

Section 1

Introduction

- P** *This section introduces a Project to increase the area of extraction and increase production at the Oberon White Granite Quarry and presents:*
- R**
- *the scope and format of the document;*
 - *relevant information about the Proponent, Mudgee Stone Company Pty Ltd;*
 - *relevant background information regarding the Project;*
 - *a summary of existing operations at the Oberon White Granite Quarry; and*
 - *an overview of the approvals process.*
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A *The personnel involved in the preparation of the document are also outlined.*

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1.1 SCOPE

Mudgee Stone Company Pty Ltd (“the Proponent”) proposes to extend its existing extraction and processing operations and increase production at its existing quarry within Lot 2, DP 1089826 (“the Project Site”), approximately 6km east-southeast of Oberon. **Figure 1.1** presents the location of the Project Site whilst **Figure 1.2** presents the Project Site in the local setting.

This *Environmental Assessment* has been prepared to support the Proponent’s application for project approval from the Minister for Planning for the proposed extension to and increased production at the Oberon White Granite Quarry (“the Project”). This *Environmental Assessment* describes the Project and provides information on key environmental issues relevant to the Project and the mitigation measures and management controls that the Proponent would adopt to avoid or reduce potential impacts within the Project Site and surrounding environment. The residual impact(s) are then described together with an environmental risk analysis of the mitigated environmental impacts and the proposed monitoring outlined to verify the assessed impacts.

This *Environmental Assessment* has been prepared in accordance with *State Environmental Planning Policy (Major Development) 2005* and the provisions of Part 3A, Section 75 of the *Environmental Planning and Assessment Act 1979*.

1.2 THE PROPONENT

The Proponent for the Project is Mudgee Stone Company Pty Ltd (ABN 89 100 974 365), a wholly owned subsidiary of Mudgee Dolomite and Lime Pty Ltd. Along with WJ Murdoch and Co. Pty Ltd, Mudgee Dolomite and Lime is a family-owned business based in Mudgee, NSW.

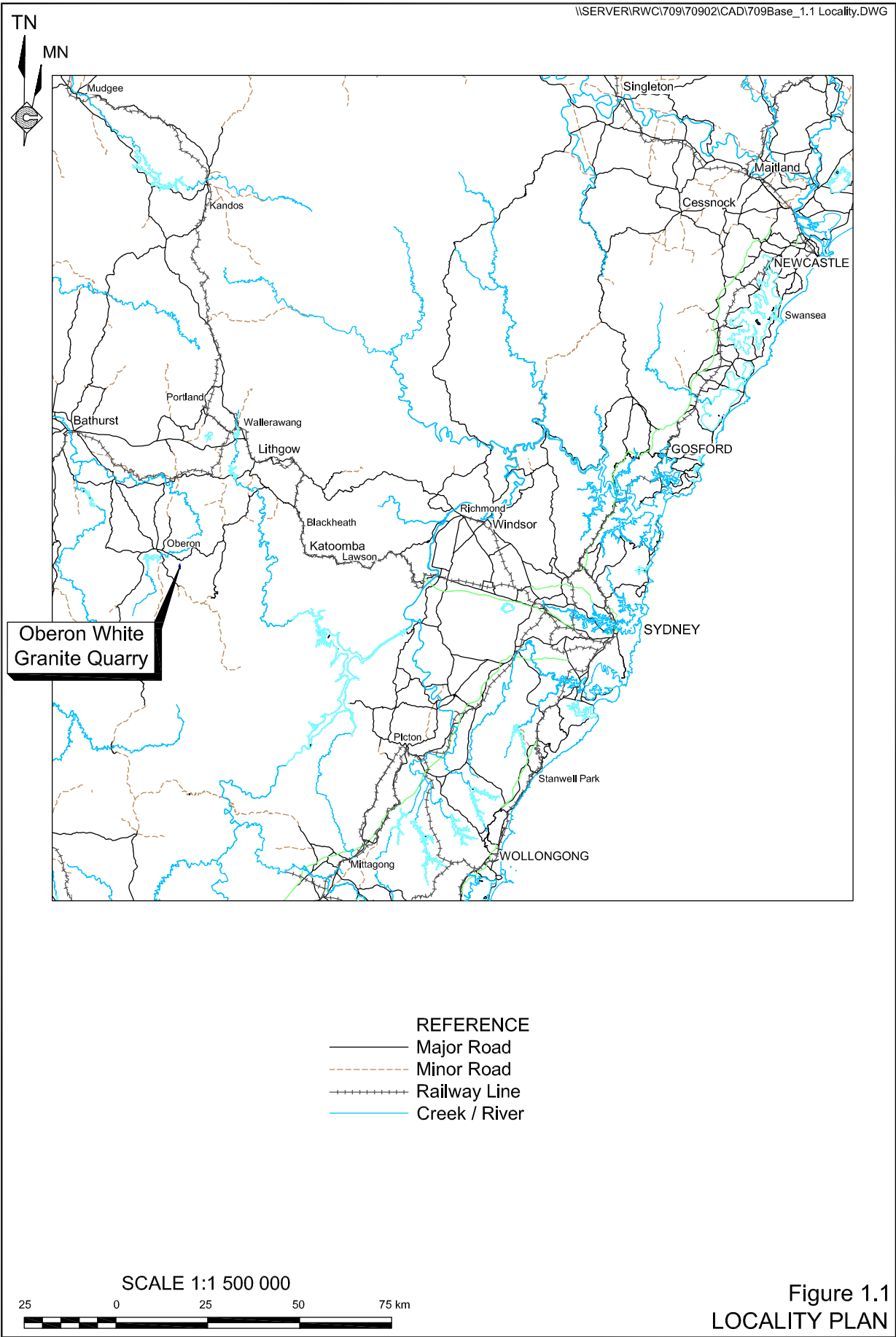
The parent Company and its subsidiaries produce a wide range of industrial minerals and construction material products including agricultural lime, dolomite, road base and aggregates, talc and rhyolite aggregate. Drilling, blasting, crushing plant and operator hire services are also provided to other quarry and mine operators throughout central western NSW. The parent Company and subsidiaries currently employ a total of 20 people.

