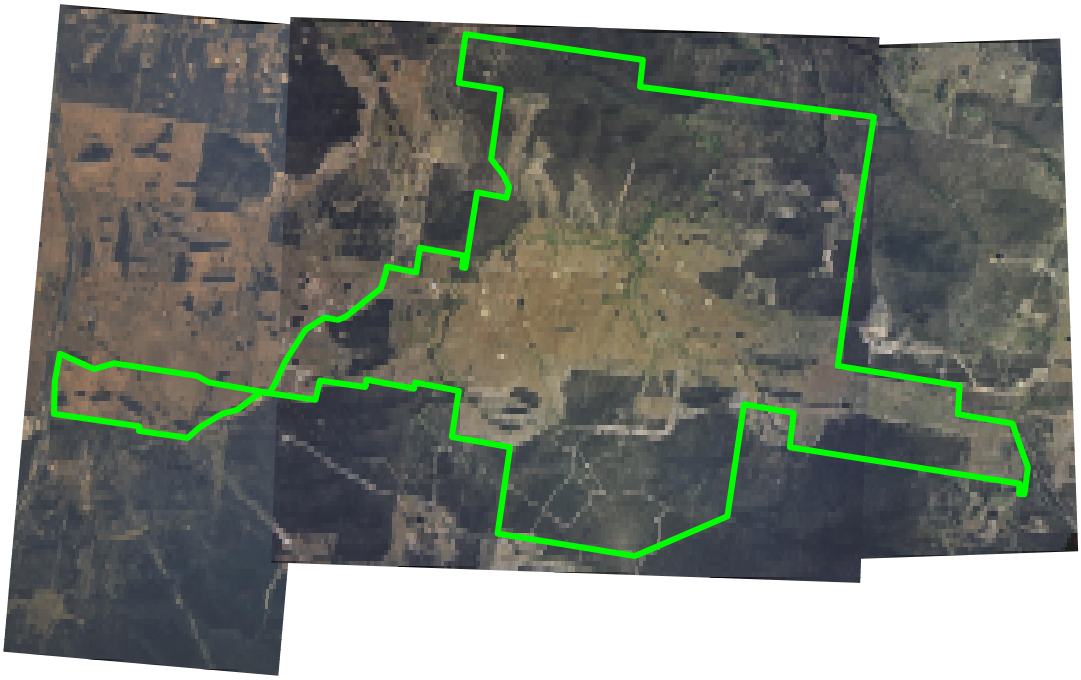
# PROJECT APPLICATION - PART 3A
## ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979



## PROPOSAL FOR A QUARRY, BRICKWORKS, BUILDING PRODUCTS MANUFACTURING, CERAMIC PRODUCTS MANUFACTURING, AND CONCRETE PRODUCTS MANUFACTURING "MARIAN VALE"

Lot 5 DP 1008397, Lots 17 & 18 DP 1018643, Lots 1 & 2 DP 1008394, Lots 3, 88, 89, 98, 105, 112, 129, 130, 133, 137 & 143 DP 750022 and Lots 1 & 2 in a subdivision of Lots 7, 42 & 86 DP 750038, Lot 2 DP 247198 and Lots 1 & 2 DP 1043931 Hume Highway, Tiyces Lane, Marian Vale Road, Robinson Road, Joseph Peters Lane and Mountain Ash Road, Towrang

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**March 2006** **Reference No. 5030**

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# 1.0 INTRODUCTION

This is the initial submission to the Department of Planning for a proposed major project under Part 3A of the Environmental Planning and Assessment Act 1979. The submission provides basic information concerning the project, Part 3A relevance, and the land, for assessment by the Department and other relevant government authorities for the issue of the Director General's requirements. The document is intended for use at a Planning Focus meeting prior to the issue of the Director General's requirements.

Laterals act under instruction from Millerview Constructions Pty Ltd to plan and seek approval for the development of a quarry at "Marian Vale" and activities that are associated with a proposed quarry.

Millerview Constructions proposes to establish a quarry for the supply of various materials including hard rock; road base and sub base material, brick and ceramics clay, sand and concrete products materials on its land in the Southern Tablelands region of NSW (see section 3.0). The proposed quarry will be located approximately 3 kilometres south of the Hume Highway about 10 kilometres to the east of Goulburn. The holding totals an area of approximately 1,610 hectares, known as 'Marian Vale'. The holding is owned by Millerview Constructions and The Australian tour Centre Pty Ltd. There are other lots adjoining the land that are under contract to purchase to be added to the holding substantially to provide an additional buffer around the development.

The Marian Vale site contains a substantial, high quality resource of hard rock, sand (coarse and fine), gravel and clays and has ready access to the Hume Highway for transport. A new road and highway access is proposed to provide for safe and easy access between the quarry and industries and Hume Highway.

The proposed quarry is intended to provide a long-term supply of high quality material for:

- Supply of material to a new competitor company of quarry materials and firms such as CSR, Boral, existing small companies and the like of materials and additional materials not available in their other quarries but available within this quarry.
- On site for the making of bricks and ceramic products;
- On site for the making of construction materials and concrete production for industry in the southern tablelands, Sydney and Canberra markets;
- Within the market of the southern tablelands for road building materials including sub base and road base and aggregate for road surfacing;

Approximately 50% of the materials to be quarried are proposed to be utilised within industries to be established on site including brickworks, building products manufacturing, ceramic products manufacturing, and concrete products manufacturing.

It is intended that the need for the proposal will be fully documented and the need for the quarry and industry be clearly identified along with the economic benefits of the proposal in its local, intrastate and interstate context. It is anticipated that this analysis along with the environmental analysis lead to the conclusions and justification for the project.

The resource available at the quarry site is approximately 1 billion tonnes in total. To meet the above market needs this application is proposed for the extraction of approximately 1 million tonnes per annum (mtpa) over a period of 30 years. Beyond this expectation the further expansion of the quarry will depend on the further development of markets and the growth of development within the southern tablelands area and other areas of the state and the area to be serviced by Antiquaire Pty Limited joint venture.

The proposed Marian Vale quarry is a 'major project' under Part 3A of the Environmental Planning and Assessment Act 1979 due to the size of the resource (30 million tonnes) and value of the development (estimated capital investment value of $150 million). The number of employees for the operation of the 3 quarry sites is estimated at 60. The number of employees for the operation of the quarry and the proposed industries is estimated at approximately 200 people. Consequently the Minister for Planning will be the consent authority for the project.

# 2.0 PLANNING PROCESS

The Marian Vale project will involve the preparation of a Project Application for the proposed quarry and the associated industries.

The Major Project Application will seek approval for:

1. The extractive industry and the processing of the material.
2. The movement of quarry products including landscaping materials, fine and coarse sand, road sub base, road base and road surfacing material from the site.
3. The winning, crushing and stockpiling of materials extracted from the quarry for use in the proposed industries.
4. The establishment of a brick works.
5. The establishment of ceramics products manufacturing.
6. The establishment of concrete products manufacturing.
7. The establishment of building products manufacturing.
8. The preparation and use of materials from timber to be cleared from the operational areas for use in later rehabilitation, landscaping materials and milled timber products.
9. Physical and commercial infrastructure associated with the quarry and industries.
10. Water management facilities associated with the quarry and industries.
11. Environmental management and mitigation measures associated with the development of the site for the quarry and industries.

The process will involve the identification of matters to be addressed in an environmental assessment at a Planning Focus meeting. Following this action the environmental assessment will be carried out and measures to manage, mitigate or offset any identified impacts will be identified and documented as a list of commitments.

The Draft Environmental Assessment will be reviewed by the Department of Planning and government agencies before finalisation and submission with the Part 3A application and public exhibition of the application in accordance with Department of Planning procedures.

The application is then to be determined by the Minister for Planning.

# 3.0 THE APPLICANT

Millerview Constructions Pty Ltd is a privately owned company. The company has been involved in many construction projects in Queensland and NSW including high rise apartment buildings and subdivisions. These high rise building have included Sky Gardens at Caloundra (11 stories and 2 basement levels providing 20 luxury units) and Mariners at Caloundra (7 stories and 2 basement levels providing 28 luxury units).

The company has also developed a rural subdivision at Marian Vale consisting of 37 lots. This subdivision is nearly complete to plan release stage, expected in June 2006. The subdivision also has included the construction of 2 commercial buildings (general and hardware store, restaurant and function rooms) and several development approvals for bed & breakfast facilities, sporting oval and grandstand, chapel, clubhouse and golf facility and motel. The subdivision is not available for sale due to the proposal for a quarry on the land. The buildings that have been constructed are intended to be used in association with the proposed quarry operations.

Since approval of the subdivision the company has purchased adjoining land making up a contiguous holding of 1,610 hectares.

In addition the company is preparing for the commencement of developments including:

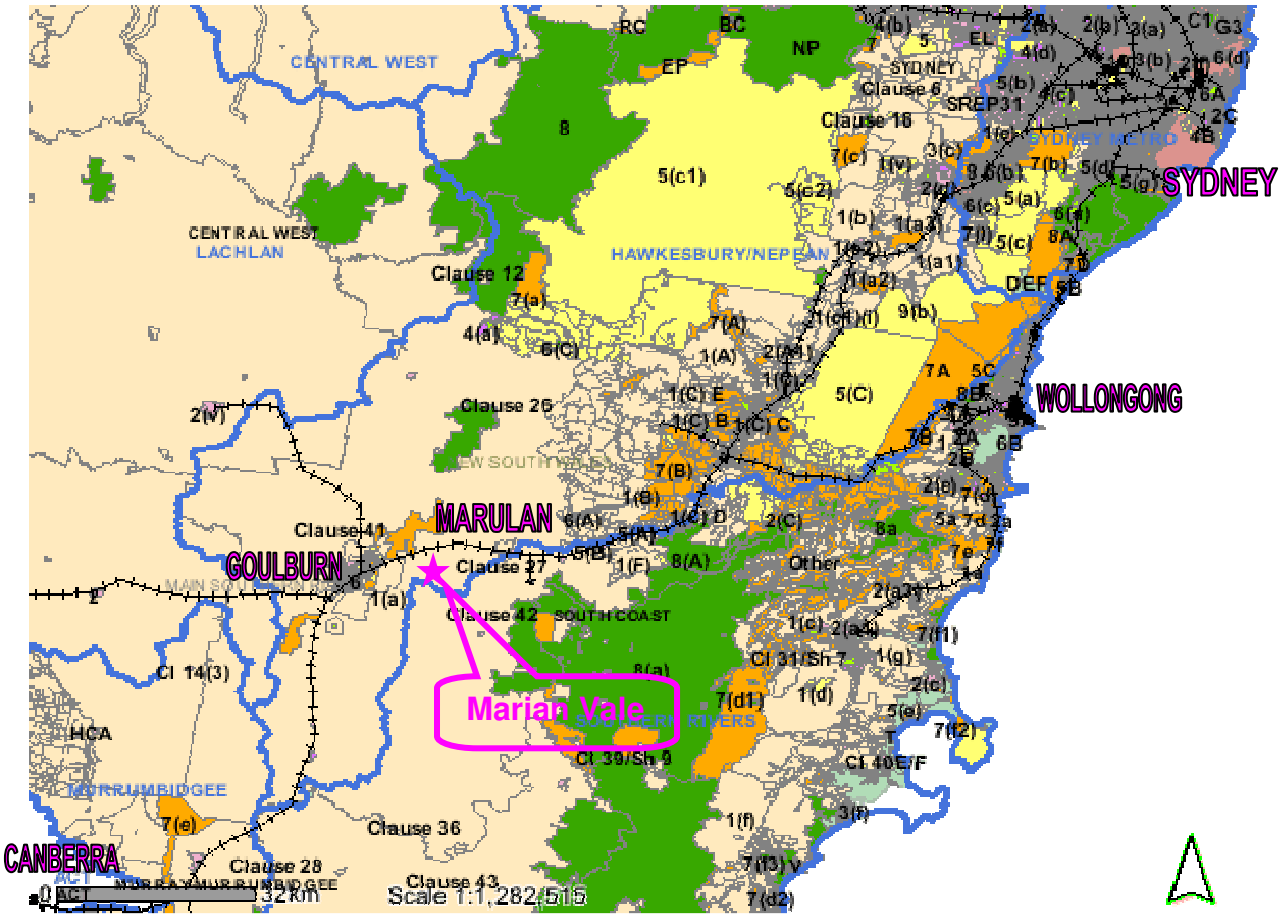
1. Construction of Mariners at Yeppoon (5 stories and 2 basement levels to provide 29 units). Commencement is expected in June 2006.
2. Construction of Centrepoint Rockhampton (2 x 15 storey apartment buildings a 30 storey motel, casino, marina, convention centre, foreshore improvements and commercial facilities, to provide 260 retail, professional and residential units). Commencement is expected in June 2007.
3. Restoration of “The Old Bank” at Mittagong town centre to commercial space and 20 units. Planned to commence in 2009.
4. Development of a 3 hectare site at Surf Beach, Bateman’s Bay, to provide 6 lots and residential building construction.
5. The establishment of a quarry on Marian Vale to supply up to 1 million tonnes per annum for industry in general as well as the proposed industrial activity proposed in this Concept Plan application.

The company has a strong background in the construction industry and is aware of the need and characteristics of construction materials for road works, environmental works and the building industry. With the discovery of the materials available at Marian Vale the company is now seeking to become involved in the development of construction products associated with its construction arm along with providing a resource for the use by Antiquaire and its joint venturer.

