



Department of  
**Infrastructure, Planning and Natural Resources**

**PROPOSAL BY SITEGOAL PTY LTD  
TO DEVELOP AND OPERATE A HARD ROCK QUARRY  
AND ASSOCIATED INFRASTRUCTURE  
NEAR WALLERAWANG, NSW**

**Report on the assessment of a Development Application (DA-344-11-2001)  
Pursuant to Section 80 of the Environmental Planning and Assessment Act, 1979  
S03/02385**

Department of Infrastructure, Planning and Natural Resources

August, 2004

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## 1. SUMMARY

Sitegoal Pty Limited (the Applicant) lodged a Development Application (DA No. 344-11-2001), on 22 November 2001 with the then Department of Urban Affairs and Planning (now the Department of Infrastructure, Planning and Natural Resources- DIPNR), to develop and operate a hard rock quarry and associated infrastructure with access from the Great Western Highway, including crushing and transport of product.

The proposed location of the development is 2.5 km south-east of Wallerawang and 8 km north-west of Lithgow, in the City of Lithgow Local Government Area. The development would be located partly on land within Lidsdale State Forest No 707, and also partly on Lot 6, D.P. 872230, (private property) and Lot 194, D.P. 751651, (leasehold land). The respective owners of the land have given their written consent to the Development Application being made.

The Applicant's intention is to produce quartzite and rock aggregate material for use in the Wallerawang, Lithgow, Blue Mountains and Sydney Regions. The project, as proposed by the Applicant, will involve disturbing approximately 11 hectares of land in total, and produce between 125,000 and 500,000 tonnes per annum (tpa) of material, depending on market demand.

The project has a capital value of \$2.779 million and would employ two to four permanent staff on site, supplemented by contract truck, dozer and excavator drivers, whose numbers would depend on the level of production. At the maximum production rate the project would generate an estimated 80 truck loads per day, using a new access road to be constructed to link the development site with the Great Western Highway.

Under the NSW *Environmental Planning and Assessment (EP&A) Act 1979*, the proposal is State significant, integrated and designated development and the Minister for Infrastructure and Planning is the consent authority.

The Applicant lodged a Development Application (DA), dated 22 November 2001, and Environmental Impact Statement (EIS) for the proposal with the Department of Infrastructure, Planning and Natural Resources. The Department subsequently advertised and exhibited the DA and EIS in accordance with the relevant requirements of the *Environmental Planning and Assessment (EP&A) Act and Regulation*.

One hundred and seventy submissions were received in response to the public exhibition of the development proposal. There were 40 individual written submissions and 115 submissions as pro-forma letters, mainly from local residents, that raised a number of objections to the project. The submissions raised questions about the extent of the available resource and project feasibility, concerns about the adequacy of soil and water management, noise and vibration control, impacts on flora and fauna, visual and amenity values, and traffic and transport impacts.

The eight State Government agencies and the Lithgow and Blue Mountains City Councils who made submissions provided information and identified a number of issues and impacts that might arise from the proposal and how these needed to be addressed. The Department of Environment and Conservation (DEC) and the Roads and Traffic Authority gave their General Terms of Approval, indicating that potential air, noise, water and traffic impacts of the proposed development can be adequately controlled.

The issues of concern have been examined in this assessment report, including the concerns of local residents about the key issues and comments from Lithgow city Council on the proposed conditions of consent. The Department is satisfied that the issues raised have been, or will be adequately addressed, either through additional information provided by the Applicant relative to implementation of the proposed development and/or the recommended draft Conditions of Consent. In this regard safeguards are provided in the conditions by requirements for monitoring noise, blasting, and water and air quality, minimising visual impact, and appropriate environmental monitoring, auditing and reporting.

The Department consulted with Lithgow City Council in the preparation of the proposed conditions of consent.

After the Development Application was lodged the Department of Mineral Resources advised the Applicant that quartzite is defined as a mineral under the Mining Act 1992. Having regard to this advice the Applicant has applied for a Mining Lease and advised the Department to this effect on 8 October, 2003.

The Department of Mineral Resources will complete the processing of the application for the Mining Lease once the development application has been determined, subject to the Applicant obtaining development approval.

This report provides a brief description of the proposed Wallerawang Quarry development and then goes on to identify the statutory planning framework that applies, and reviews the submissions received in response to the public exhibition of the project. The report then refers to recommended conditions of consent that have been prepared and finally provides a conclusion and recommendation for consideration by the Minister for Infrastructure and Planning in making a determination of the development application for the project.

The Department has concluded it is satisfied that the proposed development has social and economic benefits, is acceptable on environmental grounds, and the concerns raised by the various parties, including Lithgow City Council, have been, or can be adequately addressed.