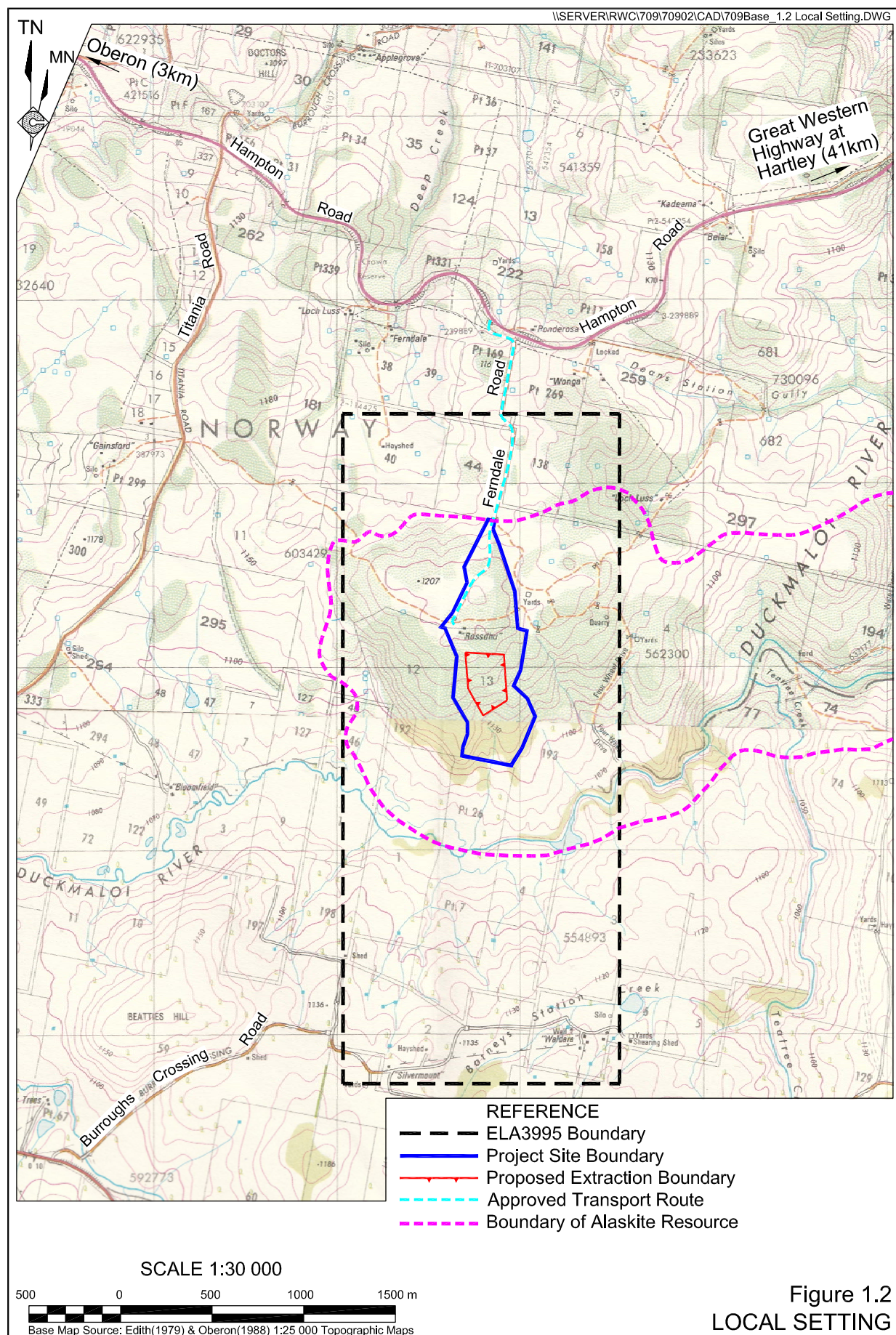
The Proponent has been operating the Oberon White Granite Quarry since February 2005.