# 4.0 PROJECT LOCATION AND LAND DETAILS

The location of the Marian Vale property and proposed development area are shown on the attached topographic plan and aerial photograph. The parcels of land (shown in the following table) will be involved, and currently have frontage to the Hume Highway, Tiyces Lane, Marian Vale Road, Robinson Road, Joseph Peters Lane and Mountain Ash Road. This quarry site is located approximately 10km north east of Goulburn City and approximately 2km south east from the Hume Highway.

| Parcel number | Lot number | Deposited Plan reference | Area of parcel (ha) | Other notes in relation to parcel |
|---|---|---|---|---|
| 1 | 1 | 1008394 | 92.42 | |
| 2 | 2 | 1008394 | 180.6 | |
| 3 | 16 | 1018643 | 42.17 | Under contract. |
| 4 | 17 | 1018643 | 99.53 | |
| 5 | 18 | 1018643 | 191.5 | |
| 6 | 5 | 1008397 | 49.93 | |
| 7 | 3 | 750022 | 98.725 | |
| 8 | 88 | 750022 | 16.185 | |
| 9 | 89 | 750022 | 40.46 | |
| 10 | 98 | 750022 | 48.555 | |
| 11 | 102 | 750022 | 72.83 | Under contract |
| 12 | 105 | 750022 | 48.555 | |
| 13 | 112 | 750022 | 16.185 | |
| 14 | 129 | 750022 | 10.115 | |
| 15 | 130 | 750022 | 66.965 | |
| 16 | 133 | 750022 | 68.785 | |
| 17 | 137 | 750022 | 27.31 | |
| 18 | 143 | 750022 | 234.98 | |
| 19 | 74 | 750038 | 20.23 | Under contract. |
| 20 | 91 | 750038 | 19.42 | Under contract. |
| 21 | 94 | 750038 | 60.7 | Under contract. |
| 22 | 1 | Subdivision of Lots 7, 42 & 86 DP 750038, Lot 2 DP 247198 and Lots 1 & 2 DP 1043931 | 44.08 | Subdivision approved and under construction. Under contract. |
| 23 | 2 | Subdivision of Lots 7, 42 & 86 DP 750038, Lot 2 DP 247198 and Lots 1 & 2 DP 1043931 | 45.06 | Subdivision approved and under construction. Under contract. |
| 24 | Various | Lots to be created on closing of roads within Marian Vale subdivision | 15.7 | Road closing plan to be registered and area added to lots in Marian Vale subdivision. |
| **Total area** | | | **1610.99** | |

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**KEY**

**Marian Vale -**

Locality of proposal

5km radius to Goulburn

State Highway

Regional road

Local road

Goulburn & Villages

1(c) rural smallholdings

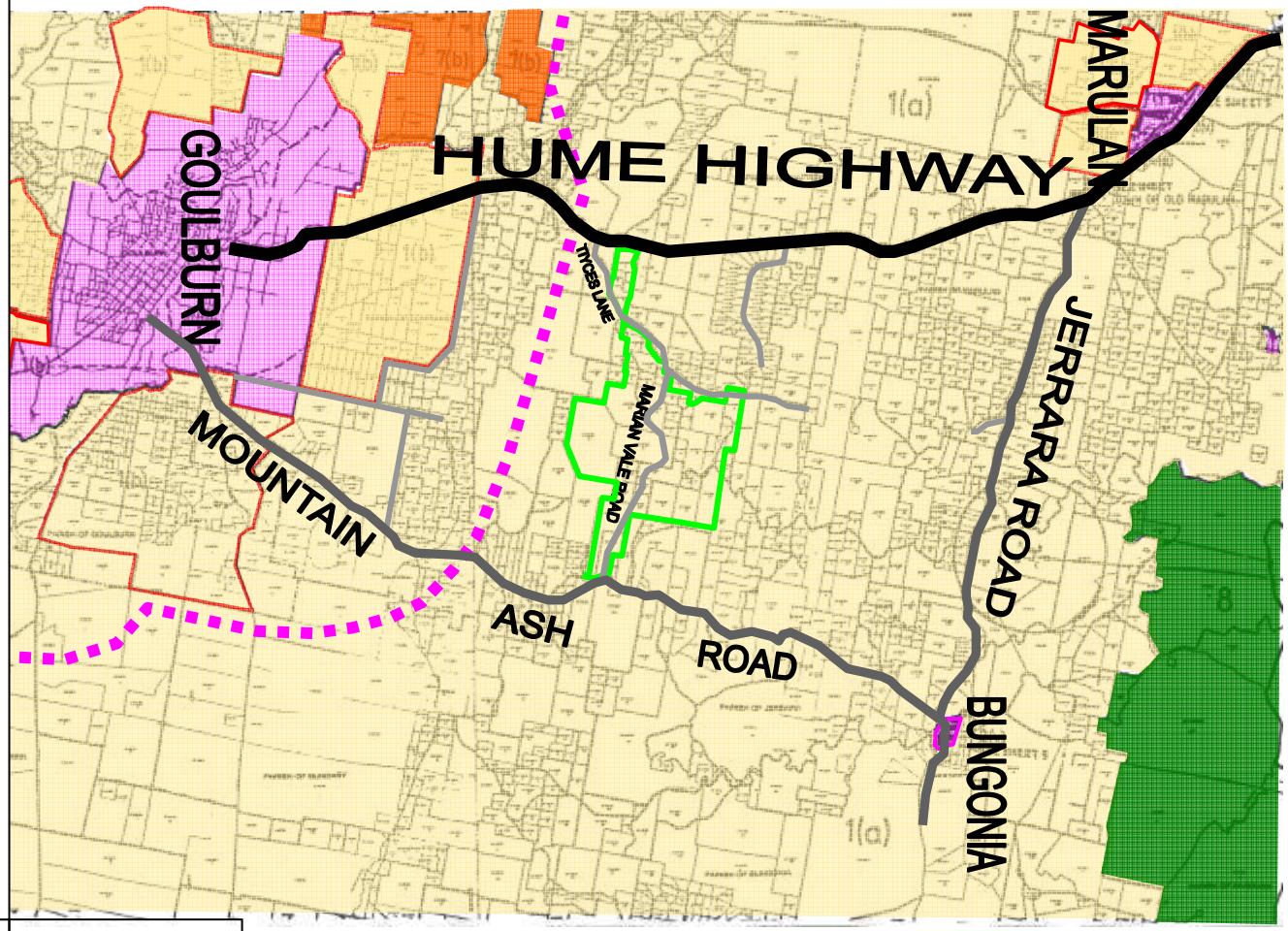
1(b) Rural/Urban Investigation

1(a) General Rural

7(b) Environmental Protection

8 National Parks & State Recreation Areas

Zonings under Mulwaree Local Environmental Plan 1995




**NOTES:**

1. This plan has been prepared for a preliminary submission to Department of Planning and should not be used for any other purpose.
2. There have been no title searches undertaken with the Land & Property Information of NSW in relation to the subject lands.
3. No reliance should be placed on this plan for any financial dealing involving the land.
4. These notes form an integral part of the plan.

Base map source: Mulwaree Local Environmental Plan 1995.

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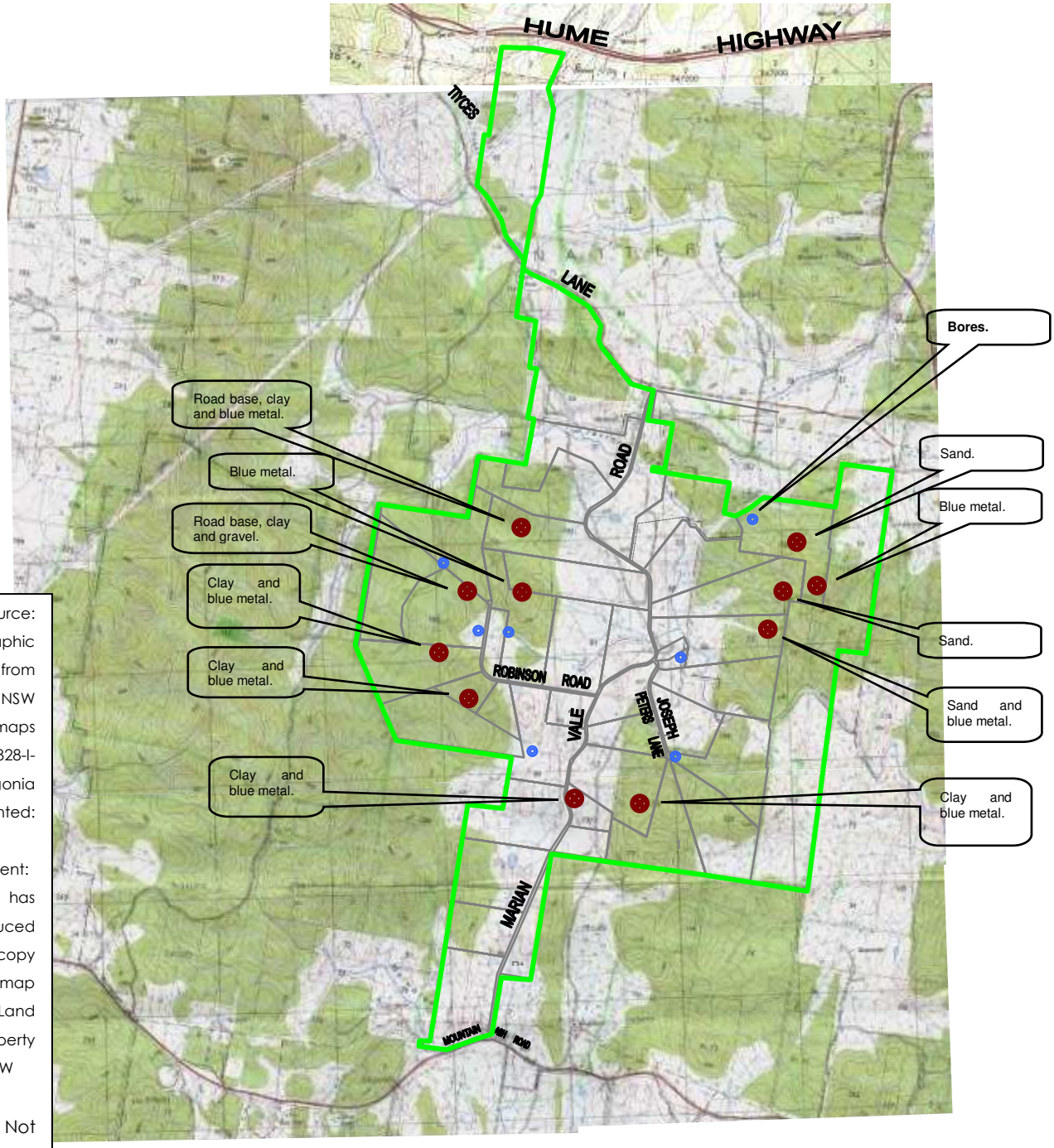
# 5.0 PROPOSED PROJECT

## 5.1 GEOLOGY AND RESOURCES

Millerview Constructions has undertaken an extensive exploration drilling program across the site with initial drilling commencing in 2005. The drilling program has included holes up to a depth of 150 metres. The target resource was hard rock to provide high quality material for aggregate and road construction material. During drilling and testing it was found that significant material existed for road construction, sand products and the making of bricks and ceramics and building products from concrete.




Base map source: NSW Topographic Maps. Extract from the NSW Topographic maps of Towrang 8828-I-S, and Bungonia 8828-II-N, printed: 1983

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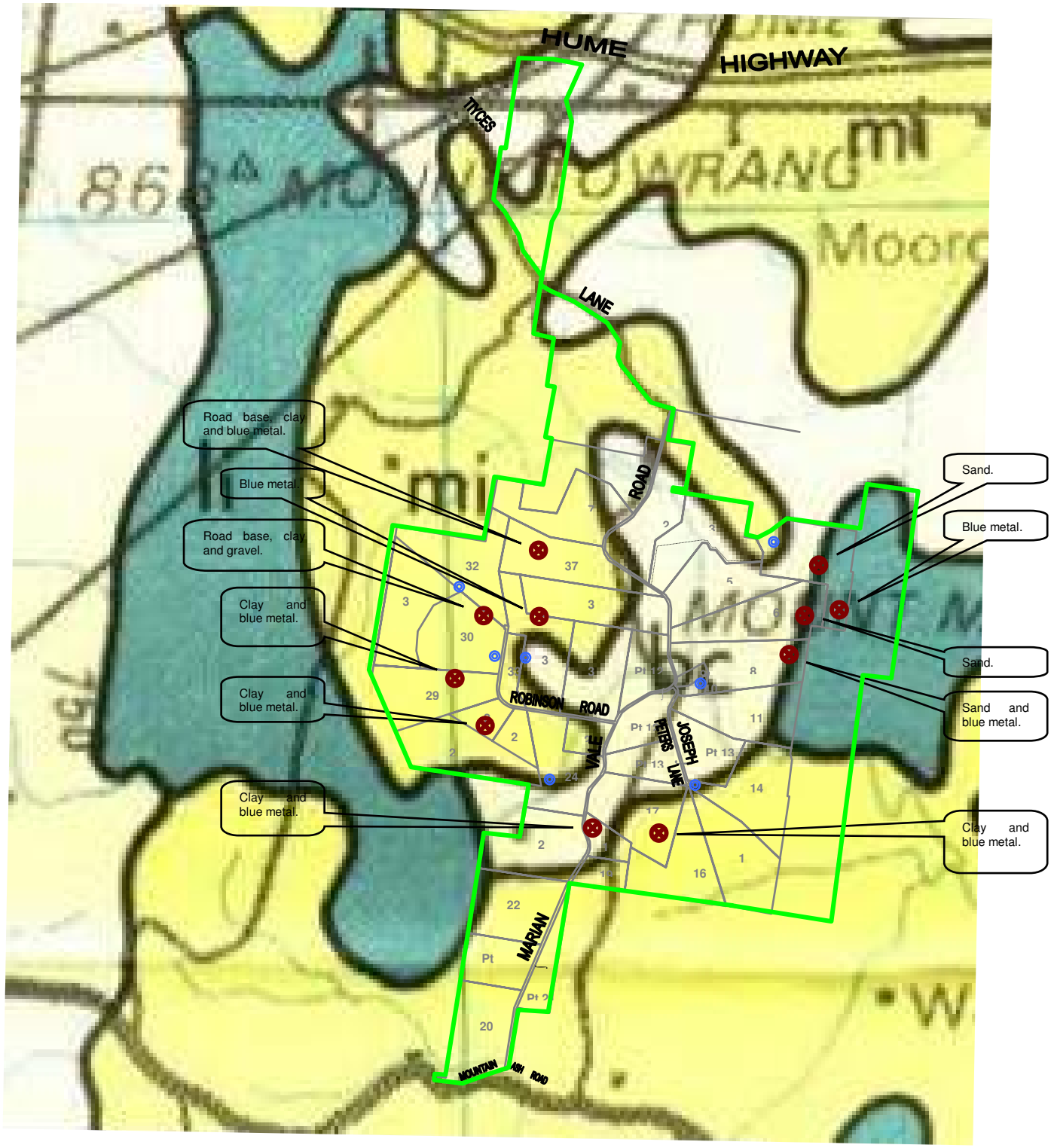
The above plan shows the location of testing. Testing has provided confirmation that gravel suitable for various road uses, sand, clay and blue metals are readily available. The suitability of the clay, sand and blue metals material for the proposed various uses has been further tested and proven satisfactory for brick, concrete and ceramics products. Some specific results of testing are included in section 5.3.



