Gunlake Quarries
Gunlake Quarry Project

VOLUME I

ENVIRONMENTAL ASSESSMENT

February 2008

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GUNLAKE QUARRIES

Gunlake Quarry Project

via Marulan

ENVIRONMENTAL ASSESSMENT

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Final: February 2008

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Author's Certification

for the submission of an Environmental Assessment prepared in accordance with the Environmental Planning and Assessment Act 1979 (Part 3A – Section 75).

(a) **EA prepared by:**

name:	Dave Olsen
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(b) Planning Approval application by:

applicant name:	Gunlake Quarries
applicant address:	PO Box 1665 DOUBLE BAY NSW 1360

(c) **Application Number**: 07_0074

(d) Address/land details:

properties to be developed (ie. surface area only)	Gunlake Quarry Site Brayton Road via MARULAN NSW 2579
land description:	The Project Site lies within the County of Argyle, Parish of Billyrambija and incorporates:

Lot	Deposited Plan	Title	Part/Whole
48	750003	Auto Consul 14176-39	Part
111	750053	Auto Consul 14176-39	Part
52	750003	Auto Consul 10774-211	Part
50	750003	Auto Consul 10774-211	Part
149	750003	Auto Consul 10774-211	Whole
73	750003	Auto Consul 7907-112	Whole
74	750003	Auto Consul 7907-112	Whole
260	750053	Auto Consul 7907-112	Whole
53	750003	Auto Consul 14176-38	Whole
148	750053	Auto Consul 14176-38	Whole
10	254042	Auto Consul 13729-90	Part
42	750003	Volume 12203 Folio 65	Part
76	750003	Volume 12203 Folio 66	Part
54	750003	Volume 1589 Folio 245	Part
1	750003	Volume 2300 Folio 46	Whole
1	328725	Folio Identifier 1/328725	Part

The proposed By-pass road to connect to the Hume Highway (Freeway) passes through Lot 1 of Deposited Plan 868065.

(e) **Project Outline:** The Project would involve a number of component activities, namely:

i) Hard rock quarrying by open cut methods;

ii) crushing, screening and stockpiling of the saleable products from the quarried rock;

iii) installation and/or construction of Project Site infrastructure and services, eg. power supply, water management structures, internal access roads;

iv) upgrading of current local roads and intersections and construction of a purpose-built road on a Crown Road Reserve as part of the proposed saleable products transport route;

v) the transportation of saleable product from the quarry via the purpose-built and existing roads between the Project Site and widely distributed markets north and south of the Project Site; and

vi) final rehabilitation of the areas of surface disturbance within the Project Site following completion of the Project.

(f) **Assessment of Environmental Impact:** The assessment of environmental impacts of this project includes the matters referred to in Director-General's Requirements provided to the Proponent on 12 June 2007 under Section 75F of the Environmental Planning and Assessment Act 1979.

(g) **Declaration:** I, David Olsen, hereby declare that I have overseen the preparation of the contents of this assessment and to the best of my knowledge:

- it has addressed the Director-General's Requirements as provided by the Department on 12 June, 2007;
- the assessment contains all available information that is relevant to the environmental assessment of the project; and
- the information contained in the statement is neither false nor misleading.

Signature: 

Name: David Olsen Date: 14/2/08

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EXECUTIVE SUMMARY

INTRODUCTION

This *Environmental Assessment* has been prepared by Olsen Environmental Consulting Pty. Ltd to accompany an application for Project approval by Gunlake Quarries (Gunlake) ("the Proponent"). Gunlake proposes to develop and operate a hard rock quarry, able to produce up to 500,000 tonnes per annum (tpa) of saleable product. The Project will be located on private property located north west of Marulan along the Brayton Road (**Figure A**). The Project will be known as the Gunlake Quarry Project.

The area that encompasses the proposed quarry pit, rock processing area, overburden emplacements and surface infrastructure associated with the Project is referred to as the "Project Site". The Project Site covers an area of approximately 230ha.

The Project also includes the transportation of saleable product between the Project Site and diversely located markets north and south of Marulan. All saleable product will be removed from the Project Site by trucks that will access the Hume Highway. In Stage 1 of the Project all vehicle will use Brayton Road to access the Highway. In Stage 2, when average truck numbers exceed 25 per day, the trucks servicing markets to the north of Marulan will traverse a purpose-built road connecting Brayton Road to Red Hills Road and thence the Highway. This new By-pass road will enable all vehicles accessing the Project Site to avoid travel through Marulan. An average of 25 trucks per day will still use Brayton Road to access southern markets in Stage 2.