The recommendation in the report is that the Minister approve the development application and sign the proposed Instrument of Consent submitted for this purpose.

## **2. DEVELOPMENT PROPOSAL**

### **2.1 OVERVIEW**

The development as proposed by the Applicant would involve extracting 3.5 million tonnes (Mt) of quartzite and rock aggregate material over a 20 year period. The production is expected to vary between 500,000 and 125,000 tonnes per annum (tpa), depending on market demand and subject to the inferred reserves being available in sufficient quantity and quality.

Quartzite can be used in concrete, or as pavement material, fill for roadbase, bedding for pipes or railway line ballast. The Applicant considers the project can be justified on the basis that there is significant future demand for quartzite in the Sydney region and in local markets for these purposes. The Applicant has also noted that high grade quartzite potentially available at the proposed development site has applications in the metallurgical market. However testing has shown that the level of purity of the silica ( $\text{SiO}_2$ ) that could be obtained from the quartzite varies from 59.4% to 96.8%. This level of purity and the non-homogenous nature of the resource preclude the use of the material as a metallurgical flux.

This assessment report has been prepared based on the Applicant's project description that involves an inferred resource of approximately 3.5Mt. However the Applicant has also provided more recent technical advice indicating that the minimum inferred resource could be as low as 1.29Mt. Subject to development approval being obtained, the timing and/or extent of the operation may need to be revised, depending on the actual volume of resource that is found to be available after the development commences and the extent of the available markets.

The quarry is intended to be developed in three stages and the material will be extracted using drilling, blasting and rock breaking methods. The product will then be reduced in size by crushing and stockpiled on site, using either a mobile or fixed crushing plant. The product will then be transported off site by truck, via a new intersection to the Great Western Highway, to be constructed approximately 500 metres west of Barton Avenue, near Wallerawang.

The main components of the proposed development are:

- Office facilities, weighbridge and wheel wash areas;
- An access road from the Great Western Highway to the quarry area, to be sealed up to the office car park at the development site;
- Quarry trenches in the material to be extracted;
- Stockpile, reject and topsoil storage areas;
- A crushing area either near the storage areas and/or within the quarry;
- Water storage areas, including the development of the former Hoskins Quarry as a dam, together with piping into and out of these structures; and
- Fuel and explosives storage facilities.

The proposed development involves road works from the site to join the Great Western Highway. These works will provide access for trucks entering or leaving the Highway from either direction. Potable water would be trucked to the site.

The proposed quarry area is approximately 425 metres (m) long, 250m wide and 38m deep. The ancillary area for the office and stockpiles has a proposed maximum width of 125m and length of approximately 200m.

The land is generally covered with predominantly sub-alpine Eucalypt woodland which extends significantly beyond the development site. The land has limited value for agriculture or timber production. No species of threatened flora were identified in studies for the project EIS, or were known to occur on or near the quarry site.

One species of threatened fauna (Yellow-bellied Sheathtail Bat) was identified in the EIS as occurring on the site. Two other species (Koala and Bathurst Copper Butterfly) were recorded in the NPWS database as occurring within a 10km radius of the site. It was noted that consideration of the site under SEPP 44 (Core Koala habitat) determined that although sufficient koala feed tree species existed on the site, there was no evidence of koala habitation in the area proposed for quarry development.

A subsequent study and report prepared by Wildthing Environmental Consultants, dated September 2002, confirmed the presence of the Bathurst Copper Butterfly and its habitat (the shrub *Bursaria spinosa* or Blackthorn) within and adjacent to the development site, but not within the actual area to be quarried. Wildthing concluded that it should be possible for the butterfly and the quarry to co-exist if the recommendations in their report were to be implemented, including protecting existing *Bursaria* plants and undertaking additional plantings of this species.

## **2.2 SITE CHARACTERISTICS**

The location of the proposed quarry is to south-east and within 125 metres of the Great Western Highway, 2.5 km south-east of Wallerawang and 8 km north-west of Lithgow (Figure 1). The proposed layout of the mining activities is shown in Figure 2.

A housing development is located to the east of the proposed quarry near Lake Wallace and to the area generally north-west of the proposal, on the opposite (western) side of the Great Western Highway. Six residences were identified in the EIS (Table 5.12) as being located no more than 1 km from the site, with a further 13 residences being no more than 2 km from the site. However this number will increase as several more houses are under construction or are to be built in the area, as shown on Figure 3.