The above soil landscape map from “Soil Landscapes of the Goulburn 1:250 000 Sheet” indicate the land is within the “Midgee”, “Blakney Creek” landscapes and on the edge of the “Lickinghole” landscape.

## 5.2 OVERVIEW OF QUARRY AND ASSOCIATED USES

It is intended that the proposal will incorporate:

1. A new private access road to the Hume Highway along the line shown on the attached road network plan. This new road is intended to provide private (exclusive) ingress and egress to the quarry from the Hume Highway, and it is not intended that transport to and from the quarry pass along any existing Council roads. Consideration can be given to the incorporation of the new access road into the existing road network for use by the local community and people accessing the local community.
2. The establishment of a quarry to produce quarry products including landscaping materials, fine and coarse sand products, road sub base, road base, road surfacing material and materials for several other industries associated with the resources available within the site as listed below. Testing of materials has shown the suitability of on site material for these purposes.
3. The establishment of a timber products industry that will utilise the timber that will be cleared for the establishment of the quarry. This will involve the development of rehabilitation materials, landscaping products and timber milling.
4. Environmental management and mitigation works to provide for the protection of the environment in general and Jerrara Creek specifically and other waterways that discharges from the property and the protection of Sydney’s water catchment.
5. Water management facilities for the supply and discharge management of water and wastewater associated with the quarry and industries.
6. Commercial infrastructure including the construction of administration buildings and works required in association with the development and operation of the quarry and associated businesses.
7. The construction of highway access to the south bound lane for the transport of the material from the quarry site to the Hume Highway. From this access point trucks to head north would turn around at the Divalls intersection and trucks to enter from the south would turn around at Curlewin.
8. The development of a brick works to utilise the clay and associated materials from the extractive activity. Testing of materials has shown the suitability of on site material for these purposes.
9. The establishment of ceramics products manufacturing to produce ceramic products, tiles and the like. Testing of materials has shown the suitability of on site material for these purposes.
10. The establishment of concrete products manufacturing to provide (wetmix concrete 25-50 mpa) precast construction sections and building components, precast concrete containers and conduits. Testing of materials has shown the suitability of on site material for these purposes.

The development of the site will also include the following activities which are intended to be subject to applications to Goulburn Mulwaree Council and Department of Natural Resources for construction of the necessary structures and/or infrastructure. Neither of these proposals is intended to be part of the Project Application or Concept Plan process.

1 The establishment of spring water processing and bottling by the use of bore water from 7 bores established on the property and tested for suitability. Testing of water from the bores has shown the suitability for this purpose.

2 The construction of 2 large dams, one of which is intended to provide for the containment of an eroded gully, and one which is intended to provide for water storage from rainwater catchment and bore water, and for use in association with the activities to be undertaken on the site. An application has been lodged for the erosion gully dam and an application is under preparation for the large dam to store rainwater and bore water for on site use. Applications have or are to be lodged with the Department of Natural Resources.

The quarry will ultimately cover an area of approximately 135 hectares and utilise a small proportion (approximately 6%) of the area of Marian Vale.

The industrial uses will cover an area of approximately 17 hectares and utilise a small proportion of the area of Marian Vale. The location of the industry is indicated on the General Land Use Plan on page 20 but more accurately as the initial 5 year extraction area shown on the aerial photograph showing the Quarry Plan in section 5.3 on page 16 as the area at the south eastern part of the land. It is intended that this area be quarried at a faster rate and the material stockpiled in order to make available the land for the proposed industrial developments.

The central area contains constructed buildings which will be used for the central administration of the quarry activity, other identified activities associated with the use and development of the quarry and quarry products.

Excepted from the development of the area that incorporates the quarry and an industrial use is the large area to the north of the quarry area that will be retained for highway access. Other areas are intended to remain for buffers, vegetation clearing offset and further quarry potential should expectations and needs from the current resource be exceeded needing additional quarry resources

It is estimated that there is a need to extract 1million tonnes per annum of material under the current proposal (30 years) and that the material will consist of:

1. Crushed material suitable for road sub base and road base;
2. Sand suitable for the construction industry and the manufacture of fine and coarse sand products;
3. Clay suitable for brick making and ceramics;
4. Crushed hard rock suitable for road surfacing;
5. Crushed rock materials suitable for concrete production;

Material testing has been carried out that confirms the suitability of the material on site for the above proposed uses.

Based on estimates of the quantities of materials available it is estimated that the weight of material to be extracted will amount to 1 million tonnes per annum. The quantities of each type of material are to be confirmed by detailed profiling and analysis in the environmental assessment process.

The base of the quarry is approximately identified on the following quarry plans. After quarrying, the land is proposed to be rehabilitated to create an environment consistent with that which exists on the site with native vegetation and be available for rural subdivision in accordance with an existing consent or a new subdivision in accordance with laws applicable at the time.

Each component of industrial use is further detailed in the following sections to provide relationship to the amount of material to be extracted.

## 5.3 QUARRY PRODUCTS

In total the quarry will result in the extraction of 1 million tonnes per annum of materials for the proposed uses. The materials will be obtained from 3 quarry areas. Quarry products exclusive of the materials required for the industrial uses listed below will total 500,000 tonnes per annum (15 million tonnes over 30 years). The industrial uses will utilise a further 500,000 tonnes per annum as documented below.

Extensive testing has been carried out to establish the plasticity index, CBR and Dry Strength suitability of the material for the proposed uses.

| Test Criteria | Lot 18 | Lot 19 | Lot 30 | Hat Hill | Hat Hill West |
|---|---|---|---|---|---|
| Plasticity Index | 8 | 6 | 9 | 3 | 6 |
| CBR | 100 | 60 | 100 | 100 | 30 |
| Dry Strength | 105kN | 81kN | 74kN | 76kN | 68kN |

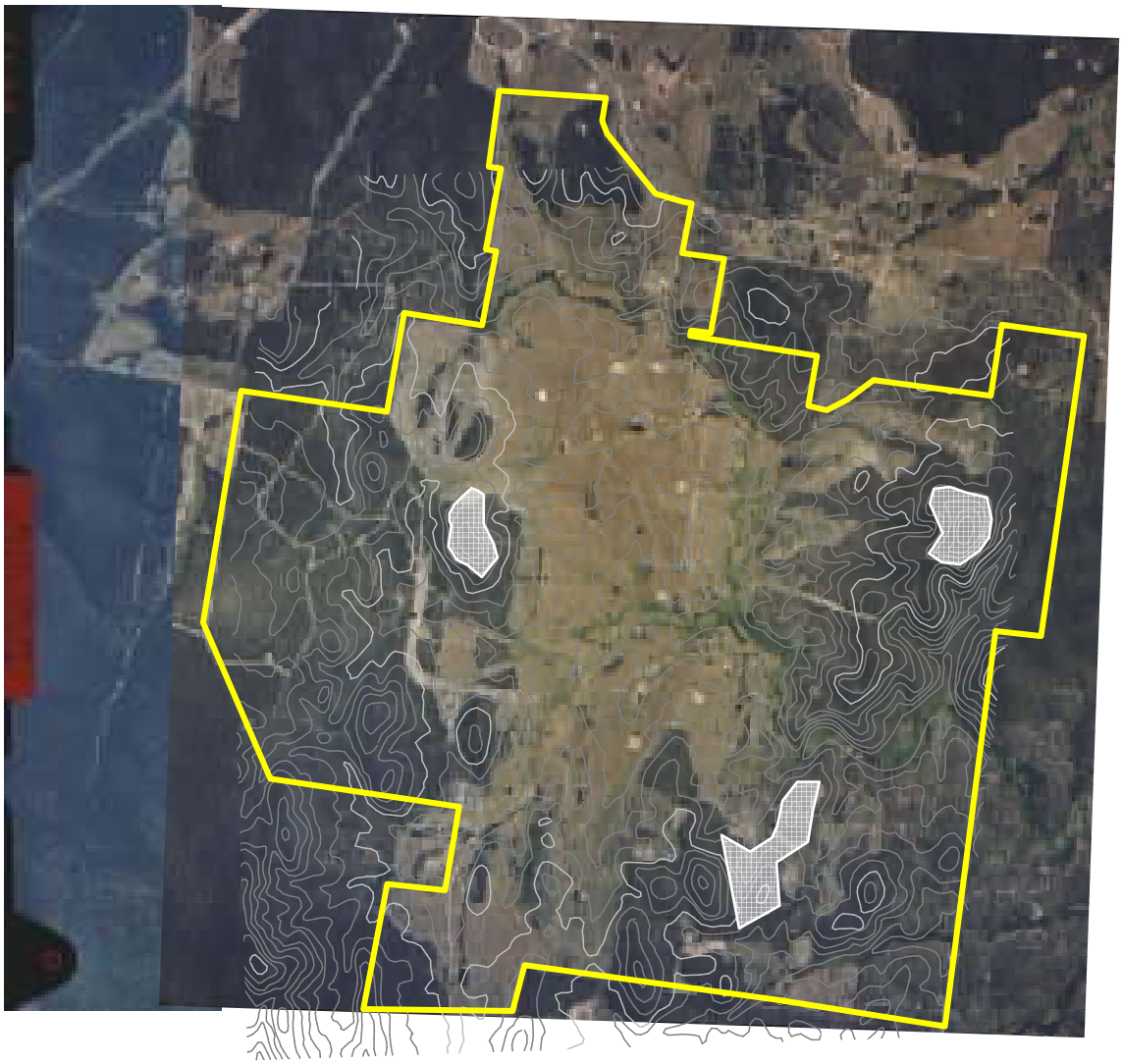
## 5.4 QUARRY PLAN

The testing of materials has dictated the location of the quarry within 3 parts of the land to obtain the resources necessary for the proposed uses. Following are 3 quarry plans that indicate the location of those areas and the progressive quarry activity within the intended 30 year time frame.

The quarrying process will provide for the construction of most of the infrastructure necessary for the proposed industrial uses including the construction of the access road to the highway and internal access roads to the proposed industrial area.

Construction material for the site is proposed to be drawn from 3 existing approved gravel pits within the site. These pits have been approved by Goulburn Mulwaree Council for use in the construction of the subdivision and approval will be sought from Goulburn Mulwaree Council for this extension concurrent with the process of this quarry proposal.

Conceptual quarry staging plans for the progressive extraction of material are shown on pages 16, 17 & 18 for the expected 30 year life of the quarry. A general land use plan is shown on page 20 to indicate the location of the quarries and industrial development. The industrial development area is located within a first stage area of one of the quarries to produce land of suitable grade and location for effective access and dispersal of finished products and for continued operations. This area is relatively low in elevation and contains less resource enabling its early extraction and stockpiling for the establishment of the industrial uses.



**Quarry extent after 5 years**

Based on photographs of Goulburn NSW4345, Run 4, Photo 242, 21-01-97; NSW4344, Run 5, Photo 73, 20-01-97; NSW4813, Run 8, Photo 168 02-01-04 and NSW4815, Run 9, Photo 8, 02-01-04.