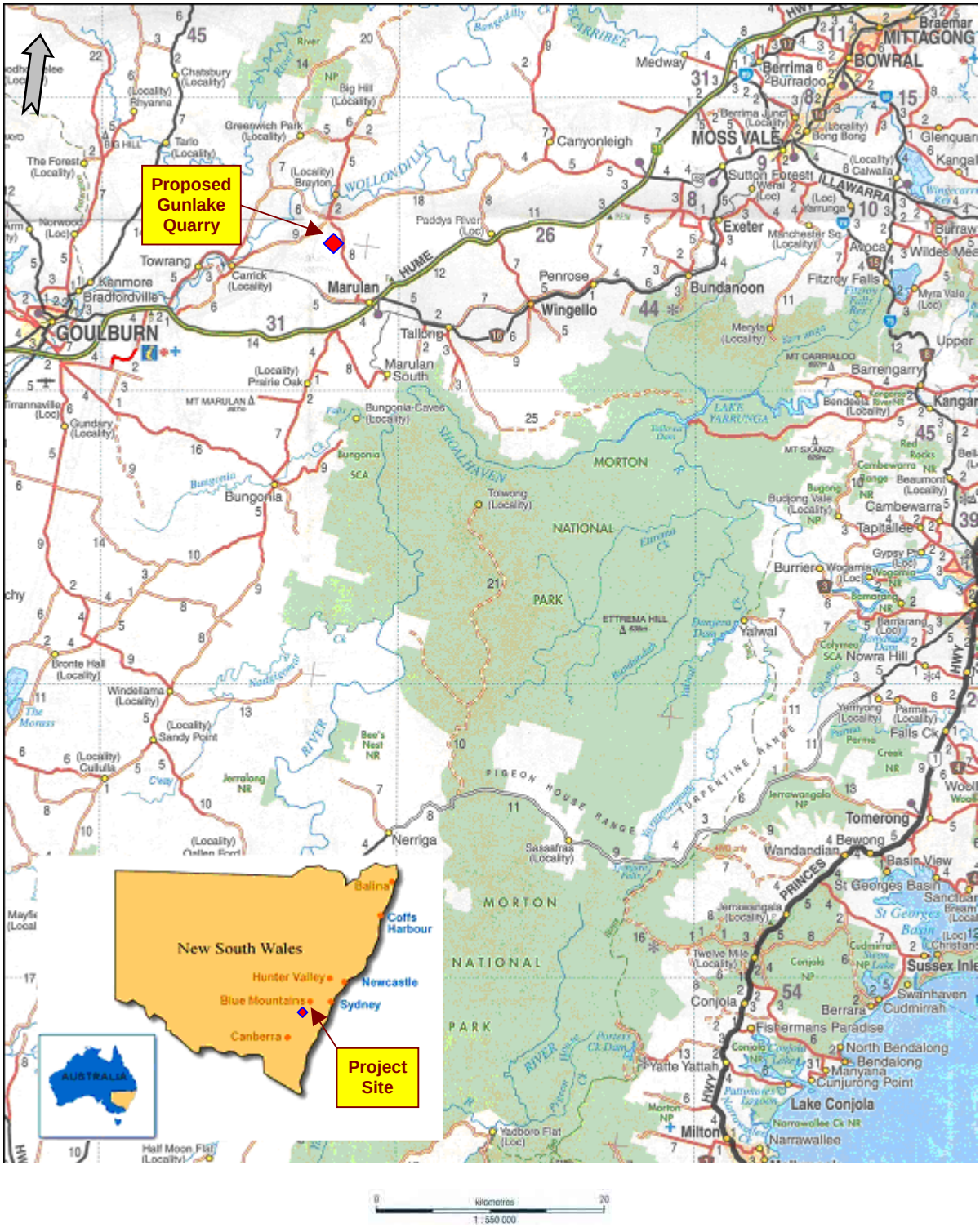
The Project is classified as a Major Project in accordance with the State Environmental Planning Policy (Major Projects) (2005) and, consequently, the Minister for Planning is the approval authority. As a Major Project, it will be assessed under Part 3A of the *Environmental Planning and Assessment Act 1979* and an *Environmental Assessment* report is required to be submitted to support the application for Project Approval.

This summary presents an overview of the Project and the predicted impacts associated with the Project.

THE PROPONENT

The Proponent for the Gunlake Quarry Project is Gunlake Quarries (Gunlake), a division of Rollers Australia Pty Limited. Gunlake would be an independent quarry producer and proposes to provide aggregates for its own operations in Sydney as well as other potential markets. Gunlake is in the process of establishing concrete plants in the Sydney Region with its first plant in operation at Smeaton Grange in the growing southwest area and its next plant proposed for the Blacktown area positioned to supply the northwest growth area. The Blacktown plant is planned to be operational by mid 2008.

The proposed Gunlake Quarry will provide Gunlake operations with secure, long-term supplies of aggregate and manufactured sand. Gunlake believes it is important to establish its own hard rock resource. Purchase of aggregates from the major suppliers would be at a higher cost than



Gunlake Quarry Project
Figure A. PROJECT LOCATION

from the proposed Gunlake Quarry. The higher cost may affect the long term viability of Gunlake's planned concrete operations.

PLANNING CONTEXT

The Gunlake Quarry Project would be developed and operated in accordance with a number of State and regional planning instruments, namely:

- State Environmental Planning Policies (SEPPs) 11, 33 and 44;
- State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007;
- Regional Environmental Plan (REP) No. 1 2007. Drinking Water Catchments;
- Sydney to Canberra Corridor Strategy; and,
- Goulburn Mulwaree Strategy.

The Project is a permissible land use on the Project Site as defined in the Mulwaree Shire Local Environmental Plan (LEP) 1995.

QUARRY PLANNING CONSIDERATIONS

The deposit is located regionally within the Bindook Volcanic Complex of Devonian age. This Complex comprises a north-northeast trending series of volcanic units located north of the intrusive Marulan Granite.

Resource investigations undertaken by Gunlake Quarries included both core and percussion drilling and testing of bulk surface samples for compliance with the principal tests in AS 2758.1 – 1998, "*Aggregates and Rock for Engineering Purposes. Part 1. Concrete Aggregates*".

Testing of rock samples showed that the hard rock to be quarried during the Gunlake Quarry Project is suitable for concrete aggregate.

There is potential for in excess of 100 years of quarry production, however, Gunlake are only seeking approval to operate for an initial 30 year period.

Agricultural Land:
The Project is located in land that has been cleared for grazing, but which has relatively low production potential. The Project site will be rehabilitated to agricultural land with provision for a riparian corridor along Chapman's Creek and restoration of small areas of native vegetation. The quarry pit depression will remain at the completion of quarrying.

Ecology:
Parts of the Project Site have been identified as supporting the White Box Yellow Box Blakeleys Red Gum Woodland endangered ecological community but it is not significantly affected by the proposed development.