The proposed quarry is to be developed within a knoll, as shown on Figure 2. The Project area incorporates a strip of sloping land between the proposed quarry and the boundary with the road reserve of the Great Western Highway. The area is predominantly covered by woodland, consisting primarily of native vegetation, with some pine trees. The access road, office site, fuel and explosive storage areas and piping for the water supply would require the clearing of some woodland. Potable water would be provided to the development site by truck.

The southern boundary of the proposed quarry (as shown Figure 2) is close to a high voltage power transmission line and about 150 metres from the Cox's River. At the commencement of quarrying, the operation would lie within 200 metres of the Great Western Highway. At the conclusion of quarrying, it would be within 150 metres of the Highway. A Telstra easement runs adjacent to the Highway and a high pressure gas pipeline and easement are located adjacent to the Great Western Highway, on the other side of the road in the vicinity of the Project area.

The access road to be constructed to join the Great Western Highway would be sealed up to the office car park. This access would include lanes to enable traffic to enter and leave the site from either direction on the Highway.

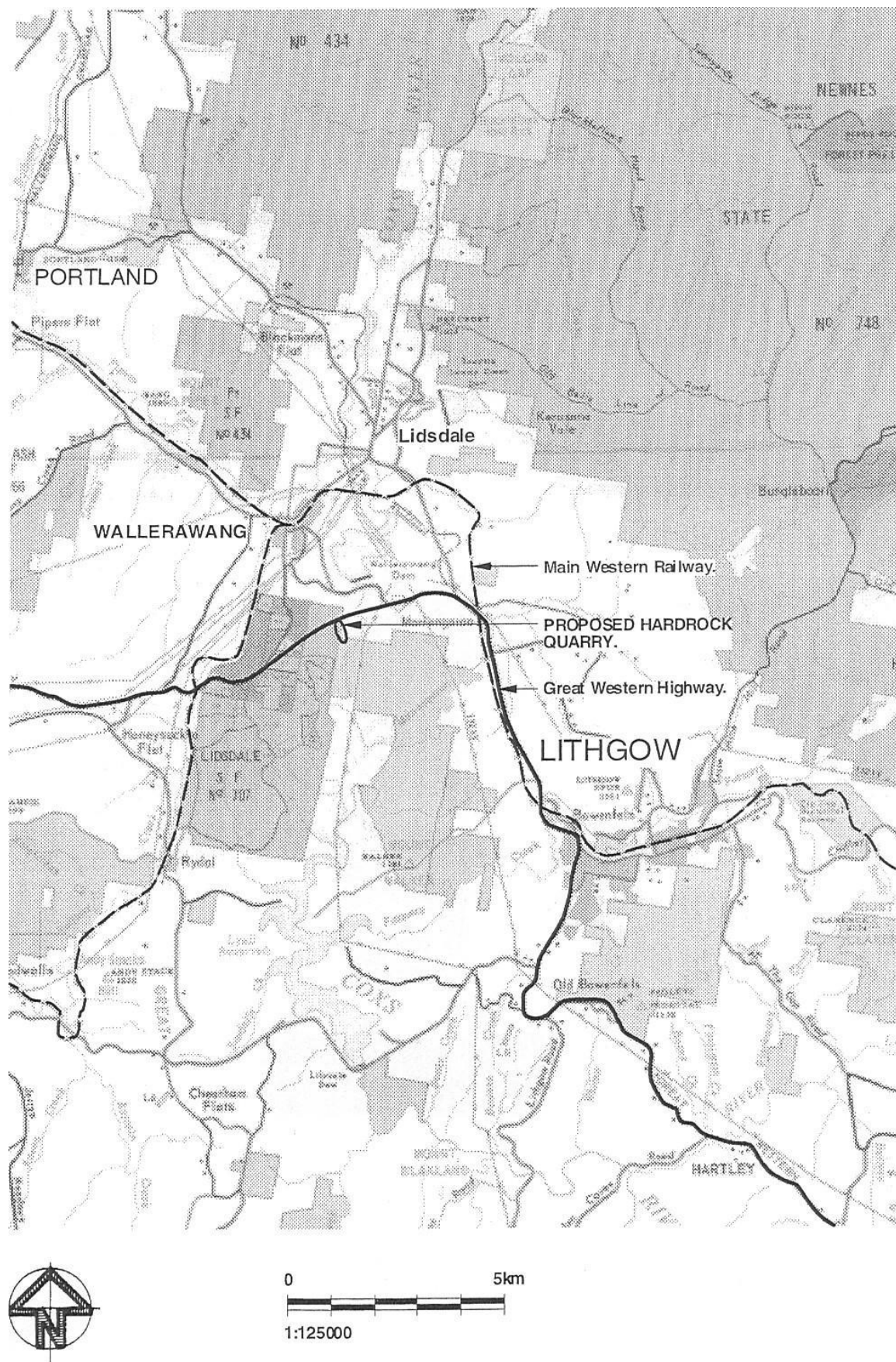


Figure 1 – Proposed Quarry Location

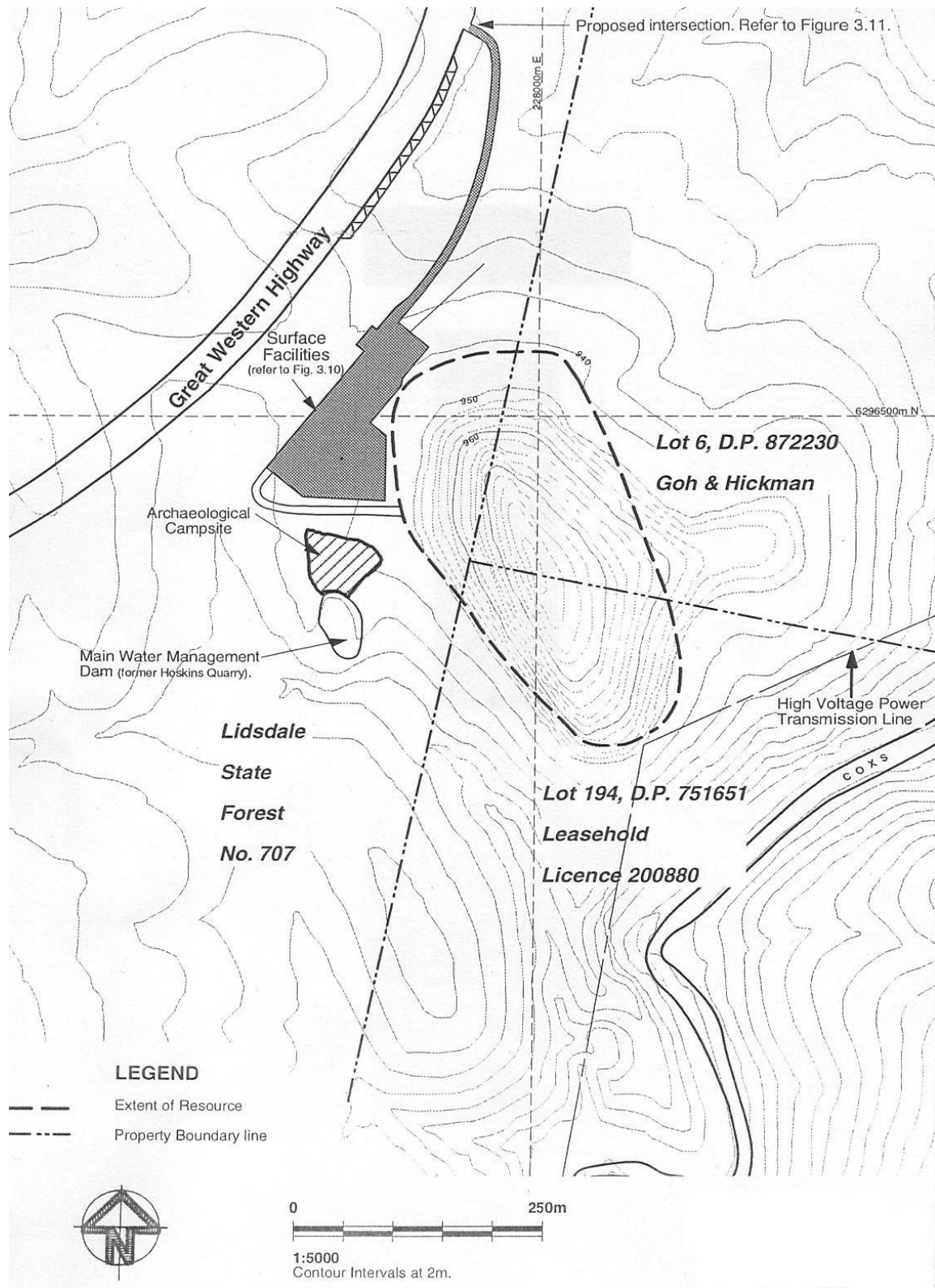


Figure 2 – Land Tenure and Site Plan





**Figure 3 – Proposed Quarry and Neighbouring Land Subdivisions and Residences**



Part of the proposed quarry is to be located on private property (Lot 6, D.P. 872230), and leasehold land (Lot 194, D.P. 751651), while the remaining area is within Lidsdale State Forest (SF) No.707, under the jurisdiction of State Forests of NSW. The configuration of land ownership is also shown in Figure 2. The water storage and surface facilities are located on sloping land within the State Forest.