Acknowledgment: This material has been reproduced from aerial photograph produced by Land and Property Information NSW

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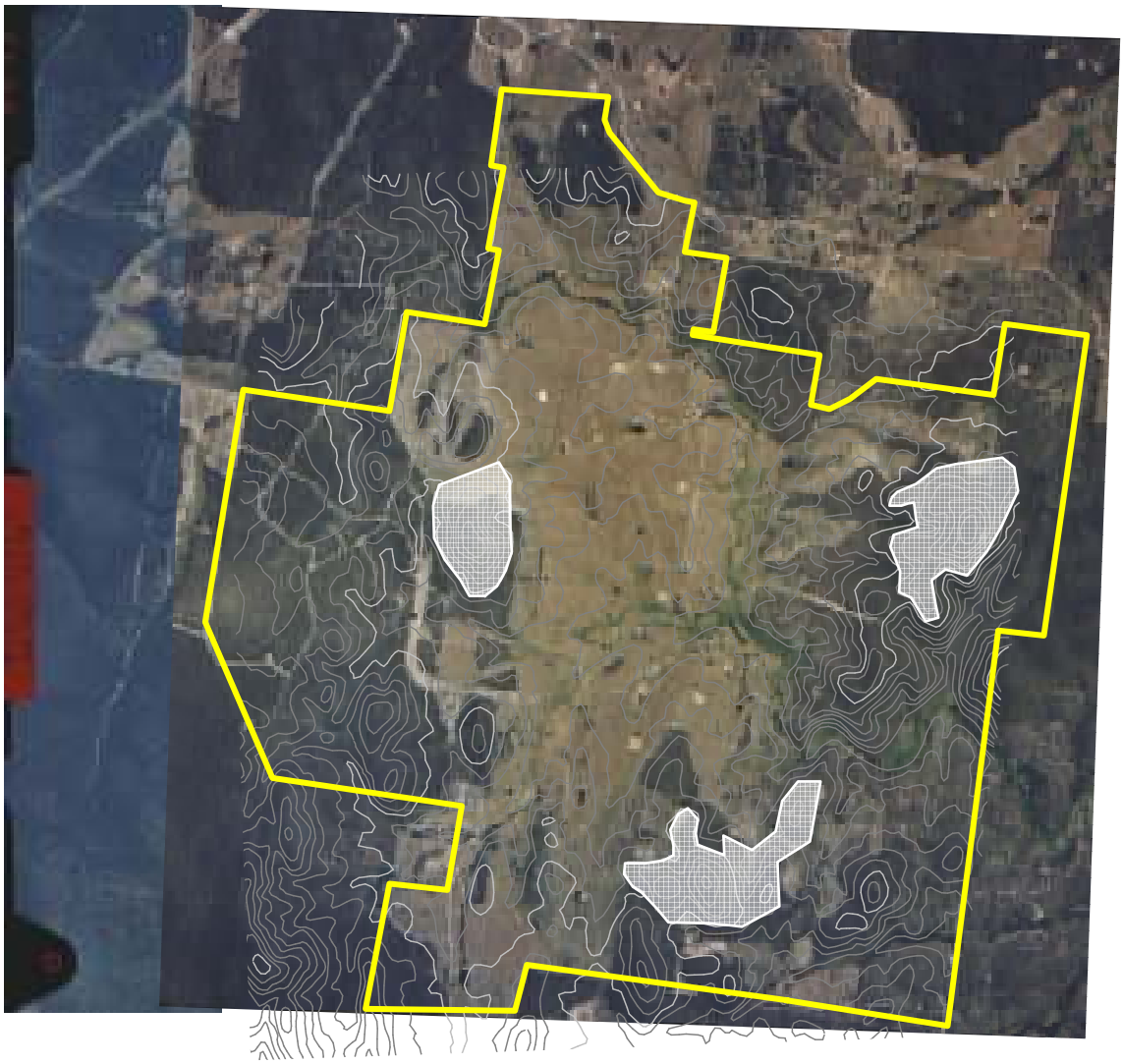

**Quarry extent after 15 years**

Based on photographs of Goulburn NSW4345, Run 4, Photo 242, 21-01-97; NSW4344, Run 5, Photo 73, 20-01-97; NSW4813, Run 8, Photo 168 02-01-04 and NSW4815, Run 9, Photo 8, 02-01-04.

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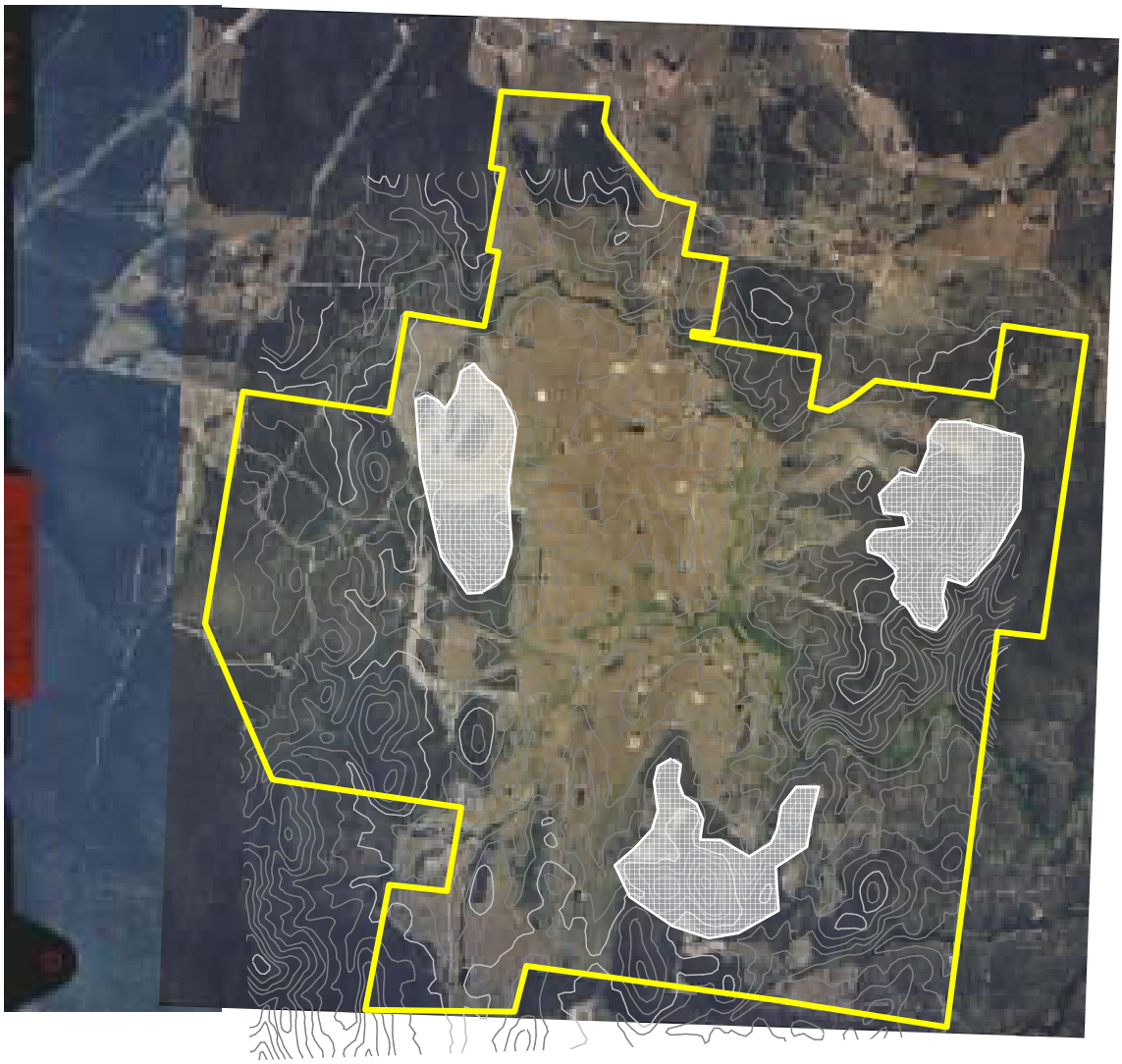


**Quarry extent after 30 years**

Based on photographs of Goulburn NSW4345, Run 4, Photo 242, 21-01-97; NSW4344, Run 5, Photo 73, 20-01-97; NSW4813, Run 8, Photo 168 02-01-04 and NSW4815, Run 9, Photo 8, 02-01-04.

Acknowledgment: This material has been reproduced from aerial photograph produced by Land and Property Information NSW

Scale: Not calculated

The quarrying process will involve the following steps:

1. Clearing and topsoil stripping and stockpiling. Equipment likely to be used will be a dozer, scraper grader and water truck.
2. Excavation of material by use of a dozer, excavator, loaders and dump trucks. Due to the fractured nature of the rock on the site it is not anticipated that drilling and blasting will be necessary. However if after detailed profiling and analysis this is found to be necessary percussion drilling of holes is proposed to a bench height of 18 metres. Blasts will be carried out according to need but may for example involve 1 per month.
3. The materials from the excavation on site will be loaded by an excavator and transported within the site by dump trucks to a crushing and screening plant. Any pieces too large to be loaded and transported will be broken into smaller pieces by a hydraulic rock breaker.
4. Crushing of excavated rock to meet production needs for the various products. Crushing operations will be carried out differently to produce the hard rock products for use on site in concrete and building products manufacture, gravel for road construction, and the production of sand. Details of processes are proposed to be included in the environmental assessment documentation.
5. Screening and processing of crushed sand and clay for use in concrete and building product manufacture and brick and clay manufacture. Details of processes are proposed to be included in the environmental assessment documentation.
6. The stockpiling of processed materials within the site for utilization in the manufacture of concrete and building products, bricks and tiles, etc, and ceramic products. The conceptual planning of these industries is proposed to be shown in the Concept Plan Application documentation.

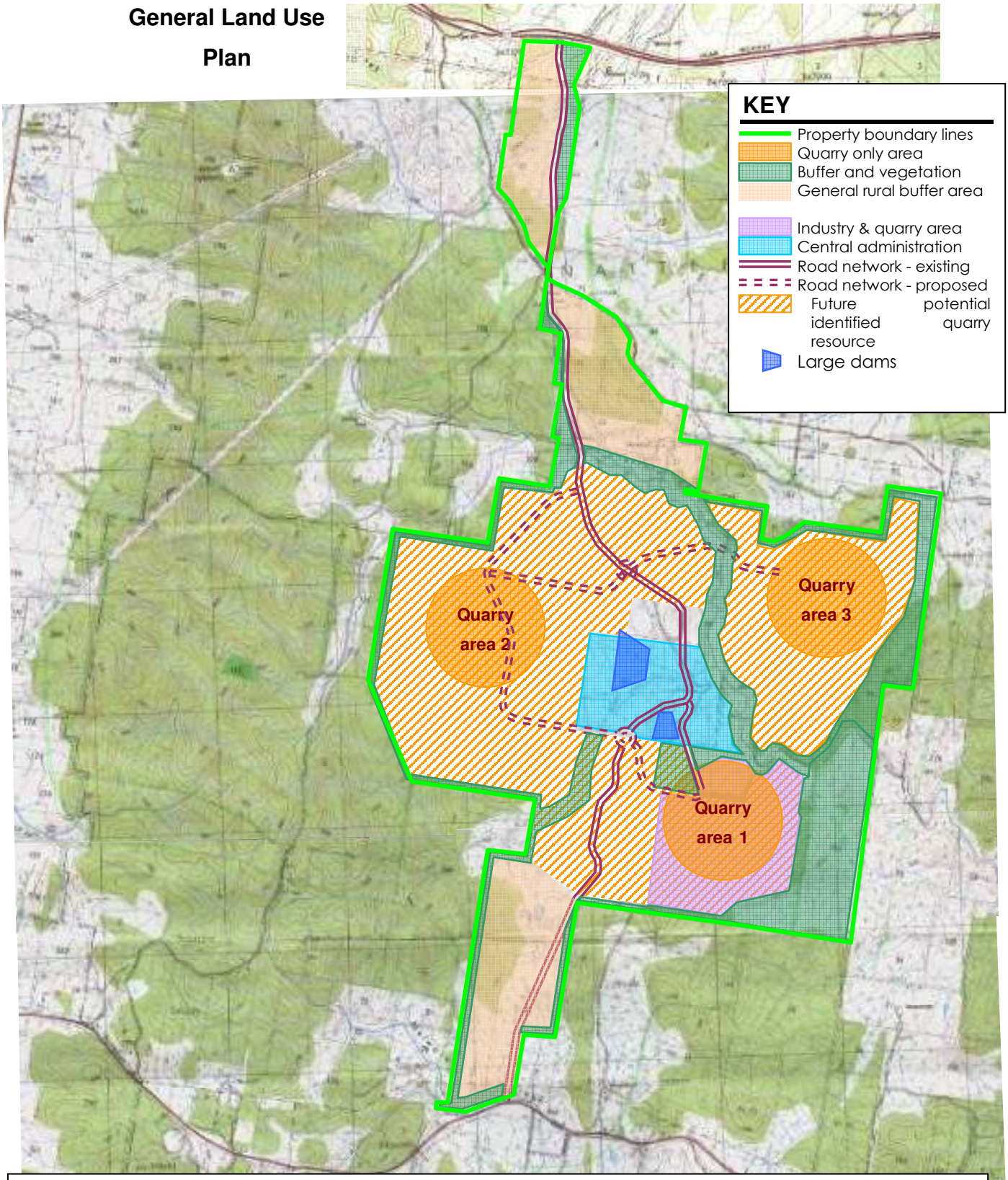
It is anticipated that all the material extracted will be used on site or sold. If however some material is located that is unsuitable for use in any of the proposed processes or off site, an out-of-quarry storage area will be required. The location of a suitable area(s) for this storage will be indicated on the site plans for the proposal but will be within each quarry area.

Construction material for the site is proposed to be drawn from 3 existing approved gravel pits within the site. These pits have been approved by Goulburn Mulwaree Council for use in the construction of the subdivision and deferred approval will be sought from Goulburn Mulwaree Council for this extension concurrent with the process of this quarry proposal.

Rehabilitation will include the quarry areas and the out-of-quarry storage area in accordance with a plan to be prepared to achieve a suitable landform and re-vegetation consistent with the existing environment and native vegetation.

Conceptual quarry staging plans for the progressive extraction of material are shown above for the expected 30 year life of the quarry. A general land use plan is shown below to indicate the location of the quarries and proposed industrial development. The proposed industrial development area is located within a first stage area of one of the quarries to produce land of suitable grade and location for effective access and dispersal of finished products and for continued operations. This area is relatively low in elevation and contains less resource enabling its early extraction for the establishment of the industrial uses.

## General Land Use Plan




Base map source: NSW Topographic Maps. Extract from the NSW Topographic maps of Towrang 8828-I-S, and Bungonia 8828-II-N, printed: 1983

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## 5.5 TIMBER PRODUCTS INDUSTRY

The establishment of a timber products industry to utilise timber cleared for the quarries in the location shown on the Site Development Plan. This will involve the development of rehabilitation materials (for on site use), landscaping products and timber milling. This will necessitate the use of a temporary timber milling processes, chipping and mulching facility.