Aboriginal Heritage:
There are 5 Aboriginal heritage sites (isolated and scattered artefacts) located on the Project Site. These sites will be relocated prior to Project construction.

PROJECT DESCRIPTION

Figure B presents the proposed layout of the Project Site. The Project, if approved, would involve the following activities:

Rock Quarrying Using Open Cut Quarrying Methods

The quarry operation would involve the sequential removal of vegetation, soil, overburden and interburden above the hard rock resource. Earthmoving (excavator, truck and grader) equipment would be used to clear the larger vegetation with groundcover removed with the topsoil during soil removal activities. Any topsoil and subsoil would be removed from the areas of the Project Site to be disturbed. This soil would be either transferred directly to completed sections requiring rehabilitation, or stockpiled for future use during rehabilitation. Overburden above the rock resource would generally be loaded to trucks for transfer and placement either out-of-pit, or in-pit within a completed section of the quarry.

To remove the rock, benches would be developed along the length of quarry. As sufficient rock is fractured by explosives, it would be loaded onto trucks and transported to the rock processing area.

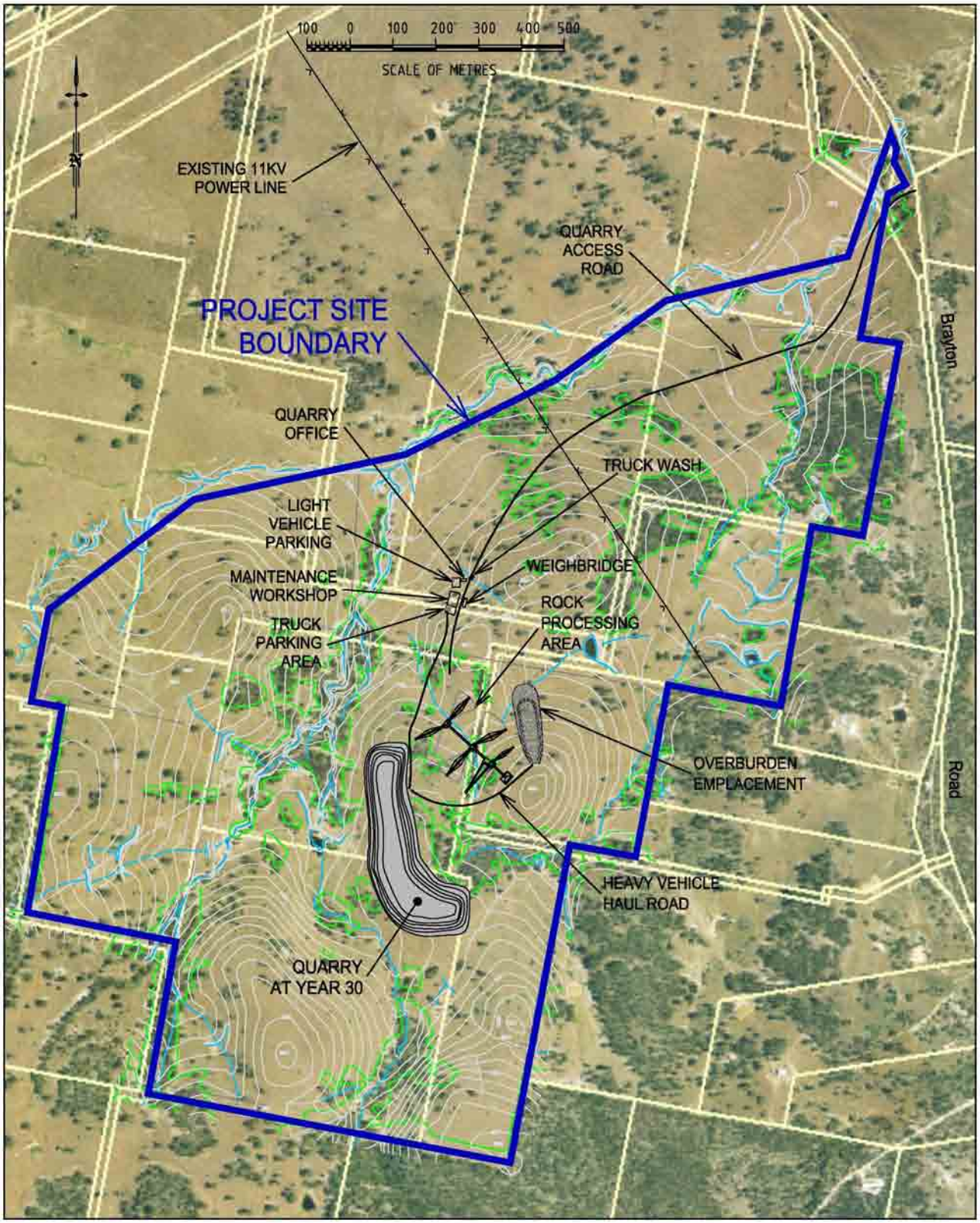
Rock Processing

The processing of rock would be undertaken within the processing area to be located northeast of the quarry pit. A heavy vehicle haul road will connect the quarry pit and the processing area.

The rock processing plant will have a rated capacity of approximately 300tph. This will enable production of up to 500,000tpa of saleable product.

The processing area would contain the following components.

- Primary crusher.
- Secondary crusher and screens.
- Tertiary crusher and screens.
- Main screen.
- Interconnecting conveyors.
- Various product stockpiles.



