in any way the exercise of any statutory discretion or duty.

22 REPRESENTATIONS AND WARRANTY

- 22.1 The Parties represent and warrant that they have power to enter into this Agreement and comply with their obligations under the Agreement and that entry into this Agreement will not result in the breach of any law.

23 SEVERABILITY

- 23.1 If a clause or part of a clause of this Agreement can be read in a way that makes it illegal, unenforceable or invalid, but can also be read in a way that makes it legal, enforceable and valid, it must be read in the latter way. If any clause or part of a clause is illegal, unenforceable or invalid, that clause or part is to be treated as removed from this Agreement, but the rest of this Agreement is not affected.

24 MODIFICATION

- 24.1 No modification of this Agreement will be of any force or effect unless it is in writing and signed by the Parties to this Agreement

25 WAIVER

- 25.1 The fact that a Party fails to do, or delays in doing, something the Party is entitled to do under this Agreement, does not amount to a waiver of any obligation of, or breach of obligation by, another Party. A waiver by a Party is only effective if it is in obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

26 GST

- 26.1 In this clause:

Adjustment Note, Consideration, GST, GST Group, Margin Scheme, Money, Supply and Tax Invoice have the meaning given by the GST Law.

GST Amount means in relation to a Taxable Supply the amount of GST payable in respect of the Taxable Supply.

GST Law has the meaning given by the *A New Tax System (Goods and Services Tax) Act 1999 (Cth)*.

Input Tax Credit has the meaning given by the GST Law and a reference to an Input Tax Credit entitlement of a party includes and Input Tax Credit for an acquisition made by that party but to which another member of the same GST Group is entitled under the GST Law.

Taxable Supply has the meaning given by the GST Law excluding (except where expressly agreed otherwise) a supply in respect of which the supplier chooses to apply the Margin Scheme in working out the amount of GST on that supply.

- 26.2 Subject to clause 26.4, if GST is payable on a Taxable Supply made under, by reference to, or in connection with this Agreement, the Party providing the Consideration of that Taxable Supply must also pay the GST Amount as additional Consideration.
- 26.3 Clause 26.2 does not apply to the extent that the Consideration for the Taxable Supply is expressly stated in this Agreement to be GST inclusive.
- 26.4 No additional amount shall be payable by the Council under clause 26.2 unless, and only to the extent that, the Council (acting reasonably and in accordance with the GST Law) determines that it is entitled to an Input Tax Credit for its acquisition of the Taxable Supply giving rise to the liability to pay GST.
- 26.5 If there are Suppliers for Consideration which is not Consideration expressed as an amount of Money under this Agreement by one Party to the other Party that are not subject to Division 82 of the A New Tax System (Goods and Services Tax) Act 1999, the Parties agree:
- 26.5.1 to negotiate in good faith to agree the GST inclusive market value of those Supplies prior to issuing Tax Invoices in respect of those Supplies
- 26.5.2 that any amounts payable by the Parties in accordance with clause 26.2 (as limited by clause 26.4) to each other in respect of those Supplies will be set off against each other to the extent that they are equivalent in amount.
- 26.6 No payment of any amount pursuant to this clause 36, and no payment of the GST Amount where the Consideration for the Taxable Supply is expressly agreed to be GST inclusive, is required until the supplier has provided a Tax Invoice or Adjustment Note as the case may be to the recipient.
- 26.7 Any reference in the calculation of Consideration or of any indemnity, reimbursement or similar amount to a cost, expense or other liability incurred by a party, must exclude the amount of any Input Tax Credit entitlement of that party in relation to the relevant cost, expense and other liability.
- 26.8 This clause continues to apply after expiration or termination of this Agreement.

27 EXPLANATORY NOTE RELATING TO THIS AGREEMENT

- 27.1 The Appendix contains the Explanatory Note relating to this Agreement required by Clause 25E of the Regulation.
- 27.2 Pursuant to Clause 25E(7) of the Regulation, the Parties agree that the Explanatory Note in the Appendix is not to be used to assist in construing this Planning Agreement.