## 5.6 BRICKWORKS

The development of a brick works to utilise the clay and associated materials from the extractive activity. Testing of materials has shown the suitability of on site material for these purposes as detailed below;

| Component | Lot 8 | Lot 17 | Lot 18 | Lot 30 | Hat Hill | Hat Hill West |
|---|---|---|---|---|---|---|
| Kaolinite | 19.4% | 19.2% | 26.9% | 19.0% | 10.4% | 19.0% |
| Muscovite | 53.0% | 61.6% | 38.7% | 44.7% | 44.3% | 44.3% |
| Quartz | 27.7% | 18.8% | 34.5% | 36.3% | 45.3% | 25.8% |

Brickworks are proposed in the location shown on the proposed Site Development Plan. The works are proposed to be constructed to produce approximately 50 million bricks per annum. This scale of works will require product from the quarrying to the extent of 200,000 tonnes per annum (6 million tonnes over 30 years).

## 5.7 CERAMICS PRODUCTS MANUFACTURING

The establishment of ceramics products manufacturing to produce ceramic products, tiles and the like. Testing of materials has shown the suitability of on site material for these purposes as detailed below;

| Component | Lot 8 | Lot 17 | Lot 18 | Lot 30 | Hat Hill | Hat Hill West |
|---|---|---|---|---|---|---|
| Kaolinite | 19.4% | 19.2% | 26.9% | !9.0% | 10.4% | 19.0% |
| Muscovite | 53.0% | 61.6% | 38.7% | 44.7% | 44.3% | 44.3% |
| Quartz | 27.7% | 18.8% | 34.5% | 36.3% | 45.3% | 25.8% |

Industrial development is proposed in the location shown on the proposed Site Development Plan. The works are intended to produce ceramic products, tiles and the like for use in the construction of buildings. The intended scale of works will require product from the quarrying to the extent of 200,000 tonnes per annum (6 million tonnes over 30 years.

## 5.8 CONCRETE AND BUILIDNG PRODUCTS MANUFACTURING

The establishment of concrete products manufacturing to provide (wetmix concrete 25-50 mpa) precast construction sections and components, pipes, headwalls, precast concrete containers and conduits. Testing of materials has shown the suitability of on site material for these purposes as detailed below;

| Test Criteria | Providence | Grenada | Grenada Sth |
|---|---|---|---|
| Los Angeles Value | 21 | 20 | 23 |
| Dry Strength | 275kN | 314kN | 306kN |
| Wet strength | 232kN | 227kN | 181kN |
| Chloride as Cl | 0.014% | 0.004% | 0.004% |
| Sulphate as $SO_3$ | 0.06% | 0.02% | 0.02% |

Industrial development is proposed in the location shown on the proposed Site Development Plan. The works are intended to produce pre cast concrete pipes, containers and conduits for

the construction of buildings and roads. The intended scale of works will require product from the quarrying to the extent of 100,000 tonnes per annum (3 million tonnes over 30 years).

## 5.9 QUARRY AND INDUSTRIAL USES INFRASTRUCTURE

### 5.9.1 Crushing and screening

The crushing and screening plant is proposed to be established within each quarry area. Material is proposed to be transported within the site to the plant. The plant is to be designed to process up to 400 tonnes per hour. It is proposed to stockpile the various products within each quarry area for loading for transport and distribution to the various industrial manufacturing process sites.

### 5.9.2 Product transportation

Including the quarry and associated uses a resource production rate of 1 mtpa is expected to be transported from the site by road along the proposed private road to the Hume Highway and then along the Hume Highway resulting in approximately 84 x 38 tonne loads per day to intended end users in local, district, Sydney and Canberra markets. This will result in 168 movements per day and assuming trucking will operate for 12 hours per day this equates to 14 truck movements per hour.

Initially transport will involve an estimated 42 x 38 tonne loads per day (i.e. 500,000 tonnes per annum) resulting in a total of 84 movements per day and assuming trucking will operate for 12 hours per day this equates to 7 truck movements per hour. The additional transport will only occur once the proposed industries are established and operational.

A new private access road is to be constructed to the Hume Highway along the line shown on the attached road network plan. This new road is intended to provide private (exclusive) ingress and egress to the quarry from the Hume Highway, and it is not intended that transport to the quarry pass along any existing Council roads. It will be necessary as part of this application to plan and design the details for the construction of the access to and from the Hume Highway in accordance with final design requirements established in consultation with the Roads & Traffic Authority.

Consideration can be given to the incorporation of the new access road into the existing road network for use by the local community and people accessing the local community, in consideration of the anticipated wishes of Goulburn Mulwaree Council and the Roads & Traffic Authority to reduce the number of access points to the Hume Highway. In this regard consideration needs to be given to funds intended for the upgrade of Tiyces Lane for the subdivision being diverted to that part of the new road from Tiyces Lane to the Hume Highway. If the access to the Hume Highway is intended to provide for the existing and future residents of Tiyces Land and other lands that could be connected to this route then consideration also needs to be given to cost sharing between the proponent, the State Government and the Federal Government.

### 5.9.3 Other infrastructure

The site currently contains buildings that are intended to be used for the operations of the quarry and staff services and facilities. Each industrial activity will be contained within its own land and contain it own staff services and facilities.

It will also be necessary to provide for staff and truck parking and workshop facilities, office, amenity and store buildings.

Internal roads are proposed to be constructed generally in the location shown on the land use map above.

High voltage electricity is already provided to the land and will need to be upgraded as further advised by Country Energy.

### 5.9.4 Workforce and Hours of Operation

The quarry is proposed to be operated 2 x 8 hour shifts per day, 6 days per week. Industry may operate for similar hours or only 1 shift per day. Transport movements have been calculated on trucking operating for 12 hours per day.

It is anticipated that the quarry and proposed industrial uses will employ approximately 200 people. As the development will occur in a sequential manner the increase of employment to this level will occur as each component of the proposed development becomes operational, however it is expected that all activities will be operational within a period of 5 years, allowing for the extraction and stockpiling of material from the proposed industrial area.

### 5.9.5 Stormwater management

Stormwater management works will provide for the protection of Jerrara Creek and other waterways that discharge from the property and the protection of Sydney's water catchment. In addition to stormwater management works two large dams are proposed. The general location of the two dams is shown on the land use plan on page 20.

One dam is intended to contain and manage an eroded gully over which a contour plan has been prepared. Details of this dam have been submitted to the Department of Natural Resources for approval. The estimated capacity of this dam is 64 megalitres.

The other dam is intended to be constructed as a containment area for rainwater and bore water for use in relation to the proposed quarry and industrial activities. It has an estimated capacity of 300 megalitres. The need for compliance with the farm dam policy of the Department of Natural Resources is to be addressed in the environmental assessment. An application for this large dam is under preparation.

## 5.10 PROJECT SCHEDULE

Millerview Constructions intends to lodge the Development Application for the proposed quarry with the accompanying environmental assessment in the first quarter of 2007. Consent is sought in the last quarter of 2007 for construction of infrastructure to commence early in 2008 with quarrying to commence late 2008 and industrial operations to progressively become operational from 2009 as land is made available from the quarrying of the industrial area.

## 5.11 CAPITAL INVESTMENT VALUE

The capital investment for the project is estimated at approximately $150 million overall for the establishment of the quarry and various industrial landuse components. Pre construction costs are estimated to be $3 million with a working capital of $22 million towards works and equipment purchase for the establishment of the site, excluding the costs of establishing the quarry and associated industries.

# 6.0 PLANNING CONTEXT AND ENVIRONMENTAL ASSESSMENT

## 6.1 MULWAREE LOCAL ENVIRONMENTAL PLAN 1995

Under Mulwaree Local Environmental Plan 1995 the land is zoned Rural 1 (a) (General Rural) and the proposal is permissible with development consent provided it is established that the development can be designed and operated as a facility that is not an "offensive or hazardous industry".

The objectives of Mulwaree Local Environmental Plan are as follows:

> *The general aims and objectives of this plan are:*
> *(a) to encourage the proper management, development and conservation of natural and man-made resources within the Mulwaree area by protecting, enhancing, and conserving:*
> *(i) prime crop and pasture land,*
> *(ii) timber, mineral, soil, water and other natural resources,*
> *(iii) places of significance for nature conservation,*
> *(iv) features and places of high scenic or recreational value, and*
> *(v) places and buildings of archaeological or heritage significance, including aboriginal relics and places, and*
> *(b) the replace the existing planning controls with a single local environmental plan to help facilitate growth and development of the Mulwaree area in a manner which is consistent with the objectives specified in paragraph (a) and which:*
> *(i) minimises the cost to the community of fragmented and isolated development of rural land,*
> *(ii) facilitates the efficient and effective delivery of services and facilities,*
> *(iii) facilitates a range of residential and employment opportunities in accordance with demand,*
> *(iv) facilitates farm adjustments,*
> *(v) ensures that the efficiency of arterial roads is not adversely affected by development on adjacent land,*
> *(vi) identifies suitable localities and standards for the development of rural small holdings,*
> *(vii) provides for the protection and enhancement of heritage items within the towns, villages and other localities within the Mulwaree area, and*
> *(viii) facilitates the protection of the Warragamba and Shoalhaven Catchment areas, and*
> *(c) to afford protection to the environmental heritage within the Mulwaree area by:*
> *(i) conservation of the environmental heritage,*
> *(ii) integration of heritage conservation into the planning and development control processes,*
> *(iii) providing for public involvement in matters relating to the conservation of the environmental heritage, and*
> *(iv) ensuring that development is undertaken in a manner that is sympathetic to and does not detract from the heritage significance of heritage items and their settings.*

The objectives of the Rural 1 (a) (General Rural) zone are as follows:

> *The objectives of this zone are to promote the proper management and utilisation of resources by:*
> *(a) promoting, enhancing and conserving:*

*(i) agricultural land, particularly prime crop and pasture land, in a manner which sustains its efficient and effective agricultural production potential,*
*(ii) soil stability by controlling and locating development in accordance with soil capability, as identified by the Department of Conservation and Land Management,*
*(iii) forests of existing and potential commercial value for timber production,*
*(iv) valuable deposits of minerals, coal, petroleum, and extractive materials by controlling the location of development for other purposes in order to ensure the efficient extraction of those deposits,*
*(v) trees and other vegetation in sensitive areas and in any place where the conservation of the vegetation is significant to the protection of scenic amenity or natural wildlife habitat or is likely to control or contribute to the control of land degradation,*
*(vi) water resources and water catchment areas for use in the public interest,*
*(vii) localities of significance for nature conservation, including localities with rare plants, wetlands, permanent watercourses and significant wildlife habitat, and*
*(viii) places and buildings of archaeological or heritage significance, including aboriginal relics and places,*

*(b) minimising the costs to the community of:*
*(i) fragmented and isolated development of rural land, and*
*(ii) providing, extending and maintaining public amenities and services, and*

*(c) providing land for future urban development, for rural residential development and for development for other non-agricultural purposes, in accordance with the need for that development, and subject to the capability of the land and its importance in terms of the other objectives of this zone.*

## 6.2 STATE ENVIRONMENTAL PLANNING POLICY 58 – SUSTAINING THE CATCHMENTS

The proposal is located within the Sydney Water Catchment and Warragamba Dam Catchment. As designated development located within the Warragamba Catchment the proposal is a schedule 1 development requiring the concurrence of the Chief Executive Officer of the Sydney Catchment Authority.

State Environmental Planning Policy 58 – Sustaining the Catchments is intended to be replaced with 'Drinking Water Catchments Regional Environmental Plan No 1. The Regional Environmental Plan will apply to the area. Under the State Environmental Planning Policy the proposal would need to be assessed in accordance with clause 10 and concurrence sought under clause 11. Under that Draft Regional Plan the proposal would need to be assessed in accordance with recommended practices in clause 20, consider matters in accordance with clause 21 and if applicable at the time of assessment of this application, seek the concurrence of the Chief Executive in accordance with clause 22.

## 6.3 STATE ENVIRONMENTAL PLANNING POLICY (MAJOR PROJECTS) 2005

Under State Environmental Planning Policy (Major Projects) 2005 components of the project are identified in Schedule 1 as follows:

1. <u>In Group 2 Mining, petroleum production, extractive industries and related industries</u>
   **Extractive Industries** as a development for the purposes of extractive industry that extracts from a total resource (the subject of the development application) of more than 5 million tonnes, and as development for the purposes of extractive industry related works (including processing plants, water management systems, or facilities for storage, loading or transporting any construction material or waste material) that has a capital investment value of more than $30 million

2. In Group 2 Mining, petroleum production, extractive industries and related industries
   **Metal, mineral or extractive material processing** as development that has a capital investment value of more than $30 million or employs 100 or more people for metal or mineral recycling or recovery, brickworks, ceramic works, cement works, concrete or bitumen pre-mix industries or related products, and building or construction materials recycling or recovery.

## 6.4 STATE ENVIRONMENTAL PLANNING POLICY 33 – HAZARDOUS AND OFFENSIVE DEVELOPMENT

Under State Environmental Plan 33 – Hazardous and Offensive Developments the proposal would need assessment as a potentially hazardous industry and potentially offensive industry and establish that it can operate with appropriate measures so as not to pose a significant risk in relation to the locality, or other land in the locality or to human health, life or property or the biophysical environment.

In this regard a preliminary hazard analysis and various environmental and safety assessments would be necessary.