Gunlake Quarry Project
Figure B. PROJECT SITE LAYOUT

Rehabilitation

The overburden emplacement would be progressively shaped to create a bund wall that provides acoustic and visual screening of the rock processing area. The stripped and/or stockpiled soil resources would be placed over the shaped landform and the area seeded with pasture species to obtain initial stability and native woodland vegetation to provide long term stable vegetation cover. Vegetation will be established on the remnant benches within the quarry pit and a significant depression will remain in the landscape covering approximately 6ha. The remaining area of the Project Site would be returned to agricultural land with a riparian corridor established along Chapman's Creek.

Transportation

The crushed and screened product would be transported to diversely located markets north and south of Marulan by truck.

The Proposed Transport Route

The proposed Transport Route is shown on **Figure C (Stage 1) and Figure D (Stage 2)**.

In Stage 1, trucks using the transport route leave the Gunlake Project Site and travel along Brayton Road towards the Marulan Interchange. At the Interchange they either travel north or south along the Hume Highway. Returning trucks from the north proceed through the Interchange to Brayton Road and back to the Project Site. Trucks returning from the south exit the Highway south of Marulan and proceed along George Street to Brayton Road and then to the Project Site.

A By-pass road will be constructed to enable Stage 2 to proceed. This road will connect Brayton Road to Red Hills Road and enable the Hume Highway to be accessed north of Marulan. Trucks heading north and returning from both the north and the south will use the By-pass road to access the Project Site. Trucks heading south in Stage 2 will continue to use the Marulan Interchange to access the Highway.

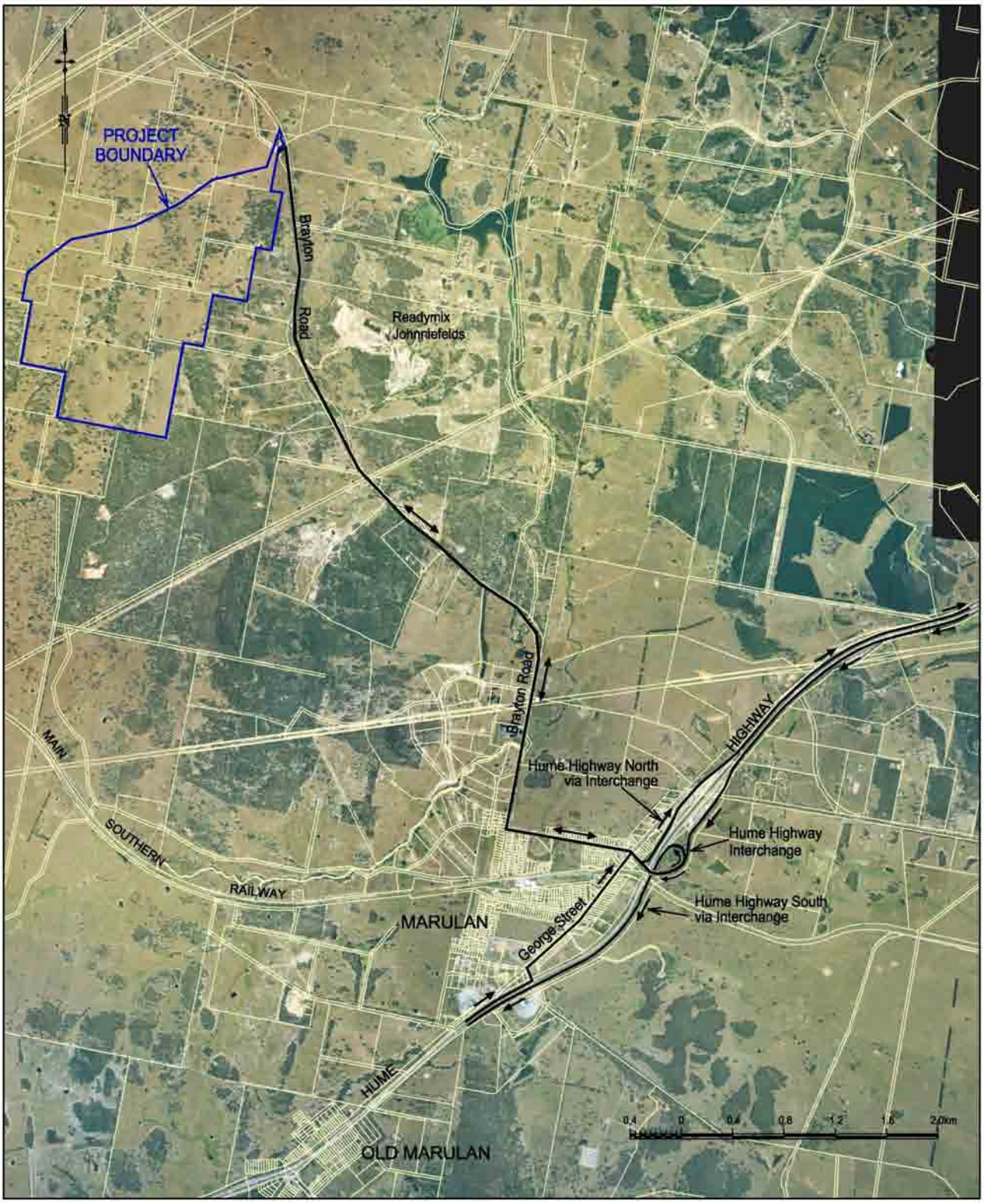
Hours of Operation and Project Life

The hours of operation for the proposal would vary depending on the activity (**Table 1**).