1.3 DOCUMENT FORMAT

This *Environmental Assessment* has been structured to address the specific environmental assessment requirements nominated by the Director-General of the Department of Planning (the Director-General’s Requirements (DGRs)), which themselves have been based on the requirements of the Department of Planning and other relevant State and local government agencies. This *Environmental Assessment* has been compiled in a single volume which includes eight sections of text, including a reference section and glossary, and a set of appendices.







The format of the *Environmental Assessment* has been structured as follows.

- Section 1:** introduces the Project, the Proponent and relevant background information including a summary of the existing operations. An overview of the approvals process is also provided together with information on the management of investigations for the *Environmental Assessment*.
- Section 2:** describes the Proponent's objectives, the quality and quantity of the resource, the proposed extension and increase in production, extraction operations, processing, transportation, waste management and rehabilitation activities.
- Section 3:** provides a summary of the consultation undertaken with the local community and relevant government agencies, identifies relevant State legislative and statutory requirements, summarises and prioritises key environmental aspects and issues for assessment and provides an environmental risk analysis of these issues prior to the implementation of mitigation measures.
- Section 4:** presents a description of the existing environment, proposed management and mitigation measures, and assesses the potential impacts and maintenance / monitoring requirements for the key issues identified in Section 3.
- Section 5:** provides a draft Statement of Commitments made by the Proponent in relation to environmental management and monitoring for the entire Project.
- Section 6:** evaluates and justifies the Project in terms of biophysical, economic and social considerations, and the goals and guidelines of Ecologically Sustainable Development. A conclusion regarding the overall assessment of the Project completes this section.
- Section 7:** presents a Glossary of Technical Terms, Acronyms, Symbols and Units explaining the technical terms, acronyms, symbols and units used throughout the *Environmental Assessment*.
- Section 8:** presents a Reference list for the various source documents referred to for information and data used during the preparation of the *Environmental Assessment*.
- Appendices:** present the following additional information.
- i) A copy of the Proponent's Major Project Application.
 - ii) The Director-General's Requirements.
 - iii) A summary of the coverage of the Director-General's Requirements.
 - iv) Independent Environmental Audit.
 - v) Community consultation documents.

The *Environmental Assessment* is supported by an additional volume, the *Specialist Consultant Studies Compendium*, which incorporates seven stand-alone reports prepared by specialist environmental consultancies engaged to assess specific aspects of the Project. The contents of the stand-alone reports are summarised into the appropriate section(s) of the *Environmental Assessment*.



1.4 PROJECT BACKGROUND

The Oberon alaskite¹ deposit has been recognised as a significant and important resource for many years. Detailed exploration of the deposit commenced in 1981 with emphasis placed upon the recovery of high grade feldspar, silica and mica suitable for a range of industrial applications. In December 1994 the, then, Minister for Planning issued a direction under S117(2) identifying the Oberon alaskite resource as a significant mineral resource. Various companies have evaluated the resource to develop the resource to its full potential, however, to date no commercially feasible projects have been developed focussing on the industrial mineral potential of the alaskite, i.e. to produce high grade feldspar, silica and mica.

In 2002, the Proponent was commissioned by National Ceramic Industries to locate suitable high grade raw materials to complement known raw material sources to support the construction and operation of a proposed tile plant in NSW. This search also included investigations into the general aggregate availability within the Oberon area given the predicted shortfall in production of Sydney hard rock resources. Following investigations into the Oberon alaskite resource, the Proponent undertook further exploration and resource definition focussing on both the industrial mineral and construction material potential.