The Figures provided in this report have been reproduced from the Applicant's EIS.

## **2.3 SUMMARY OF THE PROPOSED DEVELOPMENT**

### **2.3.1 Production Process**

Stage 1 extraction will commence in the area of the existing quartzite outcrop. An initial trench will be developed, approximately 350 metres (m) long, 50m wide and up to 18m deep, oriented south-south-east along the strike of the quartzite. Approximately 500,000t of material will be removed from the trench, resulting in a disturbed area of approximately 3 hectares (ha). The remainder of the Stage 1 works will involve widening of the trench, using drilling and blasting, to produce a further 500,000t of quartzite and overburden, including siltstone and sandstone.

The quarry perimeter will have a 50m setback from the power transmission line pylon located at the south western corner of the quarry. Highwalls will be retained at the northern and southern ends for the duration of the quarrying.

Stage 2 will initially involve development of a trench below the Stage 1 floor, with an estimated total of 700,000t of material removed from the trench area. The trench will then be widened progressively towards the western boundary, to remove a further 1.3Mt of quartzite and overburden.

Stage 3 will involve lowering the Stage 1 floor by a further 10m in depth, with no further disturbance of land beyond that cleared for Stage 2, and all drilling and extraction will be contained within the quarry. The Applicant has calculated that the completion of Stage 3 will involve the extraction of approximately 0.9Mt of the estimated remaining 1.4 Mt of quartzite material.

Quarrying at each stage would require drilling charge holes, blasting, rock hammering and crushing and transport to the storage site or loading onto trucks. An anticipated 45 days or 180 days of drilling to lay charges would be required for production levels of 125,000/150,000tpa or 500,000tpa respectively. The actual production rate will depend on market requirements.

Crushing of product will be undertaken using either a mobile crusher, located in pit, or a fixed crusher located within the service facilities area, dependent on the final product size required by the market. In particular, a fixed crusher would be required if smaller product sizes (eg less than 20mm) are required. The EIS indicates noise and dust can be controlled for a mobile or fixed crusher.

If the mobile crusher option is selected stockpiles will be located either within the quarry or at the surface facilities site. For the fixed crusher option there would be two stockpiles, one containing raw quarried quartzite as feed for the crushing plant and the other containing crushed and sized product material, with both stockpiles to be accommodated within an area 40m long, 35m wide and 4m high.

Transport of products will be undertaken by contractors using vehicles with a maximum capacity of 25t. In order to respond to market requirements it is proposed that some

trucks will be loaded and will leave the site in the early hours of the morning, as well as during normal working hours.

At the proposed maximum production rate of 500,000tpa, a daily average of approximately 80 truck loads (25t capacity) would leave the site each day, making a total of 160 truck movements. In the EIS it is stated that this would result in an average 28% increase in truck traffic movements on the Highway (based on the existing daily 570 movements of articulated trucks).

### **2.3.2 Hours of operation and employment**

The specific times when the development will be allowed to operate will be governed by conditions in the development consent, if given, incorporating General Terms of Approval issued by the Department of Environment and Conservation (DEC).

The construction phase would require a workforce of 2 to 3 people with a maximum of 4 employees on site. Additional employment would result from the use of subcontract hauliers and machinery hire.

When the quarry is producing material it would employ two to four permanent staff on site, supplemented by contract truck, dozer and excavator drivers. In the EIS it was stated that the production team would work between 7am and 5pm Monday to Friday, but weekend work could also be necessary to meet short-term market demands. The Applicant sought approval to load and dispatch trucks in the early hours of the morning to satisfy the requirements of the Sydney construction market.

General Terms of Approval provided by DEC limit operational work to between 7am and 6pm on any day, except for the loading and dispatch of vehicles, which may be carried out at any time on any day, subject to meeting the noise limits in the proposed conditions of consent and other applicable requirements.

### **2.3.3 Quarry product transport route**

The EIS indicated that the resulting materials are anticipated to be marketable in the Lithgow, Blue Mountains and Wallerawang areas, including to the Wallerawang Industrial Park, and to construction sites in Sydney. The EIS describes transport by truck for the product.

The project involves the construction of an access road to join the Great Western Highway, including an intersection with the Highway, to be constructed to the requirements of the RTA. Transport would then be over existing roads, including the Great Western Highway.

As the Wallerawang Industrial Park is not likely to be developed in the immediate future, Sydney and local markets are now proposed for the material produced.