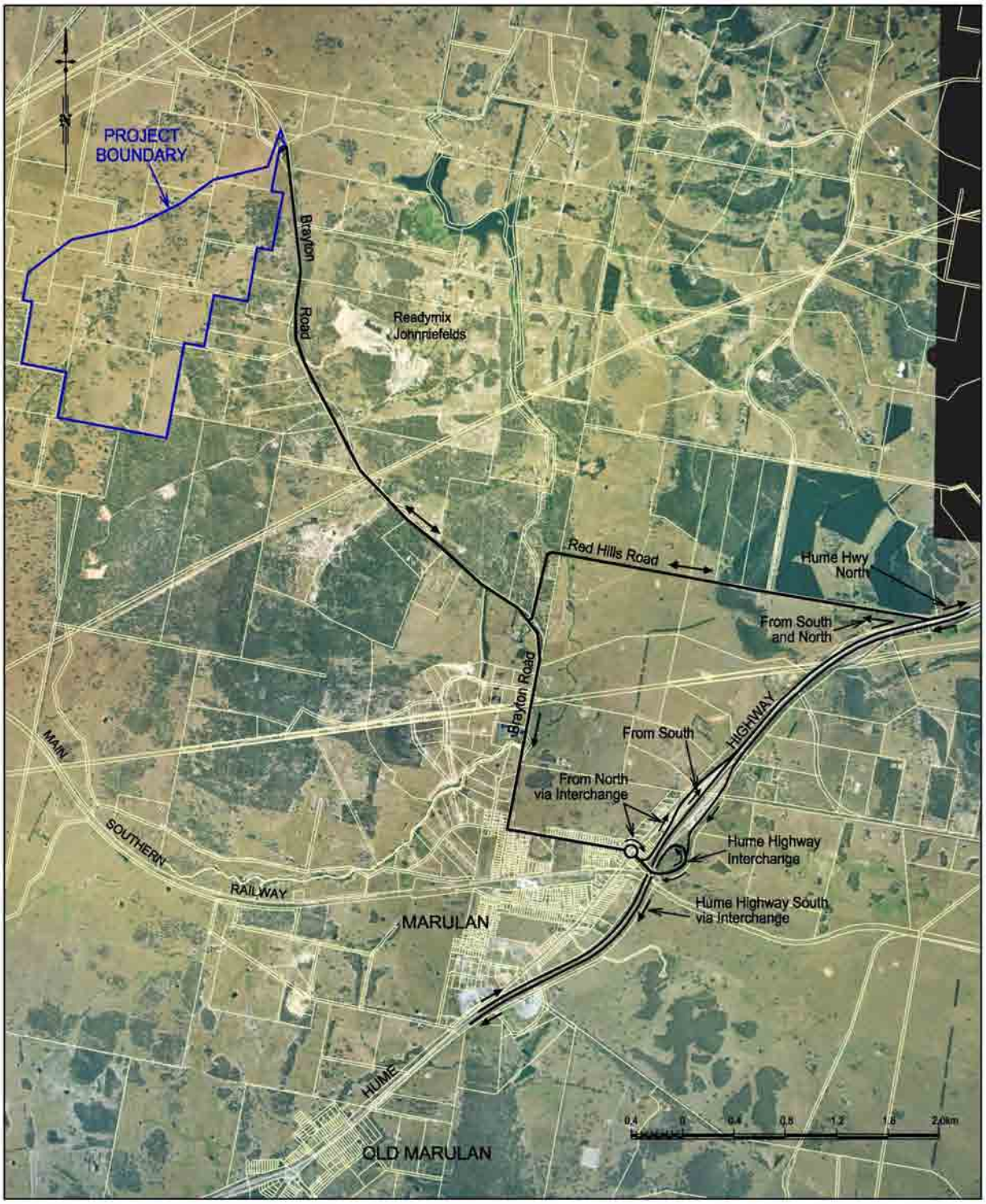
Table 1 Proposed Operating Hours – Gunlake Quarry

Task	**Proposed Hours**
Overburden removal	7am to 6pm Monday to Saturday
Drilling	7am to 6pm Monday to Saturday.
Blasting	8am to 5pm Monday to Friday
Quarrying and Processing	7am to 6pm Monday to Saturday
Maintenance	24 hours 7 days.
Truck Loading and Haulage**	9pm Sunday to 6pm Saturday

Note:** After construction of the By-pass road there will be no haulage through Marulan outside the hours 6am to 6pm Monday to Saturday.



Gunlake Quarry Project
Figure C. STAGE 1 TRANSPORT ROUTE



Gunlake Quarry Project
Figure D. STAGE 2 TRANSPORT ROUTE

The life of the proposed Gunlake Quarry Project is planned for an initial 30years, with resource available to continue to at least 100 years, subject to additional approval.

Employment

During the construction phase of approximately 3 months, an estimated workforce of up to 10 full-time equivalent persons would be employed.

The operation of the proposed quarry would require 20 full-time employees. Approximately 25 truck drivers would be employed to transfer saleable product away from the Project Site.

The bulk of the quarry employees will be locally employed people or people prepared to commute to secure employment.

Waste Management

The principal wastes that would be generated by the development can be categorised as production and non-production wastes. Production wastes are primarily overburden, which would be placed in the overburden emplacement site and back into the quarry pit. Non-production wastes would include general domestic-type wastes from the on-site buildings and routine maintenance consumables, fencing materials, oils and grease and sewage.

Domestic-type wastes would be collected and disposed of by a licensed waste disposal contractor, with recyclable materials separated where possible. Gunlake would install an aerated wastewater treatment system (AWTS) that will provide secondary treatment effluent suitable for disposal by irrigation and Gunlake would irrigate the effluent within a designated area on the Project Site.