The Proponent's exploration of the alaskite resource established that the resource is a highly suitable source rock for both industrial mineral and construction material uses. Consequently in 2003, the Proponent purchased Lot 2 DP 1089826 for the purposes of developing the Oberon White Granite Quarry. The development application for the existing Oberon White Granite Quarry was submitted in July 2003 and initially refused by Oberon Shire Council despite a recommendation for approval by Council Officers. Following an appeal to the NSW Land and Environment Court, Development Consent DA 126/03 was granted on 21 December 2004.

Since the establishment of the quarrying operation, the Proponent has produced a range of products and subsequently secured a range of customers who have acknowledged, through ongoing purchases, the high quality of the products produced. In particular, the State significant tile plant at Rutherford, operated by National Ceramic Industries, has been using the crushed alaskite as a raw material in tile manufacture. This company has commenced to increase production levels with the installation of a second kiln during July 2007 with an additional two kilns also planned at a later date, thereby increasing the need for raw materials, including the alaskite materials. It is noted that National Ceramic Industries' production was heavily affected during the global financial crisis in 2008 and 2009, however, production levels are now increasing back to expected levels.

The Proponent has also been increasing the production of its road base material and concrete aggregates, anti-slip surfacing material and decorative gravels and has been approached for the supply of high quality white granite for use in reconstituted granite products and dimension stone. The increased demand in the existing product markets and the additional potential markets has collectively resulted in the Proponent seeking to extend both the area of approved extraction and the extraction rate to meet these market requirements.

¹ Alaskite is a geological term for a low iron granite typically comprising a ratio of the following minerals.

- Albite feldspar (32%)
- Quartz (28%)
- Sodic microcline feldspar (26%)
- Muscovite Mica (12%)
- Other minerals (2%)



1.5 THE EXISTING OPERATIONS

1.5.1 Approvals and Licences

The Oberon White Granite Quarry operates under Development Consent DA 126/03, issued by the NSW Land and Environment Court on 21 December 2004. No other licences or approvals are required for the operation of the quarry given its current approved area of disturbance (1.4ha) and maximum annual production level (25 000 tonnes per year).

The Proponent has also lodged an Exploration Licence Application (ELA) 3995. The application area is coincident with the previous Exploration Licence (EL) 6531 and encompasses an area of approximately 550ha centred on Lot 2, DP 1089826 (see **Figure 1.2**).

1.5.2 Approved Site Layout

Figure 1.3 displays the approved site layout for the existing quarry including the approved limit of extraction whilst **Plates 1.1** to **1.4** show key components of the Project Site. The approved depth of extraction is to 1 140m AHD with the current quarry floor having reached this elevation. The active extraction bench is currently located at an elevation of 1 170m AHD and is progressing generally in a northerly direction.

A crushing and screening plant is brought to the quarry on a campaign basis and is located within the southern section of the extraction area adjacent to an approximately 6m high bund constructed along the southern boundary of the extraction area. The bunding provides acoustic shielding and forms the bank for the sediment retention basin outlined within the approved Erosion and Sediment Control Plan for the quarry.

1.5.3 Approved Extraction and Processing Operations

Extraction is approved within an area of 1.409ha (which includes the area of disturbance associated with other site activities, eg. internal access roads and stockpiles). The majority of the approved extraction area has been cleared of vegetation and topsoil and the overburden stripped. Topsoil has been stockpiled north of the extraction area for use in site rehabilitation.

Granite is currently extracted using a combination of an excavator and drill and blast methods. The existing development consent provides for up to two blasts per year, each removing approximately 10 000t to 20 000t of material. The extraction area has been developed into the shape of a narrow amphitheatre open to the south with current bench heights of approximately 10m to 15m and a face angle of approximately 80° from the horizontal.

Blasted rock is loaded directly into a mobile crushing and screening plant comprising a jaw crusher, screen and cone crusher producing various sized products, generally with a top-size of approximately 100mm. Crushing and screening is undertaken on a campaign basis approximately two or three times per year with each campaign being of approximately 14 to 30 days duration. At the completion of each crushing campaign, up to 10 000t of crushed granite is stockpiled for subsequent despatch from site.

The approved maximum production rate is 25 000tpa. Since production commenced in February 2005, the annual production has been 12 987t (2005/2006), 17 760t (2006/2007), 16 884t (2007/2008) and 10 896t (2008/2009).