Schedule 1

The Land & the respective Landowners (Clause 1.1)

| Column 1 | Column 2 | Column 3 |
|-------------------|--------------------------------|-----------------------|
| Subject Land | Title Reference | Registered Proprietor |
| Lot 161 DP 755508 | Folio identifier 161/755508 | Max and Marlene Swain |
| Lot 2 DP 865898 | Folio identifier 2/865898 | Peter and Judith Lee |

Parties to the Agreement (Clause 14.1)

| Column 1 | Column 2 | Column 3 | Column 4 |
|-------------------------------------|---------------------------------|----------------|-----------------------------|
| Parties | Postal Address | Facsimile No. | Email Address |
| Gunnedah Quarry Products Pty Ltd | PO Box 259 Gunnedah NSW 2380 | (02) 6742 2208 | brendon@mackexc.com.au |
| Gunnedah Shire Council | PO Box 63 Gunnedah NSW 2380 | (02) 6740 2119 | council@infogunnedah.com.au |

Schedule 2
(Clauses 7 and 8)

Quarry Haulage Roads

SCHEDULE 3 (Clause 12.4)

Law Society of NSW – Mediation Rules

Functions of the Mediator

1. The mediator will assist the parties to explore options for and, if possible, to achieve the expeditious resolution of their dispute (“the Dispute”) by agreement between them.
2. The mediator will not make decisions for a party or impose a solution on the parties.
3. The mediator will not, unless the parties agree in writing to the contrary, obtain from any independent person advice or an opinion as to any aspect of the Dispute and then only from such person or persons and upon such terms as are agreed by the parties.

Conflicts of Interest

4. The mediator must disclose to the parties to the best of the mediator’s knowledge any prior dealings the mediator has had with either of them and any interest the mediator has in the Dispute.
5. If in the course of the mediation the mediator becomes aware of any circumstances that might reasonably be considered to affect the mediator’s capacity to act impartially the mediator will immediately inform the parties of those circumstances. The parties will then confer and if agreed continue with the mediation before the mediator.

Co-operation of the Mediation

6. The parties must co-operate with the mediator and each other during the mediation to achieve a mutually satisfying outcome to their dispute.
7. Each party must use its best endeavours to comply with reasonable requests

made by the mediator to promote the efficient and expeditious resolution of the Dispute.

Authority and Representation

8. If a party is a natural person, the party must attend the mediation conference. If a party is not a natural person it must be represented at the mediation conference by a person with full authority to make agreements binding on it settling the dispute.
9. Each part may also appoint one or more other persons including legally qualified persons to assist and advise the party in the mediation and to perform such roles in the mediation as the party requires.

Conduct of Mediation

10. Subject to Rule 21, the mediation, including all preliminary steps, will be conducted in such a manner as the mediator considers appropriate having due regard to the nature and circumstances of the Dispute, the agreed goal of an efficient and expeditious resolution of the Dispute and the view of each party as to the conduct of the mediation.
11. The mediation conference shall be held within fourteen (14) days of the selection of the mediator or within such other period as the parties may agree.
12. Without limiting the mediator's powers under Rule 10 the mediator may give directions as to:
 - 12.1 Preliminary conferences prior to the mediation conference.
 - 12.2 The exchange of experts' reports, the meeting of experts and the subsequent preparation of a joint experts' report with a view to identifying areas of agreement, narrowing the area of disagreement and clarifying briefly the reasons for disagreement.
 - 12.3 The exchange of brief written outlines of the issues involved.
 - 12.4 Service on the mediator prior to the mediation conference of any such reports and outlines.

Communication between the Mediator and a Party

13. The mediator may meet as frequently as the mediator deems appropriate with the parties together or with a party alone and in the latter case the mediator need not disclose the meeting to the other party.
14. The mediator may communicate with any party orally and/or in writing.
15. Subject to Rule 16, any document relied upon by a party and provided to the mediator must immediately be served by the party on the other party.
16. Information, whether oral or written, disclosed to the mediator by a party in the absence of the other party may not be disclosed by the mediator to the other party unless the disclosing party permits the mediator to do so.