# 7.0 OTHER APPROVALS REQUIRED - QUARRY AND ASSOCIATED USES

## 7.1 PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1997

Under the Protection of the Environment Operations Act 1997, the proposed development would require consent as activities premises based for at least the following matters:

(a) **Crushing, grinding or separating works** that process materials including sand, gravel, rock, minerals, slag, road base by crushing, grinding or separating into different sizes, and have an intended processing capacity of more than 150 tonnes per day or 30,000 tonnes per year.
(b) **Extractive industries** that obtain extractive materials by methods including excavating, dredging, blasting, tunnelling or quarrying or that store, stockpile or process extractive materials, and that obtain, process or store for sale or re- use an intended quantity of more than 30,000 cubic metres per year of extractive material.
(c) **Wood or timber milling or processing works** (other than a joinery, builders' supply yard or home improvement centre) that saw, machine, mill, chip, pulp or compress timber or wood and that have an intended processing capacity of more than 50,000 cubic metres of timber (or timber products) per year.
(d) **Ceramic works** with an intended production capacity of more than 150 tonnes per day or 30,000 tonnes per year of products such as bricks, tiles, pipes, pottery goods, refractories, or glass manufactured through a firing process.
(e) **Concrete works** that produce pre-mixed concrete or concrete products and have an intended production capacity of more than 30,000 tonnes per year of concrete or concrete products.

## 7.2 INTEGRATED APPROVALS

It is noted that in accordance with sections 75U and 75V of the Environmental Planning and Assessment Act 1979 integrated development referred to in section 91 of the Act does not apply to Part 3A projects.

## 7.3 RELEVANCE OF PART 3A OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

It is submitted that the facility will:

A. Extract a total resource in excess of 5 million tonnes (estimated that the total resource proposed to be extracted under this application is in the vicinity of 30 million tonnes).
B. Carry out extractive industry related works (including processing plants, water management systems, or facilities for storage, loading or transporting any construction material or waste material).
C. Carry out metal and extractive material processing for metal or mineral recycling or recovery, brickworks, ceramic works, cement works, concrete or bitumen pre-mix industries or related products, and building or construction materials recycling or recovery.
D. Have a capital investment value of more than $30 million.
E. Employ 100 or more people.

Accordingly the facility is classified as a major project within Group 2 Mining, petroleum production, extractive industries and related industries under State Environmental Planning Policy (Major Projects) 2005.

# 8.0 PRIOR AGENCY VIEWS

The proponents have generally discussed the proposal with Council but no formal response was sought and their general comments are provided. Laterals have previously held discussions with the following authorities in relation to the proposed use of the land for a township of 20,000 people. Whilst that proposal is not now proposed to continue those consultations under the environmental planning process are indications of potential issues with the site, but not necessarily the components of this current proposal. Not all authorities responded in that process however we include comments from those authorities that responded.

Goulburn Mulwaree Council

Discussions were held with Council on 2nd November 2005 wherein the Council at that time advised that their main concerns were:

- Hume highway access.
- The life of the quarry.
- Any need for railway access to the site for transport of materials.
- The comments of the Sydney Catchment Authority.
- Consolidation of the land involved.
- Proximity of neighbours and nearest residence.
- Air emissions.
- Waterway proximity.
- Public authority responses (NSW Environment Council, Environment Protection Authority, Sydney Catchment Authority, Department of Environment & Conservation, Roads & Traffic Authority, Rural Fire Services, Department of Natural Resources, Department of Environment and Conservation, Pejar Local Aboriginal Land Council)
- The need for a Planning Focus meeting.

Roads & Traffic Authority

- Identification of additional traffic flows resulting in identified needs for provision of infrastructure improvements with particular reference to the Hume Highway.
- Identification of the means of funding the required infrastructure.
- Impacts on road pavements resulting from increased usage (mainly related to heavy vehicle usage), and the means of addressing impacts.
- Assessment of the suitability of the existing road network for more intensive or changed use such as usage by B-doubles.

Pejar Local Aboriginal Land Council

Aboriginal site survey needs to be conducted on the proposed area to look for Aboriginal artefacts. This needs to be conducted before any works are carried out on the development. Marulan areas have a very high potential for Artefacts.

NSW Rural Fire Services

Provision of a bushfire assessment report addressing specific issues including:

- A classification of the vegetation on and surrounding the study area (out to a distance of 140 metres from the boundaries of the study area) in accordance with the system of classification of vegetation contained in Planning for Bushfire Protection.
- An assessment of the slope of the land on and surrounding the study area (out a distance of 100 metres from the boundaries of the study area).
- Identification of any significant environmental features in the study area.

- The details of any threatened species, population or ecological community identified under the Threatened Species Conservation Act 1995 that is known to exist within the study area.
- The details and location of any Aboriginal relic (being a relic within the meaning of the National Parks and Wildlife Act 1974) or Aboriginal place (within the meaning of that Act) that is known to be situated within the study area.
- A bush fire assessment of the study area (including the methodology used in the assessment) that addresses the following matters:
  - The ability to site and adequacy of future water supplies for fire fighting,
  - The ability to provide for egress/access as outlined within the provisions of 'Planning for Bushfire Protection – 2001'
  - Future management regimes for any areas of hazard remaining within the study area.

Mineral Resources NSW

There are no known extractive resources, mineral deposits or coal and petroleum resources of commercial interest adversely affected by the proposal [for the township].

# 9.0 COMMUNITY CONSULTATION AND SOCIAL IMPACT ASSESSMENT

Community consultation has not been carried out at present however Millerview Constructions appreciates the community interests and concerns and intends to commence community consultation at an initial stage in the preparation of the environmental assessment. This will lead to a social impact assessment that is intended to address the effect, compatibility and costs and benefits of the proposal on the local community as well the impact on local services and facilities. The assessment process will involve baseline assessment (profiling – community and community interests description), scoping, assessment and evaluation of impacts, mitigation measures available and monitoring.

# 10.0 PRELIMINARY ENVIRONMENTAL INFORMATION

## 10.1 General locality

The Marian Vale property and proposed development area are located approximately 10km south east of Goulburn City and approximately 2km south from the Hume Highway. The property extends through the valley from the Hume Highway to Mountain Ash Road.

The parcels of land (identified in the table – section 2) will be involved, and the land currently have frontage to the Hume Highway, Tiyces Lane, Marian Vale Road, Robinson Road, Joseph Peters Lane and Mountain Ash Road.

The general locality map at page 9 shows the location of the proposal in relation to Goulburn, Marulan and Bungonia and the road network around the area. The plan also shows the zonings of the land derived from Mulwaree Local Environmental Plan 1995.

## 10.2 Aerial features

The aerial photograph (page 10) shows the general features of the locality as at 1997 and 2004. The aerial photographs on pages 16, 17 & 18 displaying the quarry plans includes contours which has been digitised from the topographic map. In general the site is a valley located approximately through the middle of Marian Vale. The extent of existing vegetation within the areas of the proposed quarries is shown on the photographs that are dated 2004.

The aerial photograph (page 10) and the topographic map (page 11) provide basic information as to the extent and nature of vegetation and waterways.

## 10.3 Topographic features Hydrology, Drainage, Groundwater and Water Quality

The following topographic maps show the general topographic features of the locality depicting the proposed quarry area, waterways and general vegetation areas. The area is contained within a valley and ringed by hills. Jerrara Creek passes through the property and receives the majority of drainage from the site. The waterways on the maps in the vicinity of the proposed quarries have been classified according to the Strahler system of classification and the NSW Fisheries system of classification. Jerrara Creek is the main waterway through the land and provides the base line data level to which extraction area is to be related.

The bores on the site have been shown on the topographic map on page 11 and the results of water testing are included in the following table.