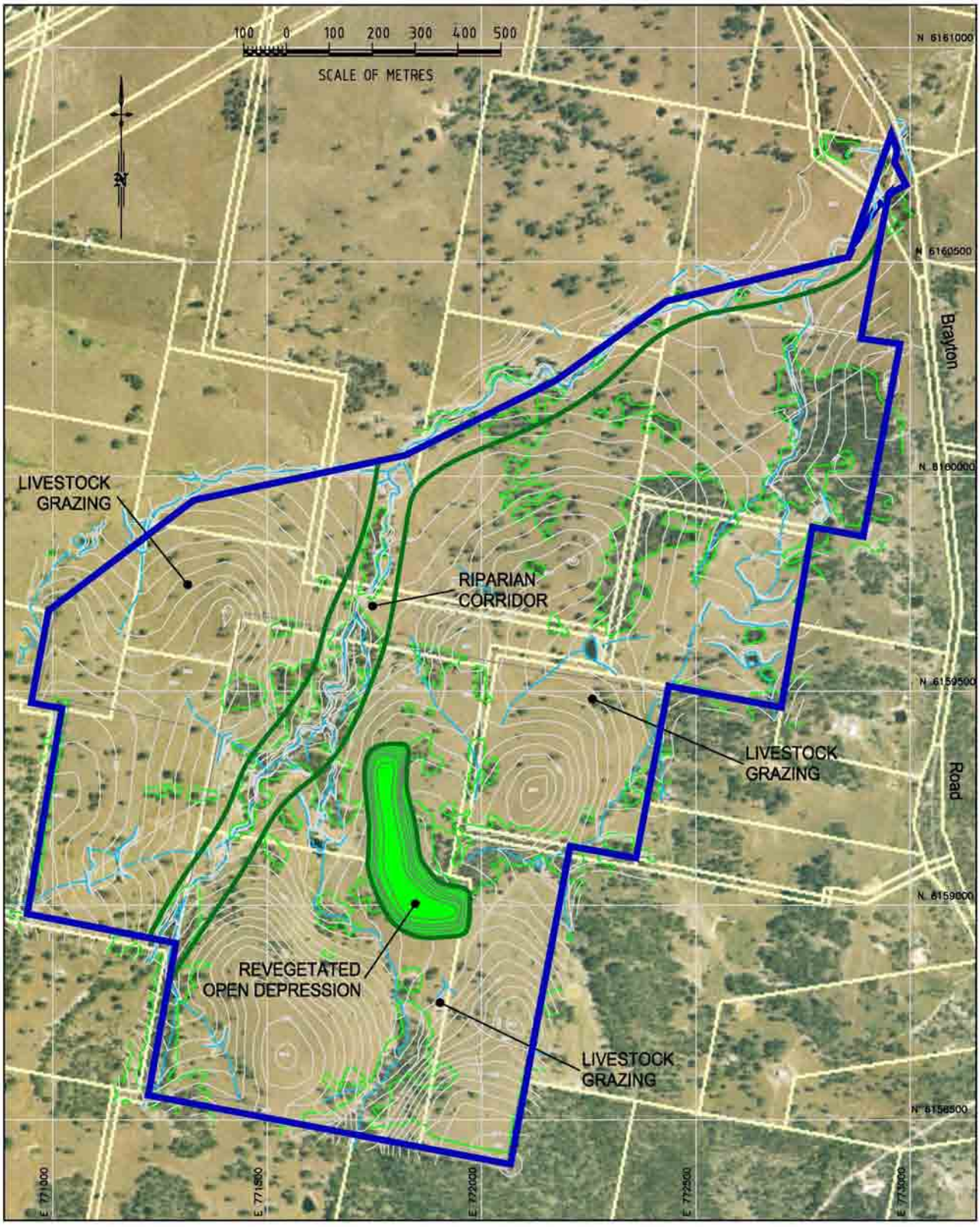
Rehabilitation and Final Land Use

Gunlake would adopt a progressive approach to the rehabilitation of disturbed areas within the Project Site to ensure that, where practicable, completed quarrying or overburden emplacement areas are quickly shaped, soil applied and vegetated to provide a stable landform. **Figure E** details the final landform and revegetated areas.

Rehabilitation would include the following activities.

- Overburden placement and shaping.
- Subsoil and topsoil replacement.
- Drainage installation.
- Revegetation.

Rehabilitation success would be monitored with remedial work on revegetated areas and/or water management structures undertaken as required. Noxious weeds would be controlled through targeted campaigns on an as-needed basis.



Gunlake Quarry Project
Figure E FINAL LANDFORM

ENVIRONMENTAL SAFEGUARDS AND IMPACTS

The components and features of the existing environment on and around the Project Site have been studied in detail and the Project designed to avoid or minimise the impacts on the environment. A brief overview of the main components of the surrounding environment, the proposed safeguards and the assessed level of impact are set out below.

Traffic

The proposal would result in a noticeable increase in commercial vehicles along the transport route. The Gunlake Project will increase production over three to five years to 500,000tpa of saleable product. The transport arrangements are divided into two broad Stages. Stage 1 requires up to an average of 25 truck movements per day along Brayton Road. Stage 2 occurs when that average is exceeded and up to 100 trucks movements per day will occur along the transport route incorporating the new By-pass road.

The proposed haulage hours for **Stage 1** are 9pm Sunday to 6pm Saturday. (After construction of the By-pass route, being **Stage 2**, there will be no haulage through Marulan outside the hours of 6.00am to 6.00pm Monday to Saturday).

Gunlake has designed all roads and intersections to appropriate RTA and Council standards with all detailed design to be submitted to those groups for approval prior to construction. Additional to these design features, a number of operational controls would be adopted including the following.

- A covered load policy.
- Driver Code of Conduct.
- Liaison between Goulburn Mulwaree Council and Gunlake to better identify any School Bus Stops along the transport route.
- Maintenance of all vehicles in good working order.
- Upgrades to the road surface and intersections.

Even though the proposed traffic increase will be noticeable, it should not have a major impact on local traffic, roads and road users. The proposed construction of the new By-pass road, the new roundabout at the George Street and Brayton Road intersection, the upgrading of Red Hills Road, where required, and Brayton Road, between the quarry and the By-pass road, will have beneficial results for local road users.