The mobile equipment currently used during the extraction and processing campaigns and their principal function(s) and frequency/duration of use is summarised in **Table 1.1**.



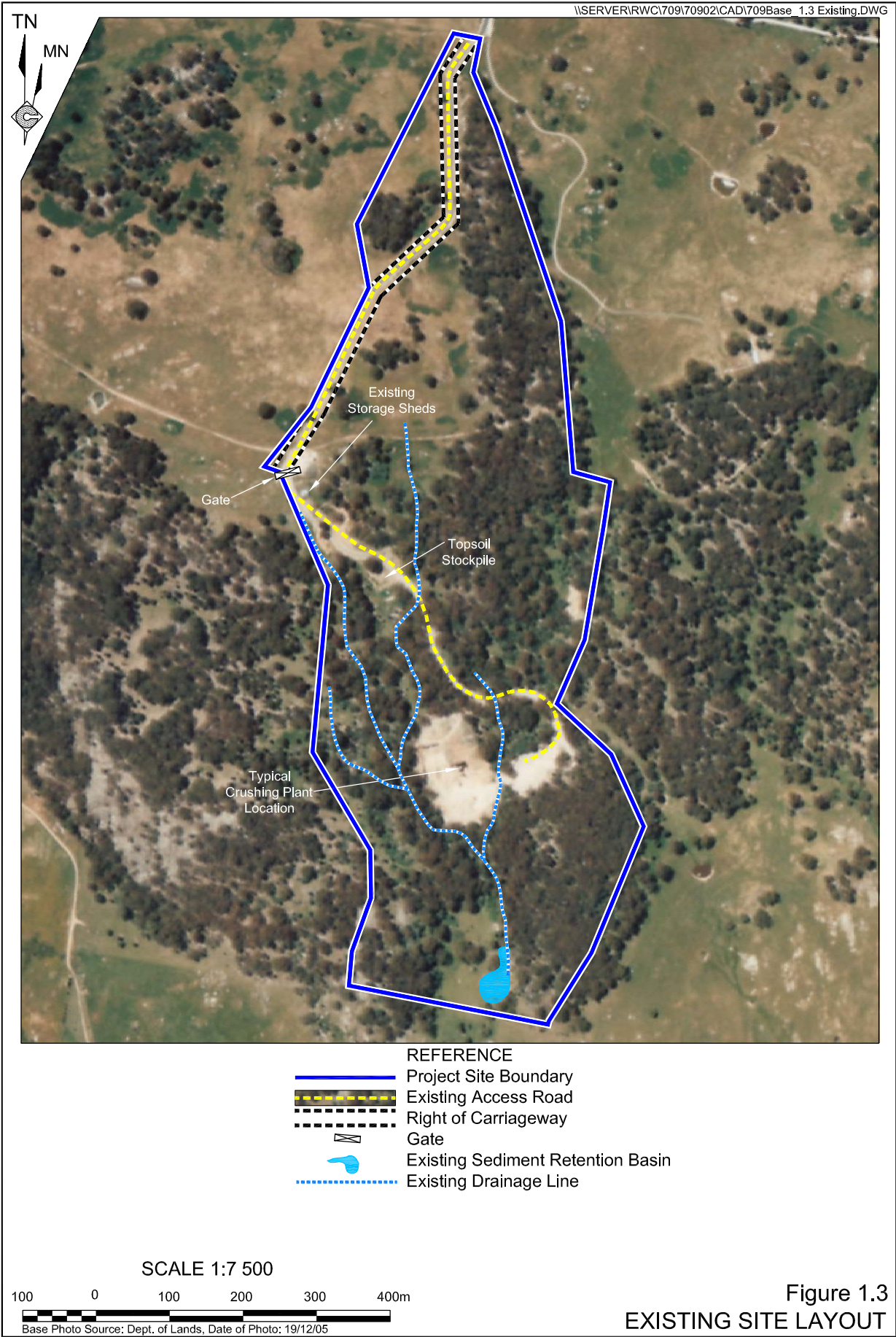


Figure 1.3
EXISTING SITE LAYOUT





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Plate 1.1: Existing Site Entrance
(Ref: E709D/011)

Plate 1.2: Existing Site Access Road
(within right of carriageway)
(Ref: E709D/021)



Plate 1.3: Existing Extraction Area
(Ref: E709C/021)

Plate 1.4: View South over Existing
Extraction Area and Acoustic Bund /
Oversize
(Ref: E709E/007)