## **2.4 PROJECT JUSTIFICATION**

The Applicant, in providing project justification, identified a report *Supply and Demand for Coarse Aggregate in the Sydney Planning Region* prepared by the Geological Survey of NSW (2001) which predicted a shortfall between consumption and production of 21Mt between 2000 and 2010. This shortfall is expected to be made up by increasing both local production and imports from outside the Sydney region.

Under the do-nothing option, the EIS notes that the resource would be unavailable to the Western Sydney/Lithgow construction industry.

In relation to other local quartzite deposits it is stated in the EIS for the project that there are restrictions on the levels of production from some other existing developments, or on the development of other local quartzite outcrops, for reasons that include: limited resources; inaccessibility near the Cox's River; steepness of slopes; proximity to the State Forest, the Great Western Highway and the power transmission easement; and inferior reserves.

The Applicant has advised that once operating, the quarry would be a significant employer within the region and a contributor to the local economy. At a production level of 200,000 and 500,000 tonnes per annum, product extraction would employ 14 or 22 operators respectively.

Product transportation would employ an estimated 27 driver/contractors, with a production level of 500,000 tonnes per annum. Additional employment would be created by the provision of fuel, tyres and maintenance services. It is anticipated that local contractors would be used as they would have established businesses in the community. The contribution from transport operations has been estimated at up to \$7 million per annum.

Metromix Pty Limited expressed the view in a submission that there was not sufficient demand for the additional product in the local area and it would be difficult to supply the Sydney market at an economic price. It is considered that these are issues that the Applicant needs to address in examining the feasibility of the project and in final project planning and organisation.

### **3. STATUTORY PLANNING MATTERS**

The Proposal is subject to various State, regional and local statutory planning instruments and other legislation.

#### **3.1 PERMISSIBILITY**

The subject land is zoned partly Rural General 1(a) and partly Rural Forestry 1(f) under the Greater Lithgow City LEP (1994). Extractive industries and mines are permissible with development consent in these zones.

#### **3.2 MINISTER'S ROLE**

The proposed development is classified as State Significant development and the Minister is therefore the consent authority. The Minister must therefore determine the Development Application by either granting or refusing consent under section 80 of the EP&A Act.

#### **3.3 LEGISLATIVE CONTEXT**

##### **3.3.1 State Significant Development**

The proposal is classified as "State Significant Development" under a Declaration (dated 3 August 1999) provided for in Clause 76A(7) of the *Environmental Planning and Assessment (EP&A) Act* 1979, as the Applicant has sought approval for an extraction rate greater than 200,000 tonnes per annum.

##### **3.3.2 Integrated Development**

As the proposal requires approvals from other statutory authorities, it is also an integrated development (Clause 91, *EP&A Act*). The relevant approvals and authorities (referred to as "integrated approval bodies" under Clause 90A of the *EP&A Act*) include in this instance:

- A licence from the Department of Environment and Conservation (DEC) under Section 47 of the *Protection of the Environment Operations Act*, 1997; and
- An approval from the Roads and Traffic Authority (RTA) under Section 138 of the *Roads Act*, 1993.

The DEC has submitted its general terms of approval, which have been incorporated in the proposed conditions in the recommended instrument of consent.

##### **3.3.3 Designated Development**

The development, involving an extractive industry, is a designated development under Schedule 3 of the EP&A Regulation. As such, the preparation of an Environmental Impact Statement (EIS) is required in accordance with Section 78A(8)(a) of the *EP&A Act*.

### 3.3.4 Lodgement of DA and exhibition

Pacrim Environmental Pty subsequently prepared an EIS for the proposal on behalf of the Applicant. The Development Application (DA), dated 22 November 2001, and EIS submitted by the Applicant were exhibited from 13 December 2001 to 6 February 2002, at the following locations:

- Lithgow City Council offices
- PlanningNSW, Sydney (now DIPNR)
- Nature Conservation Council, Sydney

Public notification involved the placement of an advertisement in the Lithgow Mercury on 13 December 2001 and 10 January, 2002 and the placement of four site notices at various locations on and around the DA area.

One hundred and seventy submissions were received on the proposed development in response to the DA and EIS exhibition and these have been taken into account in the Department's assessment of the project and in preparing recommended draft conditions of consent.

The Department is satisfied that the requirements for public exhibition of the DA and EIS and public participation have been fully met.

## 3.4 RELEVANT ENVIRONMENTAL PLANNING INSTRUMENTS

### 3.4.1 State Environmental Planning Policies (SEPP's)

#### *SEPP No. 44 (Koala Habitat Protection)*

Consideration under this SEPP was provided in the EIS, where it was concluded that the site was potential koala habitat, due to the extent of ribbon gum (*Eucalyptus viminalis*). However field investigations found no evidence of the use of the site by koalas and hence it was concluded that the site does not constitute core koala habitat.