Confidential Information

17. A party may provide objective facts, whether or not confidential, by direct evidence in any proceedings in respect of the Dispute. Subject to that, all confidential information disclosed during the mediation, including the preliminary steps:
 - 17.1 may not be disclosed except to a party or a representative of that party participating in the mediation or if compelled by law to do so; and
 - 17.2 may not be used for a purpose other than the mediation.

Privilege

18. Subject to Rule 25, the following will be privileged and will not be disclosed in or relied upon or be the subject of a subpoena to give evidence or to produce documents in any arbitral or judicial proceedings in respect of the Dispute:
 - 18.1 Any settlement proposal, whether made by a party or the mediator.
 - 18.2 The willingness of a party to consider any such proposal.

18.3 Any admission or concession or other statement or document made by a party.

18.5 Any statement or document made by the mediator.

Subsequent Proceedings

19. The mediator will not accept appointment as an arbitrator in or act as an advocate in or provide advice to a party to any arbitral or judicial proceeding relating to the Dispute.

20. Neither party will take action to cause the mediator to breach Rule 19.

Termination

21. A party may terminate the mediation immediately by giving written notice to each other party and to the mediator at any time during or after the mediation conference.

22. The mediator may immediately terminate the engagement as mediator by giving written notice to the parties of that termination, if, after consultation with the parties, the mediator forms the view that the mediator will be unable to assist the parties to achieve resolution of the Dispute. The mediation will not be terminated in that event unless a party gives notice to that effect to each other party. The parties must appoint another mediator, where the mediation is not terminated.

23. The mediation will be terminated automatically upon execution of a settlement agreement in respect of the Dispute.

Settlement

24. If settlement is reached at the mediation conference, the terms of the settlement must be written down and signed by the parties and the mediator before any of the participants leave the mediation conference.

Enforcement

25. In the event that part or all of the Dispute is settled either party will be at liberty:

25.1 To enforce the terms of the settlement by judicial proceedings.

25.2 In such proceedings to adduce evidence of and incidental to the settlement agreement including from the mediator and any other person engaged in the mediation.

Exclusion of Liability and Indemnity

26. The mediator will not be liable to a party except in the case of fraud by the mediator for any act or omission by the mediator in the performance or purported performance of the mediator's obligations in the mediation.

27. The parties shall jointly and severally indemnify the mediator against all claims, except in the case of fraud by the mediator, arising out of or in any way referable to any act or omission by the mediator in the performance or purported performance of the mediator's obligations in the mediation

Costs

28. The parties will share equally and will be jointly and severally liable to the mediator for the mediator's fees for the mediation. The mediator may, at any time and from time to time, require each party to deposit with the mediator such sum as the mediator considers appropriate to meet the mediator's anticipated fees and disbursements. The mediator may decline to embark upon or continue the mediation until all such deposits are made.

29. If the mediation does not result in an agreement to resolve the Dispute, the costs of the mediation will be costs in the cause.

SCHEDULE 4 (Clause 8.1.1)

Method of Calculation for Contribution Amount

The annual construction rate for gravel roads (construction and maintenance) has been taken from Council's current 'Contribution and Development Services Plan'. The amount as at May 2013 is \$4,324 per kilometre.

Contingent upon the grant of consent to DA 2012/185, the quarry will if operating at permissible extraction rates, contribute 95.7% of the commercial vehicle traffic on the gravel roads in the area (being Barker Road and Marys Mount Road).

Applying this per kilometre rate to the existing gravel roads over a 3 year period (being the period of the proposed road upgrade works) at a 95.7% loading and at a reducing sliding scale relative to the works completed at the end of each year, results in an amount of \$62,453.60.

Council's 2013 annual maintenance rate for sealed roads is \$1.56 per square metre.

Contingent upon the grant of consent to DA 2012/185, the quarry will, if operating at permissible extraction rates, contribute between 9.9% and 52.4% of the commercial vehicle traffic on the sealed roads.

Applying this per square metre rate to the existing and proposed sealed roads over a 37 year period (being the proposed operational life of the quarry per DA 2012/185) at the above loading, and at an increasing sliding scale relative to the works completed at the end of each year, results in an amount of \$8,022,635.23.