Table 1.1
Mobile Equipment used for Existing Extraction and Processing Operations

Equipment	Number	Use	Duration/Frequency
D8 Bulldozer	1	Clearing of vegetation.	On a contract basis as required.
Ingersoll Rand 660 Hydraulic Drill Rig	1	Drilling of granite for blasting.	Operational hours Mon to Fri on a campaign basis (approximately 14 days per year).
Front-end loader Komatsu WA500	1	Stockpile management and loading raw materials and products.	Operational hours during processing campaign (approximately 50 days per year). As required during transport operations.
Hitachi 30t Excavator	1	Removal of soil/overburden. Removal of weathered granite. Loading of material to crusher.	Operational hours on a campaign basis (approximately 50 days per year)
Extec Mobile Track Mounted Crusher	1	Reduction of blasted rock to required size specification.	Operational hours on a campaign basis (approximately 50 days per year).

1.5.4 Existing Infrastructure and Services

1.5.4.1 Existing infrastructure

The principal infrastructure on site includes the approved access road within the right of carriageway and extending south to the approved extraction area (see **Figure 1.3**). The existing storage sheds located adjacent the southern point of the right of carriageway are also utilised for general storage and as a lunch area for the workforce during operational campaigns.

1.5.4.2 Existing Services

No electricity or land line telephone systems are connected to the site. Power requirements are provided through diesel-fuelled or battery-operated equipment. Mobile phones provide the primary means of communication on site together with the use of 2-way radios.

Fresh water requirements are met through the collection of roof runoff from the existing storage sheds using a 5 000L water storage tank. On-site ablutions consist of porta-loos which are serviced, as required.

1.5.5 Approved Product Transportation and Traffic

Processed materials are loaded into product trucks using a front-end loader that is kept permanently on site. The current development consent allows for three 28t truck loads to be despatched daily from the site (i.e. six truck movements). The transportation of all materials from the quarry occurs via the approved transport route (see **Figure 1.2**) comprising a 1.1km section of Ferndale Road to Hampton Road (also known as Duckmaloi Road) with vehicles either turning right towards Sydney or Mudgee, via Lithgow or left towards Bathurst, via Oberon.

1.5.6 Approved Hours of Operation and Project Life

The existing approved operating hours are as follows.

Monday to Friday	7:00am to 5:00pm, excluding public holidays
Saturday & Sunday	8:00am to 5:00pm, excluding public holidays

The current development consent provides for a maximum of 20 years of operation, i.e. until 21 December 2024.



1.5.7 Employment

During drilling and crushing campaigns, four or five people are generally employed on site with a local contractor on call between campaigns to maintain the site and manage stockpiles etc. The operation of the quarry also results in additional part-time employment through scheduled servicing at the Proponent's Mudgee-based workshop and a number of local engineers / tradespeople for ongoing maintenance. The quarry also currently generates employment for approximately two full-time equivalent contract truck drivers.

1.5.8 Rehabilitation and Final Land Use

The current approved rehabilitation plan is for the creation of a free draining, safe and stable landform. This will be achieved through the following.

- Removal of all equipment and product stockpiles.
- Battering back of selected quarry faces to safe and stable angles.
- Backfilling of selected areas using overburden to provide a substrate for the growth of tree species.
- Spreading of available topsoil and seeding with appropriate native species or tube stock as required.

1.5.9 Environmental Performance

To date, there have been no formal complaints received directly by Mudgee Stone Company relating to the extraction and processing operations. Five complaints, however, have been lodged with Oberon Council relating to the following.

- One complaint provided on 30 January 2008 relating to excessive noise from the Project Site. The Proponent requested further information from Council in relation to the time and date of the alleged excessive noise and direction and distance from the quarry from which the noise was heard. Council was unable to confirm these details.
- One complaint provided on 10 August 2007 relating to a loud blast from the Project Site on 23 July 2007. The Proponent provided Council with blast monitoring results which indicated that both overpressure and ground vibration were within accepted and approved criteria.
- Two complaints provided on 12 January 2006 relating to blasting on 4 January 2006. The Proponent clarified with Council that no blasts were conducted on this day and that the quarry was not operational (with employees being on holidays). It is noted that it was later reported that illegal blasting of fish had occurred upstream on the Duckmaloi River at the time of the alleged incident.
- One complaint provided in 2005 relating to the use of a rock hammer at the quarry breaching *Condition 15* of DA 126/03. It is noted that, upon receipt of the complaint, Council immediately contacted the Proponent and the use of the rock hammer ceased that same day. It is further noted that the Production Manager was not on site during the incident and the staff on site were reprimanded for their actions. A rock hammer has not been brought to the quarry since that time.