Also it was stated in the EIS that, due to the abundance of similar habitat both locally and on a regional scale, it was considered that the proposal will not significantly affect local populations of any threatened species that potentially use the site. In addition, the condition of the future quarry floor, assisted by good management and rehabilitation techniques, would be conducive to establishment of vegetation.

NPWS expressed concerns about the adequacy of surveys to establish the presence or otherwise of koalas. The applicant will be required as a condition of any consent that is given to prepare a Flora and Fauna Management Plan, to be approved by the Director-General, and this will need to incorporate adequate management plan measures in accordance with SEPP 44.

#### *State Environmental Planning Policy No. 55 – Remediation of Land*

SEPP 55 provides a State-wide planning approach for the protection of health and the environment from contamination and remediation of contaminated land. Clause 7 of this policy stipulates that a consent authority must not grant consent to the carrying out of any development on land unless:

- a) *it has considered whether the land is contaminated, and*

- b) *if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and*
- c) *if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.*

Taking into account the existing vegetation, the current land use and history of the site, and the lack of any advice in the EIS and submissions to the contrary, the Department considers that the site is unlikely to be contaminated. Geological and groundwater investigations did not detect any contamination. It is considered that the site is suitable for the proposed development and would not require any remediation prior to commencement of the proposal.

#### **SEPP No. 58 (Protecting Sydney's Water Supply)**

The Proposal lies within the catchment of the Cox's River which contributes to the Greater Sydney Region water supply. The SEPP aims to ensure that development within Sydney's water catchments does not have a detrimental impact on water quality.

In particular the Applicant needs to be able to demonstrate that the development will have a neutral or beneficial effect on the water quality of rivers, streams, or groundwater in the hydrological catchment, including in periods of wet weather. In the context of the proposed development this requirement has specific implications for effectively managing discharge of water from disturbed areas into the Cox's River.

The Proposal includes development of a disused quarry as a dam. However, the trucking of water is also proposed, as rainfall is considered to be insufficient for all needs on site. Waste water would be reused to irrigate a plantation area in the Development Area. In addressing issues of water quality, the draft Conditions of Consent require water monitoring to demonstrate compliance with water quality criteria and to minimise impacts on the Cox's River. In considering the elements of SEPP 58 outlined above the Department considers that:

- (a) The development has the potential to impact on the water quality in the catchment during periods of heavy rain which may not be retained by the dam, unless adequate measures are put in place to maintain water quality;
- (b) The water quality management practices proposed by the Applicant would be sustainable for periods other than extreme rainfall events; and
- (c) Proposed Conditions of Consent have been drafted to address compatibility of water discharge standards with existing water quality.

The Department is satisfied that the provisions of SEPP No. 58 have been, or can be addressed and that the Proposal would meet the requirements of this SEPP.

### **3.4.2 Regional Environmental Plans**

No Regional Environmental Plans refer to this Proposal.

### **3.4.3 Local Environmental Plans**

The land which would be affected by the Proposal is partly zoned Rural 1a – Rural (General) and partly zoned Rural 1f – Rural (Forestry). Extractive industry and mines are permissible with consent in these zones under the Lithgow Local Environmental Plan 1994.

The Proposal has been identified as “State Significant Development”, and the Minister for Infrastructure and Planning is the consent authority for such developments.

### 3.5 THREATENED SPECIES CONSERVATION (TSC) ACT 1995

As part of the EIS preparation, a search of the NPWS Flora and Fauna Database by the Applicant identified potential suitable habitat for 15 species of threatened fauna within the general vicinity of the proposed quarry site.

The Yellow-bellied Sheathtail bat was the only species listed under the *TSC Act* that was identified as present during the field survey for the EIS. Two other threatened species were recorded in the NPWS database as occurring within a 10km radius of the site, (Koala and Bathurst Copper Butterfly), but these were not sighted during the survey for the EIS. No listed plant species were identified during this field work.

In response to issues raised in the project exhibition process, the Applicant considered additional threatened species recorded within 10km that had not been addressed in the EIS (Wildthing, April 2002). These are the Booroolong Frog, Rufous Bettong, Masked Owl, Bush Stone-curlew, Grey-headed Flying-fox, White-eared Monarch, Red Goshawk, and *Eucalyptus pulverulenta*.

In this additional work it was found that potential habitat for *E. pulverulenta*, Red Goshawk, Bush Stone-curlew, Rufous Bettong and limited habitat for the Grey-headed Flying-fox occur across the site. The Applicant indicated that there was no evidence of the presence of these species.