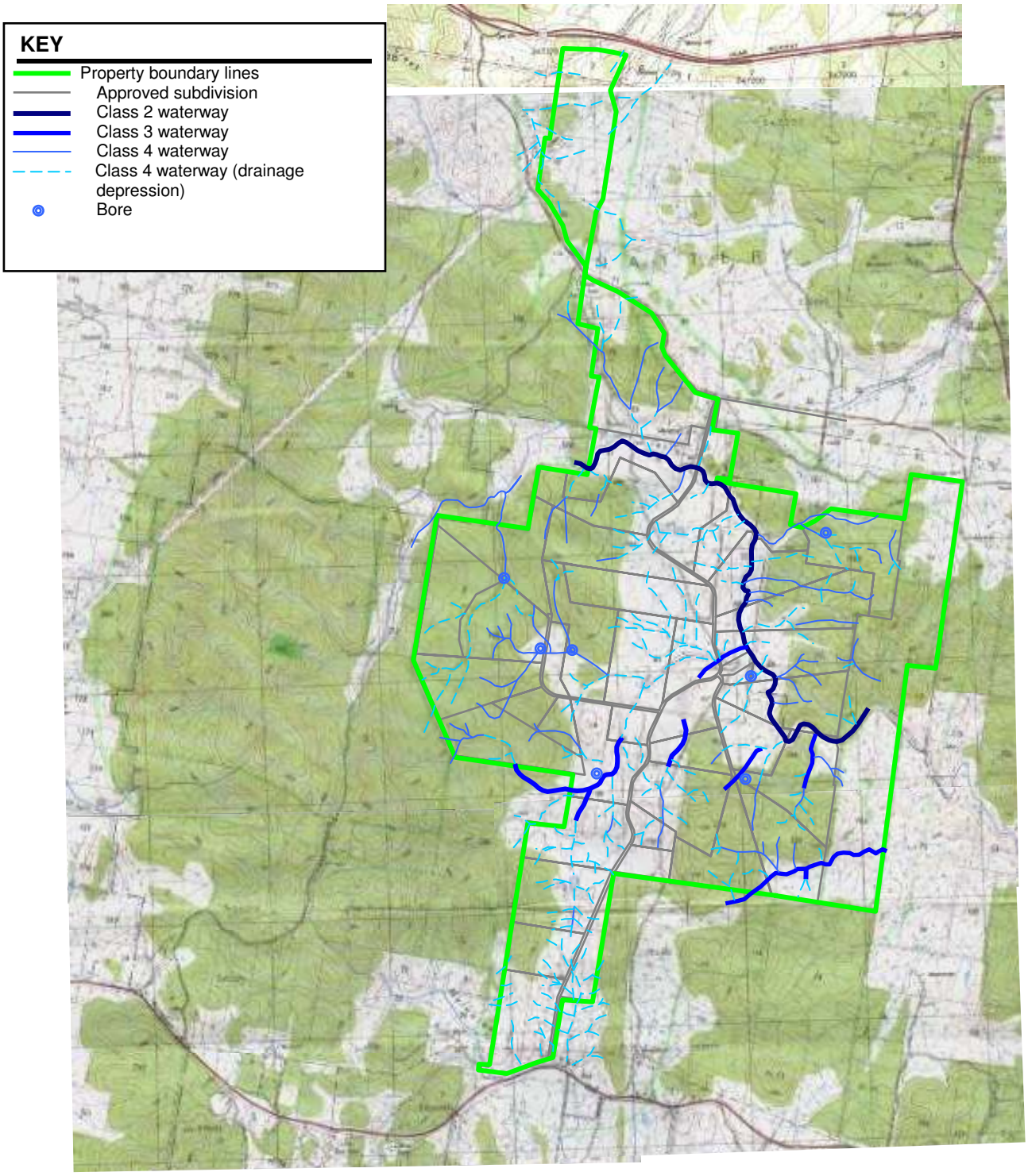
**TABLE 1**

**SUMMARY OF MARION VALE DRILLING RESULTS AND TESTING PROGRAMME 11/2005**

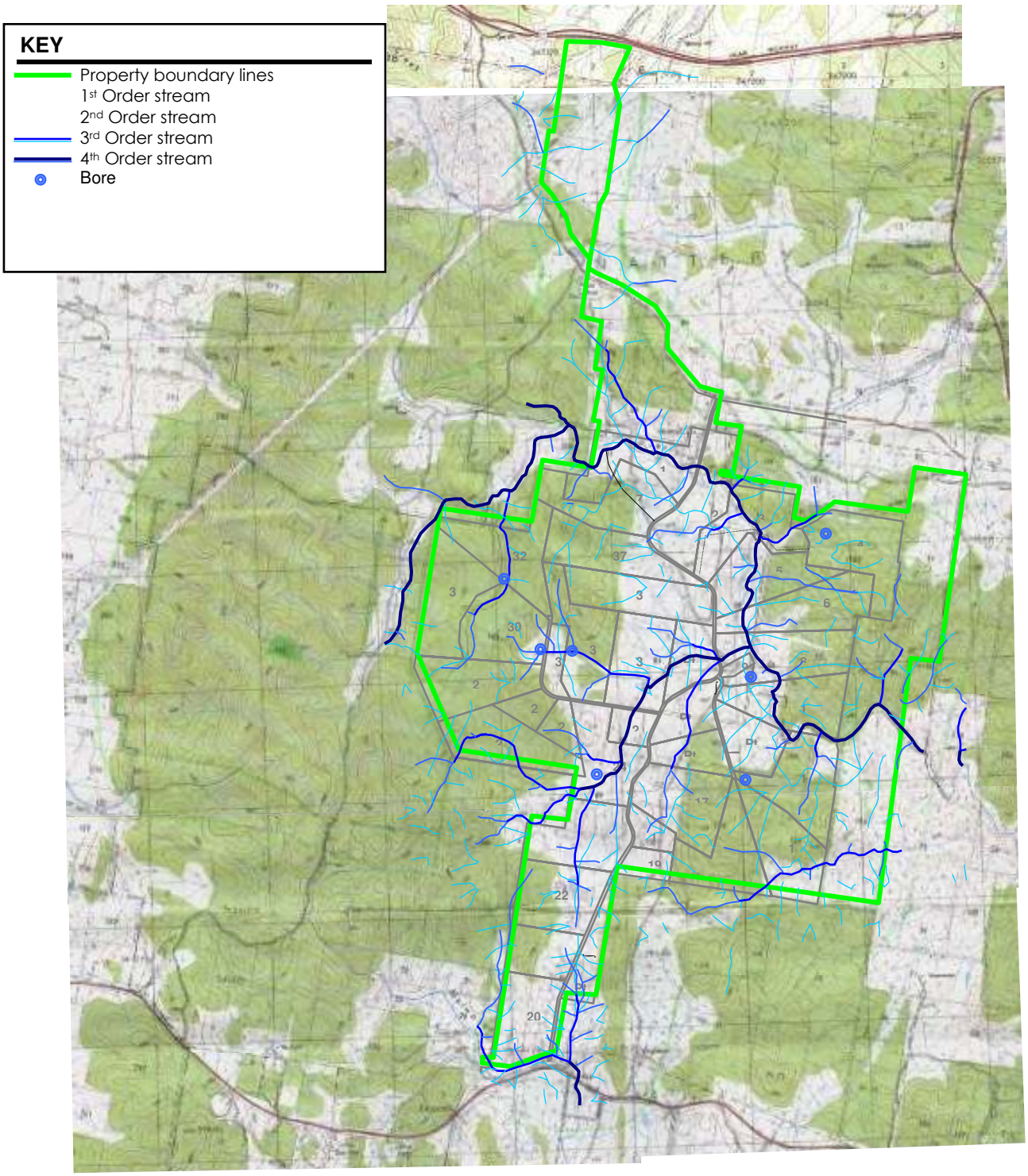
| PROP. SITE NO | BORE NO | SITE LOC | LOT/DP *LICENSE* | PARISH | EASTING AMG | NORTHING AMG | DRILLED | GEOLOGY | DEPTH DRILLED m | CASING DEPTH m | SLOTTED DEPTH m | AQUIFER DEPTHS m | INDICATIVE YIELDS L/sec (driller) | EC FIELD TDS (mg/L) | QUALITY LAB TDS (mg/L) | PROPOSED TEST DEPTH/ FLOW (L/s) | SWL m | AVAIL. DDL** m | TEST RATE/ FINAL DDL/T* | RECOMMS. | LIKELY VOLUMETRIC ALLOCATION ML/YR | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | CH | 2/1008394 | Nattery | 762162 | 6145920 | 2003 | siltstones/ | 79 | 79 | | 47-48 | 0.53 | 350 | | | 3.4 | 55 | 2.15/26.0/48 | 3.5L/s for 7 days | 60 | 2 tests conducted |
| | | | *10BL161405* | | | | | slates | | | | 59-60 | 1.0 | 230 | | | | | | | | ref HG04.1.2 |
| | | | | | | | | | | | | 65-66 | 0.1 | 230 | | | | | | | | |
| | | | | | | | | | | | | 72-74 | 1.4 | 230 | 750 | | | | | | | |
| 3 | **2** | SE | 130/ 750022 | Jerrara | 762021 | 6145092 | 2005 | siltstones & | 151 | 151 | 67-73 | 67-68 | 0.1 | 150 | | | 20 | 70 | | | 25? | |
| | | | *10BL165506* | | | | | quartz bands | | | 85-102 | 90-91 | 0.4 | 150 | | 100m at 1.3 | | | | | | |
| | | | | | | | | | | | 109-121 | 101-102 | 0.25 | 280 | | | | | | | | |
| | | | | | | | | | | | 139-145 | | *0.41dS/m* | | | | | | | | | |
| | | | | | | | | | | | | | **1.3 final agg.** | | | | | | | | | |
| 6 | **3** | NW | 143/750022 | Jerrara | 760286 | 6146182 | 2005 | siltstones & | 79 | 79 | 36-60 | 39-40 | 2.5 | 240 | | | 16 | 45 | | | 100? | |
| | | | *10BL165504* | | | | | quartz bands | | | 66-72 | 45-46 | 0.35 | 270 | | | | | | | | |
| | | | | | | | | | | | | 60-61 | 2.15 | 900 | | 60m at 5.0 | | | | | | |
| | | | | | | | | | | | | | **agg. 5** | | | | | | | | | |
| 5 | **4** | NW | 143/750022 | Jerrara | 760060 | 6146864 | 2005 | siltstone | 120 | 120 | 42-48 | 36-38 | 0.16 | | | | | | | | | |
| | | | *10BL165504* | | | | | | | | 60-66 | 42-43 | 0.09 | | | | | | | | | |
| | | | | | | | | | | | 72-84 | 48-49 | 0.08 | | | | | | | | | |
| | | | | | | | | | | | 90-96 | 60-61 | 0.09 | | | | | | | | | |
| | | | | | | | | | | | 108-114 | 66-67 | 0.17 | | | | | | | | | |
| | | | | | | | | | | | | 84-85 | 0.32 | | | | | | | | | |
| | | | | | | | | | | | | 96-97 | 0.34 | | | | | | | | | |
| | | | | | | | | | | | | 114-115 | 0.64 | | | | | | | | | |
| | | | | | | | | | | | | 120-121 | 0.12 | | | | | | | | | |
| | | | | | | | | | | | | | **2.5 final agg.** | | | 100m at 2.0 | | | | | 40? | |
| 7 | **5** | S | 89/ 750022 | Jerrara | 760810 | 6145157 | 2005 | siltstones & | 96 | 96 | 30-36 | 21-22 | 0.38 | 180 | | | 5 | 70 | | | | |
| | | | *10BL165503* | | | | | quartz bands | | | 42-54 | 51-52 | 0.24 | 140 | | | | | | | | |
| | | | | | | | | | | | 66-72 | 71-72 | 0.21 | 180 | | | | | | | | |
| | | | | | | | | | | | 78-90 | 83-84 | 0.17 | 190 | | | | | | | | |
| | | | | | | | | | | | | 89-90 | 1.0 | 300 | | 90m at 2.0 | | | | | 30? | |
| | | | | | | | | | | | | | **agg. 2** | *0.93dS/m* | | | | | | | | |
| additional | **6** | NW | 2/1008394 | Jerrara | 760800 | 6146093 | 2005 | | 80 | NIL | | 60-61 | 0.5 | | | | | | | | | abandoned |
| | | | need new no | | | | | | | | | | | | | | | | | | | |
| additional | **7** | NW | 2/1008394 | Nattery | 760620 | 6146251 | 2005 | siltstone & | 101 | 101 | 48-66 | 35-36 | 0.2 | 140 | | | 12 | 60 | | | | |
| | | | need new no | | | | | shale | | | 72-84 | 53-54 | 0.2 | 210 | | | | | | | | |
| | | | | | | | | | | | 90-96 | 59-60 | 0.26 | 290 | | | | | | | | |
| | | | | | | | | | | | | 65-66 | 0.59 | 290 | | | | | | | | |
| | | | | | | | | | | | | 77-78 | 0.28 | 320 | | 80m at 2.5 | | | | | 50? | |
| | | | | | | | | | | | | 83-84 | 0.28 | 320 | | | | | | | | |
| | | | | | | | | | | | | 95-96 | 0.69 | 320 | | | | | | | | |
| | | | | | | | | | | | | | **agg. 2.5** | *1.08dS/m* | | | | | | | | |
| 4 | **8** | NW | 1/1008394 | Nattery | 762876 | 6147027 | 2005 | shales & | 129 | 129 | 60-66 | 65-66 | 0.33 | 160 | | | 29 | 80 | | | 50? | |
| | | | *10BL165505* | | | | | quartz bands | | | 78-96 | 77-78 | 0.19 | 260 | | | | | | | | |
| | | | | | | | | | | | 102-114 | 83-84 | 0.19 | 250 | | | | | | | | |
| | | | | | | | | | | | 120-126 | 95-96 | 0.12 | 250 | | | | | | | | |
| | | | | | | | | | | | | 107-108 | 0.42 | 350 | | | | | | | | |
| | | | | | | | | | | | | 113-114 | 0.41 | 350 | | | | | | | | |
| | | | | | | | | | | | | 122-123 | 0.15 | 450 | | 110m at 3.0 | | | | | | |
| | | | | | | | | | | | | | **3.0 final agg.** | *1.46dS/m* | | | | | | | **350??** | |

*** Test Rate/Final drawdown level/test duration**

**** Available Drawdown Level**




**TOPOGRAPHIC MAP - MARIAN VALE - Waterway classification - NSW Fisheries Guidelines**

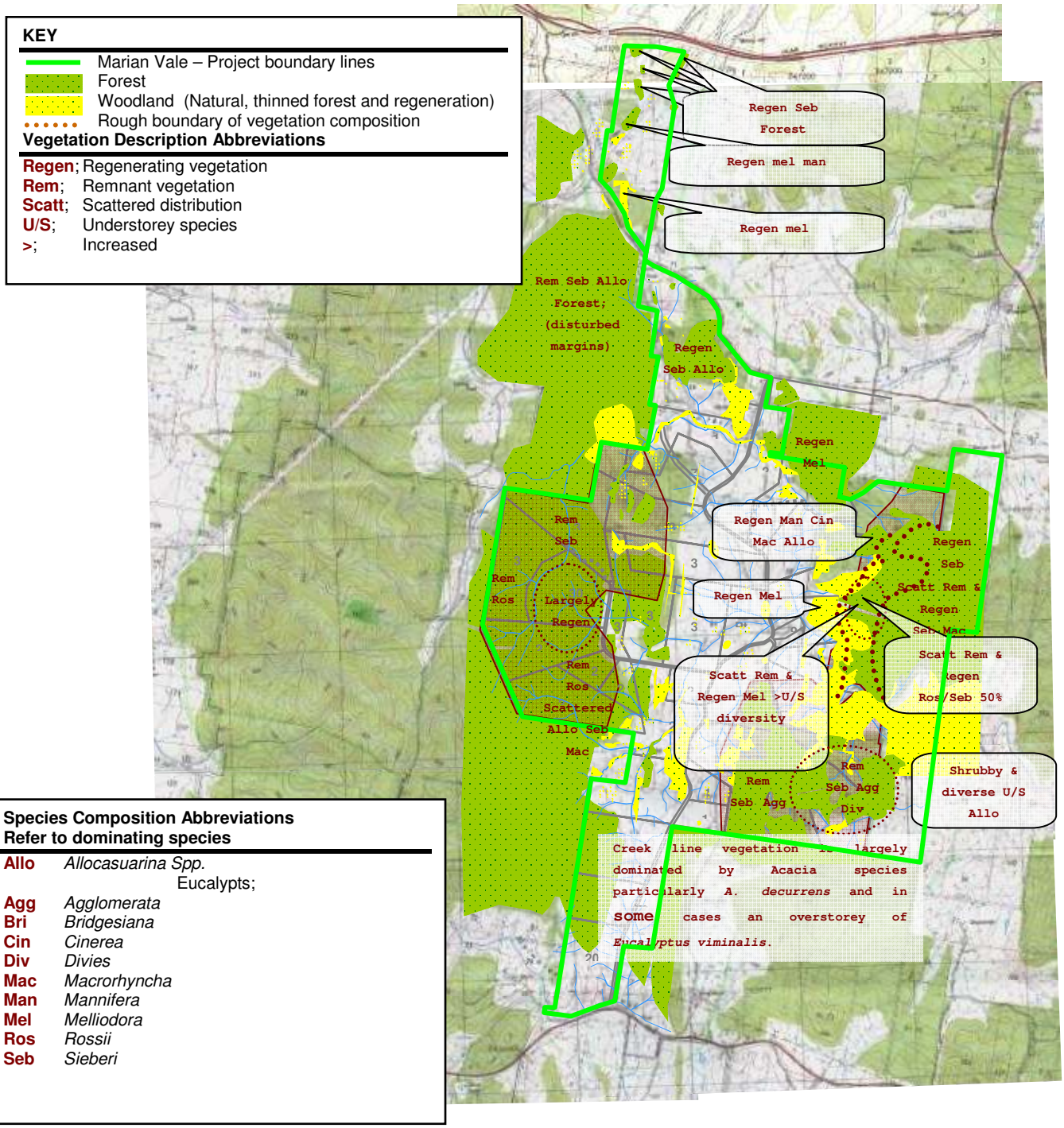



**TOPOGRAPHIC MAP - MARIAN VALE - Waterway classification – Strahler system**

## 10.4 Vegetation, Flora and Fauna

An aerial photograph has been overlayed with information derived from an on-site inspection of vegetation to provide general vegetation classification in proximity of the proposed development site.

A preliminary assessment has been carried out that indicates that there are limited areas of threatened species within the land, which species and locations would need to be more accurately identified to determine specific impact assessment.



## 10.5 Soils, Protected Land, Land capability and Agricultural Suitability

The soil landscape map on page 12 from “Soil Landscapes of the Goulburn 1:250 000 Sheet” indicate the land is within the “Midgee”, “Blakney Creek” landscapes and on the edge of the “Lickinghole” landscape.

The “Midgee” landscape consists of rolling hills on Ordovician and some Devonian and Silurian metasediments; frequent folding and faulting. It consists of relief of 30 metres to 100 metres and slopes of 10% to 30%. Commonly, acid stony yellow earths (Gn 2’s) and yellow podzolic soils (Dy 2’s) on side slopes and crests in association with lithosols (Um’s), and red podzolic soils (Dr 2’s), red earths (Gn 2’s), Soloths (Dy 3.41) on lower slopes.