The Proponent has retained a proactive approach through ongoing informal discussions with surrounding landholders and maintaining a positive presence in the local community. In particular, the Proponent is a sponsor of the local rugby league team (Oberon Tigers) and has sponsored the golf club and provided monetary contributions for the Oberon Public School newsletter. A number of adjoining landholders have also been provided with aggregate material free of charge. The Proponent is committed to continuing to develop and increase this positive presence in the community with the growth of the quarry.

The Director-General's Requirements for the Project (**Appendix 2**) include a requirement for an independent environmental audit of the conditional requirements of Development Consent 126/03 to establish the level of compliance adopted by the Proponent in the existing quarry. The independent audit of Development Consent 126/03 was undertaken by Mr Mike Woolley and Ms Helen Pieris with URS Australia Pty Ltd. Both Mr Woolley and Ms Pieris were endorsed by the Department of Planning as appropriate and independent auditors. A copy of this audit report is presented as **Appendix 4**.

In summary, three conditions of DA 126/03 were identified as being non-compliant. Each condition is identified as follows together with a brief response.

- Condition 2 – exceedance of maximum permitted site disturbance.

Factors resulting in the exceedance of the permitted area of disturbance by approximately 1.4ha have included larger volumes of oversize than anticipated and limitations on oversize reduction methods. The utilisation of areas disturbed by past land uses thereby preventing their natural regeneration has also contributed to the total disturbance. Through the proposed extension, the Proponent has made provision for all operational requirements to avoid incidental exceedance of the permitted site disturbance.

- Condition 6f – failure to prepare and submit a Fire Management Plan to Oberon Council.

The Proponent maintains that a Fire Management Plan had previously been prepared and submitted to Council although Council was understood not to hold a copy. Since the completion of the audit, an updated Fire Management Plan has been submitted to Council superseding the original submitted copy. The Fire Management Plan will continue to be reviewed on a regular basis and updated as required.

- Condition 19b – storage of a 205L drum of oil on a bunded pallet. It is noted that this is a technical non-compliance and that the oil drum was stored in a manner consistent with best practice, albeit in contravention of the requirement not to store hydrocarbons on site.

The intent of the condition was to prevent potential contamination of groundwater resources. It is believed that the intent of the condition had been met through the use of appropriate storage practices. The proposed operation would provide for appropriate storage of hydrocarbons on site.

Compliance with a further three conditions was unable to be determined, as follows.

- Condition 7a – it was not possible to determine if the area of compensatory planting matched the area of disturbance of the existing operations.



The Proponent recognises that the compensatory planting undertaken was largely unsuccessful due to drought conditions although natural regeneration has been assisted through stock and weed management practices implemented by the Proponent. Pending approval of the proposed operations, additional compensatory planting would be undertaken in conjunction with the establishment of a biodiversity offset area in consultation with the Department of Environment, Climate Change and Water (DECCW). It is noted that the proposed water management structures would also provide a water supply with which seedlings could be irrigated to improve the establishment success rate.

- Condition 16b and c – the implementation of noise and vibration safeguards recommended within the assessment documentation for the approved operations were unable to be verified.

The Proponent maintains that the recommended safeguards have been implemented, however, it is recognised that not all equipment brought onto site has been monitored to record the sound power levels. This is partly due to the fact that, depending on the availability of equipment during campaigns, different individual plant (of the same capacity) may be used.

- Condition 19c – the Spill Plan was not sighted.

The Proponent maintains that a Spill Plan was prepared and submitted to Council although Council was understood not to hold a copy. Since the completion of the audit, an updated Spill Plan has been submitted to Council superseding the original submitted copy. The Spill Plan will continue to be reviewed on a regular basis and updated, as required.

1.6 THE APPROVALS PROCESS

An overview of the approvals process is provided in this document to assist readers to understand the steps to be followed by the Proponent, government agencies, particularly the Department of Planning (DoP), and the community during the period from the commencement of the preparation of the *Environmental Assessment*, through to the public exhibition of the *Environmental Assessment* and ultimately to the determination of the Project by the Minister for Planning.

An important feature of the approvals process under Part 3A of the *Environmental Planning and Assessment Act 1979* is the transparency / availability of information for all stakeholders at appropriate times throughout the process. Emphasis will be placed upon the inclusion of all relevant documentation on the websites of the DoP and R.W. Corkery & Co. Pty Limited.