The total contribution over the 37 year operational period is thus \$8,085,088.83.

The following construction cost estimates have been provided by Mackellar Excavations and are based on 2013 commercial rates:

- Goolhi Road intersection – \$200,000.00
- Emerald Hill widening – \$150,000.00
- Kamilaroi Highway intersection – \$200,000.00
- Mary's Mount Road and Barker Road – \$2.15 million (assumes adding a 200mm layer of gravel to the existing gravel pavement).

An off-set for the Mary's Mount Road and Barker Road construction has been made against the calculated contribution, being \$8,085,088.83 minus \$2,150,000.00 which equals \$5,935,088.83.

The division of the above figure by the annual extraction rate (360,000 tonnes) over the expected life of quarry (37 years) equals \$0.45/tonne. This calculation is shown on the attached 'Schedule 1'.

The developer proposed an alternative calculation, based on similar lengths and rates to Schedule 1, in which recognition was requested from Council for the substantial upgrading works he proposed to undertake on Barker Road and Marys Mount Road. This calculation resulted in a proposed contribution rate of \$0.37/tonne, and is attached as 'Schedule 2'.

In recognition of the substantial upgrading works to Barker Road and Marys Mount Road to be undertaken by the proponent, Council has agreed to a contribution rate of \$0.40/tonne, to be adjusted on an annual basis in line with CPI.

The VPA offer is to undertake the following works over a 3 year period:

- construct the upgrade works to Barker Road and Mary's Mount Road
- construct the upgrade works to Goolhi Road at Emerald Hill
- upgrade the Goolhi Road/Mary's Mount Road and Kamilaroi Highway/Goolhi Road intersections;

and to pay a contribution to Council of \$0.40/tonne of material hauled from the site. The contribution payments will be made to Council on a quarterly basis. The contribution will be adjusted on an annual basis in line with CPI.

Appendix
(Clause [])

Environmental Planning and Assessment Regulation 2000
(Clause 25E)

Explanatory Note

Draft Voluntary Planning Agreement (VPA)

Under s93F of the Environmental Planning and Assessment Act 1979

Parties

Gunnedah Shire Council (Council)

Gunnedah Quarry Products Pty Ltd of PO Box 259 Gunnedah (GQP)

1. Description of Subject Land

The public roads (being Barker Road and Marys Mount Road) shown red on the Map at Schedule 2 and the land described in Column 1 in the Table to Schedule 1.

2. Description of Development

Expansion of existing blue metal gravel quarry/pit as described in the environmental impact statement and accompanying documentation supporting Development Application No. 2012/185.

3. Summary of Objectives, Nature and Effect of the Draft VPA

The purpose of this agreement is to secure the upgrading and maintenance contribution, at the developer's cost, of public road infrastructure (being haulage roads servicing the quarry), resulting from demands brought about by the proposed development of the land.

4. Assessment of the Merits of the Draft VPA

4.1 The Planning Purposes Served by the Draft VPA

To ensure that public infrastructure (particularly public roads) is upgraded to a standard necessary to service the proposed development and to ensure that contributions are paid towards the maintenance of the public roads.

4.2 How the Draft Planning Agreement Promotes the Public Interest

Provides for local development in a manner that ensures the costs associated with infrastructure delivery and maintenance (particularly public roads) are borne by those parties that benefit from or impart an additional loading/demand on same.

4.3 All Planning Authorities – Whether the Draft VPA conforms with the Authority's Capital Works Program

The Planning Agreement does not affect nor conflict with Council's Capital Works Program.