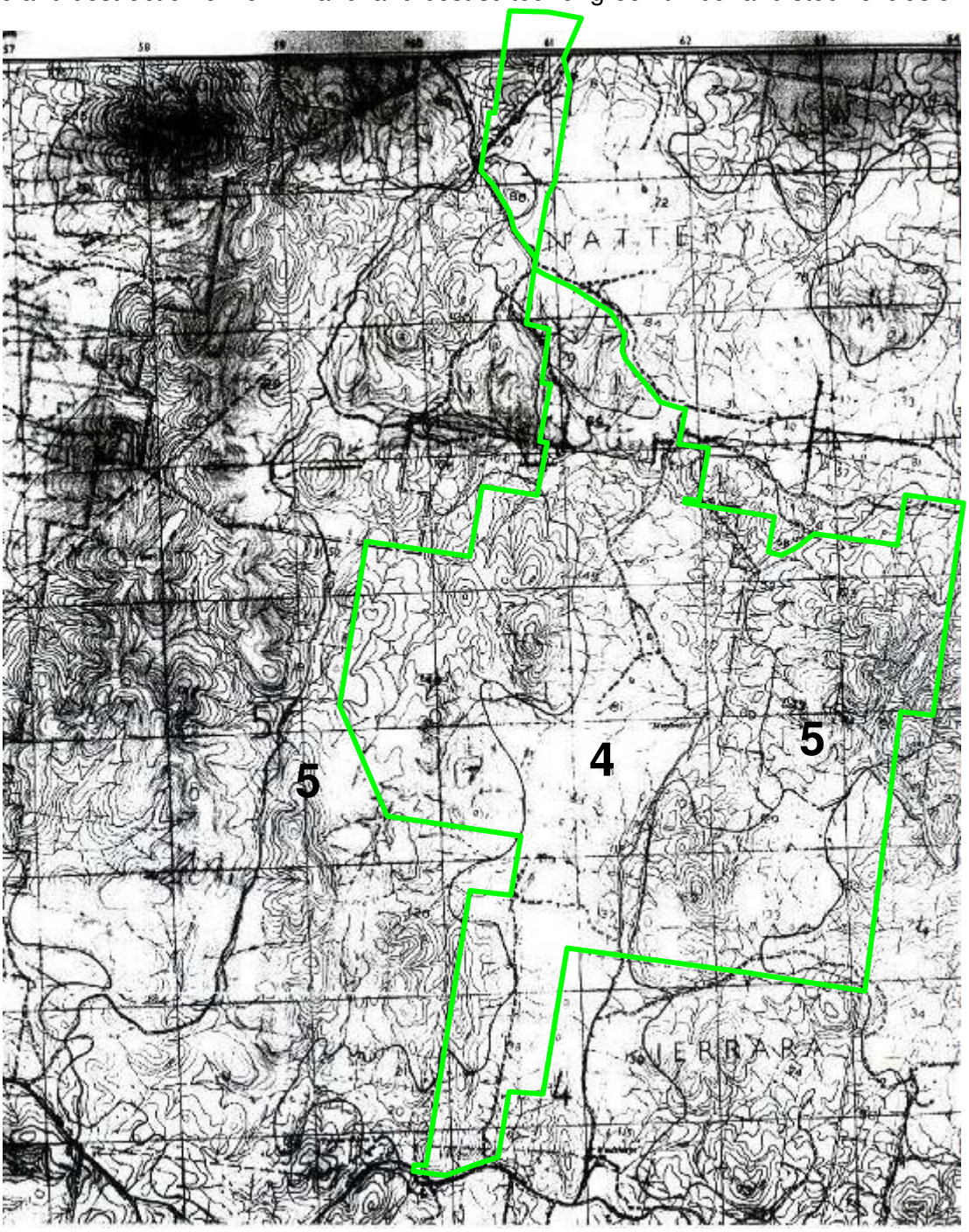
The “Blakney Creek” landscape consists of footslopes and valley floors of undifferentiated Ordovician and earthy Silurian metasediments. It consists of relief of 20 metres to 50 metres and slopes less than 10%. Acid neutral yellow duplex soils with bleached A2 horizons (Dy 3.4’s) similar to soloths, minor stony yellow earths (Gn 2’s) and red podzolic soils (Dr 2’s) on uplands. It can contain extensive gullying and some saline areas.

The Lickinghole” landscape consists of steep to very steep hills formed on a wide variety of Ordovician metasediments. It consists of relief of 100 to 250 metres and slopes of 30% to greater than 50%. Shallow, mostly stony to loamy lithosols (Uc’s and Um’s) and red and yellow earths (Gn 2’s) on crests and side slopes, with minor generally stony red and yellow podzolic soils (Dr 2”s and Dy 3’s) on mid and lower slopes.


Land Capability Mapping

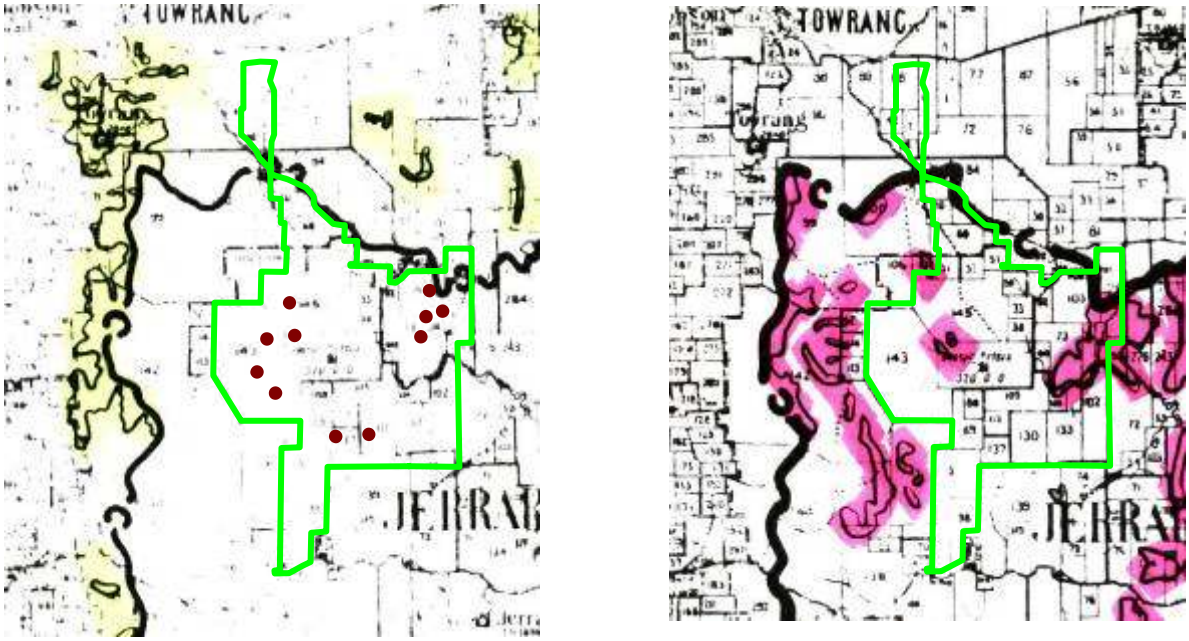
The soil conservation map of land capability above shows that the central valley of the property contains class IV land. Soil conservation practices should consist of pasture improvement, stock control, application of fertilizer and minimal cultivation for the establishment or re-establishment of permanent pasture.

The remainder of the land is classes V, VI and VII where coil conservation practices vary from the need for absorption banks, diversion banks and contour ripping, together with practices for class IV, to a limitation of stock, broadcasting of seed and fertilizer, prevention of fire and destruction of vermin and land best suited for green timber and stock exclusion.




Agricultural Land Suitability Map

The agricultural land suitability map above shows that the central valley section of the property is class 4 whilst the eastern and western hill areas are class 5.




Protected Lands Mapping

The Protected Lands Map shows that there are parts of the property contain protected land. The central hills and eastern hills contain areas to be quarried.

### 10.6 Cultural features and Historical heritage

The site contains an old building known as Peters Inn after an original settler Joseph Peters. The inn is located on a proposed lot within the Marian Vale subdivision on which has been constructed a restaurant and function rooms. The inn has been protected by the restoration of the exterior. This structure is not located within any area of proposed quarry activity but is within the central administration area shown on the general land use plan on page 20.

The presence of aboriginal archaeological features has not been studied prior to the preparation of this background document but is proposed to be fully and formally studied by the engagement of a qualified archaeologist. This study will involve the engagement of an archaeologist to carry out a full site inspection in the company of Local Aboriginal Land Councils. A final report is to be prepared to identify any sites and actions necessary in relation to those sites in accordance with the National Parks & Wildlife Act.

### 10.7 Visual

The site is generally located within a valley fringed by mountains. The quarry areas are not visible from any main roads but would be visible from properties surrounding the site.

### 10.8 Transport

The site is accessed along Tiyces Lane at present. This is a rural gravel road serving local properties and carries only local traffic. The lane is a dead end road and carries no through traffic. The lane will be upgraded with section 94 contributions from the subdivision of Marian Vale.

# 11.0 KEY ENVIRONMENTAL ISSUES

From the above preliminary environmental information and previous considerations by agencies in relation to the land we assess that the main environmental issues with the site and operation will include the following matters. These matters are ranked in order of importance perceived at present.

Following assessment of all environmental issues it is intended to document the commitments identified to manage, mitigate or offset any identified impacts.

## 11.1 Waterway impact, Groundwater impact and Drainage management

The existing water environment is generally provided above showing the drainage pattern of the area. The site is within the catchment of Jerrara Creek which is within Sydney's water catchment. Without any controls the proposed development will have an adverse impact on the catchment and water quality

A comprehensive surface and groundwater investigation is to be undertaken as part of the environmental investigations of the site. Already, drilling has identified the location and quality of groundwater and in general the depth of proposed quarrying would not appear to enter any groundwater aquifer.

Approvals for two dams are currently being sought. One dam will serve as an erosion control dam whilst the other larger dam will serve as water storage from rainwater and bore water. The location of these dams is shown on the general land use plan on page 20. Water in the larger dam is to be available for use for quarrying activities and ultimately for use in the industrial processes proposed within the Concept Plan process.

Water management requirements for each quarry will be assessed and documented as part of the environmental assessment and will incorporate methods of achieving water quality objectives as required for the Sydney Water Catchment. The provisions of the Catchment Blueprint will provide guidance in the management of land and water and are to be included in the assessment. The development will incorporate measures for water conservation and the re-use of water.

A detailed analysis of the input and output of water will be provided in an environmental assessment for each industry along with water management methods and means of recycling and re-use of water.

Waterway crossings will be assessed in accordance with the requirements of the Rivers and Foreshores Improvements Act, Department of Natural Resources, and Sydney Catchment Authority requirements.

## 11.2 Flora and fauna

The proposal has the potential to adversely impact on flora and fauna. The preliminary assessment in section 10.4 shows the need for clearing of native vegetation which will involve habitat impact. A detailed flora and fauna will be conducted to clearly identify the potential for impact and opportunities available to offset such impact.

At present it is proposed to retain a vegetative buffer around the site which will range in size depending on the location of the quarry material in relation to the boundary. In addition large areas have been acquired which include land not proposed to be quarried and which will provide extensive retention of vegetation. There are areas of land that are available for regeneration of native vegetation to provide as an offset.

## 11.3 Socio-economic impact

The quarry has the potential to adversely impact nearby residents. Also the quarry has the potential to provide significant economic benefits particularly when associated with the proposed industries outlined in the Concept Plan Application. A social impact assessment will be undertaken as discussed above in section 9 on page 29.

A detailed socio-economic assessment will be carried out in the environmental assessment to consider these impacts.

## 11.4 Aboriginal Heritage

The range in terrain and the presence of waterways on the site mean that there is the potential for the proposal to impact on Aboriginal items or sites of significance.

An Aboriginal archaeological study and European heritage study will be carried out to locate, assess and determine the presence of artefacts and items and apply appropriate management measures in accordance with the requirements of the Local Aboriginal Land Council and National Parks & Wildlife Act.

It is proposed that a specialist be engaged to carry out this survey and if approval is granted for the quarry to then lodge section 87 and 90 applications as necessary with the National Parks & Wildlife Service.

## 11.5 Hazards and Risks, Noise, Vibration and Air Quality

The extent of any natural hazard will be identified in the environmental assessment including bushfire, flooding, and land slip. Areas identified will be assessed and managed in accordance with best practices and agency requirements.

A preliminary hazard analysis will be carried out to address matters relating to noise, air quality and the storage and handling of hazardous chemicals. This assessment will address construction and operational components of the proposal including on-site operations and transport movement. An assessment will be carried out in accordance with Department of Environment & Conservation guidelines for the various activities.

Blasting is not expected to be needed. Further on-site assessment of materials will determine if any blasting will become necessary and if necessary blast modelling is to be carried out to establish potential impacts and the development of operational rules for personal and property safety.

For each study background or baseline measures would be established, then predictions prepared from expected operations, an assessment of impact and cumulative impacts followed by recommendations for management and monitoring.

## 11.6 Transport and Access to Hume Highway

As discussed the product is to be transported by road from the site along the Hume Highway. It is proposed to construct a highway access to achieve safe and easy access to the Hume Highway. The works involved in the construction of the private road and highway access will impact on the land and highway during construction and this impact will be assessed in relation to all relevant parameters.

The design of the access at the Hume Highway will be undertaken in consultation with the Roads & Traffic Authority whilst the private road will be designed in consultation with

Mulwaree Shire Council, Department of Natural Resources and the Sydney Catchment Authority. A detailed traffic study will be completed as part of the environmental assessment.

### 11.7 Visual

The potential for the quarry activities to be viewed from adjoining lands will be determined. It is proposed that the extremity of each quarry area be identified with visual markers and the ability to view the areas identified form outside the site. From this assessment measures such as vegetated buffers and screens will be developed to ameliorate potential impacts.

### 11.8 Cumulative impacts

Cumulative impacts are not anticipated to exist due to the isolated nature of the site and the provision of a private access road to the quarry. However, a cumulative impact assessment will be undertaken for traffic, noise, vibration, dust, water quality and visual and socio-economic aspects of the proposal. This assessment will consider the surrounding environment and the need for any special measures to ameliorate impacts or provide for monitoring.