The approvals process outlined as follows incorporates all formal stages involved in the assessment of the Project, some of which have already been completed by the DoP and the Proponent. For stages completed to date, the relevant date is recorded, whereas for the remaining stages beyond the commencement of the exhibition of the *Environmental Assessment*, an estimate of the elapsed weeks is provided as an indication of the likely duration of each subsequent stage.



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| 1. 25 June 2007 | ⇒ | The Proponent wrote to the Department of Planning requesting confirmation that the Project was assessable under Part 3A of the <i>Environmental Planning and Assessment Act 1979</i> . |
| 2. 22 August 2007 | ⇒ | A Planning Focus Meeting was convened to brief all relevant government agencies about the Project (based upon the Preliminary Project Outline and <i>Environmental Assessment</i>) and conduct a site inspection. |
| 3. 07 September 2007 | ⇒ | The Proponent formally wrote to the Department of Planning lodging its Major Projects Application for Project Approval (see Appendix 1). |
| 4. 18 September 2007 | ⇒ | Department of Planning issued the Director-General's Requirements (DGRs) for the Project and placed the <i>Preliminary Environmental Assessment</i> and DGRs on the Department's website. |
| 5. 18 September 2009 | ⇒ | Department of Planning reviewed and re-issued the Director-General's requirements (DGRs) for the Project. |
| 6. September 2010 | ⇒ | <i>Environmental Assessment</i> lodged with Department of Planning to assess adequacy for exhibition and assessment. |
| 7. November 2010 | ⇒ | <i>Environmental Assessment</i> submitted to Department of Planning for exhibition and assessment. Following receipt of the document (hard copies and CDs), the Department of Planning will make all documents publicly available. The Proponent will notify neighbours and other stakeholders about the Project and the opportunity to make a submission about the exhibited documentation. |
| 8. Weeks 1 to 6 | ⇒ | Review of <i>Environmental Assessment</i> during the exhibition period by government agencies and the community. |
| 9. Week 7 | ⇒ | The Department of Planning would seek from the Proponent, a response / clarification of various issues raised in the submissions from government agencies and the community. |
| 10. Weeks 8 to 11 | ⇒ | The Proponent would provide responses to the issues raised – and if necessary, submit a revised Statement of Commitments and / or a Preferred Project Report. |



11. Weeks 12 to 17	⇒ The Department of Planning would prepare its assessment report based on all documentation submitted by the Proponent, government agencies and the community – A maximum period of 60 days as nominated in the Director-General's requirements (from the receipt of either a Panel's report or the Preferred Project Report).
Any period between Stages 9 and 11 (Optional)	⇒ The Application or the assessment undertaken by the Department of Planning may be referred to the Planning Assessment Commission.
12. Week 17 ⁺	⇒ Determination by the Minister. If approved, the Project Approval would be accompanied by a comprehensive set of conditional requirements.

1.7 MANAGEMENT OF INVESTIGATIONS

This *Environmental Assessment* has been prepared by Mr Scott Hollamby, B.EnvSc (Hons), Environmental Scientist with R.W. Corkery & Co Pty Limited and Mr Rob Corkery, M.Appl.Sc., B.Sc (Hons), Principal of R.W. Corkery & Co Pty. Limited.

On behalf of the Proponent, details of the Project have been provided by Mr Scott Murdoch, Director of Mudgee Stone Company Pty Ltd and Mr Bob Murdoch, General Manager of Mudgee Dolomite and Lime Pty Ltd.

Seven specialist consultancies also provided assistance in the preparation of this document and prepared stand-alone reports included within a stand-alone compendium accompanying the *Environmental Assessment*.

- Archaeological Survey and Reports Pty Ltd – Aboriginal Heritage Assessment
 - Mr John Appleton (B.A. (Hons)).
- Barnson Pty Limited – Traffic Assessment
 - Mr Luke Morris (B.Eng).
- Biodiversity Monitoring Services – Fauna Assessment
 - Dr Martin Denny (B.Sc (Hons), PhD).
- Gingra Ecological Surveys - Flora
 - Mr Roger Lembit (B.App.Sc).
- GSS Environmental Pty Ltd – Surface Water Assessment
 - Mrs Nicole Armit (M. Env Law, B. Env. Eng (Hons)).
- Heggies Pty Ltd – Air Quality Assessment
 - Mr Jason Watson (B. App. Sc).
- Spectrum Acoustics – Noise Assessment
 - Mr Ross Hodge (B.Sc. (Hons)).