Construction of the By-pass road to connect Brayton Road and Red Hills Road has historically been recognised by Council and some residents as a worthwhile improvement to the local road network.

The Report dated 24th August 2000 by Mulwaree Shire Council Director of Environmental Services favours a connection to Brayton Road from Red Hills Road as it connects the Uringalla Estate and future 1(b) land north of Marulan to the town and provides better social and commercial connection with the town and can proceed, as the area develops, from Section 94 Contributions. The Mulwaree Shire Council-Director of Environmental Services Report-on

Building, Planning, Health and General dated 17th December 1998 describes this as a suitable option as it:

· Reduces highway usage,

· Reduces the potential for accidents at a further highway access;

· Provides easy access to Marulan for Uringalla residents;

· Provides a good road along the north and west of the Urban Investigation Zone; and

· Supports the further development of Marulan to supply the daily needs of local residents.

The roundabout proposed for George Street has been made necessary by the intention of the RTA and Goulburn Mulwaree Council to close the existing at grade intersection at Portland Avenue. The implications of closing this intersection have not been fully investigated by the RTA or Council. The intended closure has raised some serious concerns from the Marulan Fire Brigade regarding emergency responses. In addition, participants in the Goulburn Mulwaree Strategy-Designing the Future Marulan Workshop held in December 2005 identified improvements to the at grade RTA crossing as a key issue for the future development of Marulan village.

The existing Portland Avenue intersection would utilise existing road infrastructure enabling returning trucks to make a safe right hand turn to exit the Hume Highway, negotiate the existing U-turn facility at Portland Avenue and re-enter the Hume Highway and travel north to the Red Hills Road intersection.

If the existing intersection is closed, a roundabout would need to be constructed at the intersection of George Street and Brayton Road to accommodate the increase in traffic. The volume of non project-related traffic using the new roundabout would be significantly greater than project-related traffic.

The Mulwaree Shire Council Contribution Plan (Section 3.9.6 Extractive Industries) provides for the Section 94 levy to meet expenditure to maintain, repair and where necessary reconstruct the roads, and further is appropriate for new construction, maintenance and rebuilding of any road that is used by quarry traffic. As shown in Section 5.1 of this Environmental Assessment, Gunlake proposes in Stage 1 to carry out the necessary upgrading of Brayton Road at its cost upfront, and in Stage 2 to fully construct the new By-pass road, upgrade Red Hills Road where necessary and ultimately construct the new roundabout at the intersection of George Street and Brayton Road, all at its own cost upfront. Accordingly it is proposed that the payment of the levy would be off set against the costs of the upgrading of existing roads and the construction of new roads and intersections.

Surface Water and Soils

Gunlake will implement a Soil and Water Management Plan during construction and a Water Management Plan during the ongoing operation of the Project. Production water supply will be obtained from surface runoff water and potable water will be trucked in as required to augment roof collected tank water.

The Project Site is within the Chapman's Creek catchment which eventually flows into the Wollondilly River, within the Warragamba Catchment.

The Project is predicted to improve runoff water quality as a result of better ground cover and appropriate storm water and soil erosion controls.

Groundwater

The Project Site is characterised by small areas of alluvial aquifers and the much more significant hard rock aquifers. The alluvial aquifers are not directly impacted by the Project.

Groundwater quality and quantity aspects will be monitored. The potential to impact other water users by draw-down of groundwater is considered to be very low. However, Gunlake will monitor groundwater levels to validate drawdown predictions. Agreements would be negotiated with affected bore owners to mitigate any impacts should they occur.

There is one water spring close to the quarry that may be affected by activity. Gunlake will monitor this spring and develop appropriate rehabilitation measures should they be required.

Groundwater inflows into the quarry pit are predicted to be very low. In the first year they will total approximately 0.03ML and this will rise to 3.5MLpa at the end of the 30 year life of the initial quarry. This amount of pit inflow does not allow for evaporation and will be easily handled in the surface water system.

The Gunlake Quarry will not affect Wollondilly River flows. Stream flows in the local stream, Chapman's Creek should not be adversely affected by the proposal.

The proposal is not expected to create acid mine drainage.

Noise

The Project Site is typical of a rural environment with background noise contributions from farming activities, insect noise, livestock, wind through vegetation and vehicles on local roads, especially the Hume Highway.

Construction and operating noise criteria (including blasting vibration) are predicted to be met at all locations. Similarly, traffic noise criteria are predicted to be met at all locations.

Gunlake would monitor noise levels at a number of the surrounding residences to confirm these predictions.

Air Quality

The Air Quality Assessment concluded that provided the operational air quality control safeguards listed below were adhered to, any increase to $PM_{2.5}$, PM_{10}, and dust deposition would meet DECC and other government agency environmental and health criteria.

Specific design and operational safeguards have been planned for implementation at the Project Site, including the following:

- Water spraying in excess of 2L/m^2/application applied to internal haul roads;
- Temporary partial enclosure of stockpiles and processing area through installation of wind breaks (Hessian screen) along the western side of the processing area (subject to monitoring results);
- Stabilisation and/or revegetation of the overburden emplacement;
- Installation of water sprays at the tipping point to the apron feeder and at the primary crusher input;
- Instigation of water spraying at discharge points to stockpiles when winds in excess of 8m/s are recorded on the on-site weather station; and
- Minimising of exposed surfaces where possible.

A Gunlake Quarry Project dust monitoring program has commenced.

Aboriginal Heritage

A total of five Aboriginal heritage sites were identified on or adjacent to the Project Site (isolated artefacts and artefact scatters). In consultation with the Indigenous community, Gunlake will salvage and relocate the artefacts to ensure they are not destroyed.