Signed and Dated by All Parties

SCHEDULE 1

MARY'S MOUNT QUARRY

[illegible]

**** NOTE: Contribution to be increased on a yearly basis with CPI.**

say \$0.45 per tonne

SCHEDULE 2

SEALED CONTRIBUTION FOR BARKER ROAD & MARYS MOUNT ROAD REDUCED TO 60% OF COUNCIL'S NOMINATED RATE

MARY'S MOUNT QUARRY

| YEAR | GRAVEL | SEALED | CUM. TOTAL |
|------|--------------|----------------|----------------|
| 1 | \$28,124.80 | \$150,063.28 | \$178,188.08 |
| 2 | \$24,816.00 | \$155,076.98 | \$358,081.06 |
| 3 | \$545,859.23 | \$178,265.37 | \$545,859.23 |
| 4 | | \$192,679.77 | \$738,538.99 |
| 5 | | \$192,679.77 | \$931,218.76 |
| 6 | | \$192,679.77 | \$1,123,898.52 |
| 7 | | \$192,679.77 | \$1,316,578.29 |
| 8 | | \$192,679.77 | \$1,509,258.06 |
| 9 | | \$192,679.77 | \$1,701,937.82 |
| 10 | | \$192,679.77 | \$1,894,617.59 |
| 11 | | \$192,679.77 | \$2,087,297.35 |
| 12 | | \$192,679.77 | \$2,279,977.12 |
| 13 | | \$192,679.77 | \$2,472,656.89 |
| 14 | | \$192,679.77 | \$2,665,336.65 |
| 15 | | \$192,679.77 | \$2,858,016.42 |
| 16 | | \$192,679.77 | \$3,050,696.18 |
| 17 | | \$192,679.77 | \$3,243,375.95 |
| 18 | | \$192,679.77 | \$3,436,055.71 |
| 19 | | \$192,679.77 | \$3,628,735.48 |
| 20 | | \$192,679.77 | \$3,821,415.25 |
| 21 | | \$192,679.77 | \$4,014,095.01 |
| 22 | | \$192,679.77 | \$4,206,774.78 |
| 23 | | \$192,679.77 | \$4,399,454.54 |
| 24 | | \$192,679.77 | \$4,592,134.31 |
| 25 | | \$192,679.77 | \$4,784,814.07 |
| 26 | | \$192,679.77 | \$4,977,493.84 |
| 27 | | \$192,679.77 | \$5,170,173.61 |
| 28 | | \$192,679.77 | \$5,362,853.37 |
| 29 | | \$192,679.77 | \$5,555,533.14 |
| 30 | | \$192,679.77 | \$5,748,212.90 |
| 31 | | \$192,679.77 | \$5,940,892.67 |
| 32 | | \$192,679.77 | \$6,133,572.43 |
| 33 | | \$192,679.77 | \$6,326,252.20 |
| 34 | | \$192,679.77 | \$6,518,931.97 |
| 35 | | \$192,679.77 | \$6,711,611.73 |
| 36 | | \$192,679.77 | \$6,904,291.50 |
| 37 | | \$192,679.77 | \$7,096,971.26 |
| | \$62,453.60 | \$7,034,517.66 | \$7,096,971.26 |

say \$0.37 per tonne

GOP committed to constructing intersection at Goolhi Road, widening at Emerald Hill, and intersection at Kamilaroi Highway.

Cost of these works \$200k and \$150k and \$200k

GOP offers to seal Barkers Road and Marys Mount Road

| Cost of these works \$2,15M | | | | |
|-----------------------------|---------------------------|---------|-------|--------------|
| Maintenance Rates | Length | Width | Ratio | |
| 1 Gravel Roads | \$4,324 per km | 6.8 km | 0.957 | \$28,124.80 |
| 2 Sealed Roads | \$1.56 per m ² | 8.3 km | 0.524 | \$47,476.00 |
| 3 Sealed Roads | \$1.56 per m ² | 13.3 km | 0.452 | \$65,654.63 |
| 4 Sealed Roads | \$1.56 per m ² | 15.2 km | 0.196 | \$32,604.00 |
| 5 Sealed Roads | \$1.56 per m ² | 3 km | 0.099 | \$3,246.49 |
| 6 Sealed Roads | \$1.56 per m ² | 6.8 km | 0.957 | \$4,027.48 |
| 7 Sealed Roads | \$1.56 per m ² | 1 km | 0.099 | \$1,082.16 |
| | | | | \$42,902.68 |
| | | | | \$150,063.28 |
| | | | | \$192,679.77 |
| | | | | \$42,616.49 |

** NOTE: Contibution to be increased on a yearly basis with CPI.