Flora and Fauna

One threatened flora species listed by the EPBC Act, but not the TSC Act, was positively recorded within the study area. The Hoary Sunray (*Leucochrysum albicans* var. *tricolor*) is listed as Endangered under the EPBC Act, and was recorded near but not within the alignment of the proposed By-pass road. It is not expected to be impacted by the proposal.

Remnants of vegetation of the Endangered Ecological Community (EEC) *White Box Yellow Box Blakeley's Red Gum Woodland* (Box Gum Woodland) as listed under the NSW *TSC Act 1995* were recorded.

The current quarry, transport route and By-pass road proposal would result in the removal of a minor proportion of the total occurrence of the EEC in the study area and entire study locality, and possible indirect ongoing disturbances to the community during the operational phase of the quarry. However, assessment of the likely impacts on the EEC under the NSW and Commonwealth assessment provisions concluded that overall these are not considered to be significant, and recommendations have been made to ameliorate the effects of these impacts.

Two threatened fauna species, the Eastern Bent-wing Bat and Speckled Warbler, were positively identified within the area. In addition, a probable identification of the Eastern False Pipistrelle and a possible identification of the Southern Myotis were made using ultrasonic call

analysis. A number of other threatened fauna species have potential to occur or occasionally visit the Project Site on an opportunistic basis. The main impacts of the proposed quarry and haul roads are expected to be an increased risk of injury or death from being hit by a vehicle, the loss of some known or potential habitat (in particular the removal of hollow-bearing trees) and the potential for some threatened species to move away from the proposed development area due to increased noise, dust and night-time light.

These potential impacts are not expected to significantly impact any population of threatened fauna species. The overall conclusion from the 'seven-part test' for threatened fauna is that there is unlikely to be any significant impact on any local population of threatened fauna in the area.

Other issues associated with the proposed Gunlake Quarry include minor vegetation removal and potential further degradation of ephemeral creeklines in the area. Vegetation clearing would be required as a result of the proposed development. The bulk of clearing at the Project Site would take place at the proposed quarry site, though some trees along the access road route may also require removal.

In addition, there will be vegetation removed along the proposed haul road route. While no known roost or nest sites for any threatened fauna species are expected to be affected, Gunlake will retain all habitat trees within the site wherever possible as they provide potential shelter and breeding habitat for a wide range of fauna species.

The potential impacts on flora and fauna within the study area will be mitigated by provision of compensatory habitat to offset the vegetation cleared or disturbed. This will include appropriate rehabilitation, regeneration and revegetation of suitable areas within the subject site, mainly involving riparian habitat.

Gunlake will prepare and implement a Site Vegetation Management Plan.

Visibility

The Project Site is not visible from any local roads. The overburden emplacement has been designed to blend in with the existing landform and provide an acoustic and visual amenity bund further screening the rock processing area. Gunlake's commitment to minimise the extent of surface disturbance in advance of quarrying and to implement progressive rehabilitation, in conjunction with the visual shielding offered by the overburden emplacement bund, should ensure that the visual impact of the proposal is acceptable.

Socio-economic Setting

The socio-economic setting in Marulan and the surrounding Local Government Area is typical of many rural areas in New South Wales. The proposal would provide a number of benefits to Marulan.

Social Benefits

- Greater employment opportunities would reduce the exodus of young people.
- Although the population increase is likely to be very minor, the Project will help secure a base in Marulan for retention of existing services.

- Reduced unemployment, a more normal age structure distribution and increased economic activity would provide an economic and social boost for Marulan.

Economic Benefits

- Provision of 20 quarrying jobs and 25 transport jobs for a 30 year period. There would be indirect jobs created as a result of these direct jobs.
- Increased and diversified economic activity will stimulate other ancillary and service businesses.
- Flow-on benefits to the State economy through direct and indirect payments to the State.
- The Commonwealth would receive benefit through federal taxes and duties during the life of the Project.

The potential negative impacts of the proposal, including short term accommodation shortages, would be managed by Gunlake by preferentially employing local residents who would be provided with the required training. The potential benefits have been recognised by local community stakeholders as mitigating any short term adverse impacts.

PROJECT JUSTIFICATION

The proposed Gunlake Quarry Project and associated activities has been assessed in terms of a wide range of biophysical, social and economic issues. These impacts can be justified in terms of the positive economic and social benefits to Marulan, New South Wales and Australia, the market opportunities quarried rock products.

The design and operational regime for the proposed quarry would ensure any adverse impacts are acceptable.

CONCLUSION

The proposed Gunlake Quarry Project has, to the extent feasible, been designed to address all issues raised by the local community and all levels of government as well as the principles of ecologically sustainable development. The proposal provides for quarrying, crushing, production, and despatch of a hard rock resource product which would be significant in generating employment opportunities and boosting the local economy of Marulan.

The post-quarrying landform would integrate the re-establishment of agricultural land with significant areas designated for the enhancement and establishment of native vegetation and a riparian corridor.

In light of the conclusions included in the Environmental Assessment, it is assessed that the proposed Gunlake Quarry Project would be constructed and operated in a manner that would satisfy all relevant statutory goals and criteria, environmental objectives and reasonable community expectations.

The Environmental Assessment, supported by a range of specialist consultant studies has established that if the Gunlake Quarry Project proceeds, it would:

- continue to satisfy the demand for quarried rock products;
- satisfy sustainable development principles;
- establish enhanced and expanded areas of riparian corridor habitat;
- have a minimal and manageable impact on the biophysical environment;
- address the perceived social impacts,
- contribute to the continued economic activity of Marulan; and
- provide for post-quarrying economic activity on the Project Site.

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