Further information concerning the Bathurst Copper Butterfly was provided by survey work (Wildthing, September 2002). The survey indicated that parts of the butterfly habitat around the proposed surface facilities would be potentially impacted directly by clearing. The habitat along the current access road and the area under the power line easement would not be directly impacted, although this area may be subject to secondary impacts such as dust films and weed invasion.

NPWS subsequently identified outstanding concerns, particularly in a letter to the Department (29 November 2002) as summarised below:

- Inadequate information is available on the methods employed to identify Koala, Tiger Quoll and Yellow-bellied Sheathtail bat and other species identified as potentially present;
- Unclear whether targeted surveys were conducted to determine the presence of these threatened species within suitable habitat on site;
- For species with potential to occur off-site which may be impacted indirectly, including the Booroolong Frog, there is insufficient information i.e. known and potential habitat has not been mapped;
- NPWS considers that translocation does not correspond to mitigation/amelioration and does not reduce the significance of impacts for these species at the site. Strategies are required to avoid and minimise impacts on areas of high conservation value through project planning and construction and including retaining a certain number of hollow-bearing habitat trees;
- Generally, 8-part tests should be revised to:
  - justify assumptions made on the capability of surrounding bushland to provide similar habitat to that proposed to be cleared i.e. do the threatened species being impacted occur at these localities and is the bushland secure. This will need to be confirmed by survey of surrounding areas e.g. for species likely to utilise



- hollow-bearing trees, an assessment of the number of hollow-bearing / potential habitat trees in the surrounding area, their condition and value as potential habitat is needed;
- Include consideration of indirect impacts on and off-site from water quality impacts (Booroolong Frog), dust, noise, machinery and vehicular movement impacts etc.;
- Conditions need to be imposed in any development consent that may be given to:
  - Avoid direct impacts;
  - Where direct impacts are unavoidable provision is required for a viable and secure compensatory habitat, with a management plan and funding for long term conservation

After taking into account all of the information provided by the Applicant, the Department considered that concerns have been adequately addressed in relation to the Bathurst Copper Butterfly and that a Species Impact Statement (SIS) is not required.

The Department is generally satisfied that the other issues raised have been, or can be adequately addressed, either through the additional information provided by the Applicant or in the proposed Conditions of Consent, including the requirement to prepare a Flora and Fauna Management Plan which needs to incorporate a threatened species protocol.

In preparing the required Flora and Fauna Management Plan, the Applicant needs to ensure that the issues raised by NPWS are adequately addressed. The Applicant needs to provide adequate flora and fauna management for any threatened species found to utilise the site, according to the threatened species protocol referred to above, prepared to the satisfaction of the Director-General prior to the commencement of work at the development site.

### **3.6 APPLICATION OF THE MINING ACT**

The proposed development would involve the extraction of quartzite which is defined as a mineral in Schedule 1 of the Mining (General) Regulation under the *Mining Act* 1992, irrespective of end use. DMR has advised that in these circumstances an application for a Mining Lease would be required for this proposal.

### **3.7 COMMONWEALTH LEGISLATION**

The Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999 identifies certain matters of “national environmental significance”. Under this Act such matters may require a referral to Environment Australia.

The Proposal was referred to Environment Australia on 24 September 2002. The Development was confirmed as not being a controlled action on 20 November 2002.

### **3.8 CONCLUSION**

The Department is satisfied that the proposal is in accordance with the provisions of the relevant environmental planning legislation, including with the statutory obligations applying to the preparation of the EIS, and notification and public participation requirements have been met.

## **4.0 REVIEW OF SUBMISSIONS RECEIVED**

### **4.1 OVERVIEW**

One hundred and seventy submissions were received in response to the public exhibition of the DA and EIS. Of these, 115 submissions were pro-forma letters from local residents. The other submissions were from State government agencies (8), local councils (2), utilities (1), business (1), special interest groups (2), individual submissions from local residents (40), and community petitions (1). Of the submissions received, 160, including the pro-forma letters, raised objections to the proposal.

The eight State Government agencies who made submissions provided information and identified a number of issues and impacts that might arise from the proposal and how these needed to be addressed. This section refers to agencies by name as they existed at the time submissions were made on this project. These agencies are:

- Department of Land and Water Conservation (now DIPNR)
- Department of Mineral Resources
- National Parks and Wildlife Service (now DEC)
- NSW Agriculture
- NSW Fisheries
- NSW State Forests
- Roads and Traffic Authority
- Sydney Catchment Authority

The local council for the area, Lithgow City Council, and also Blue Mountains City Council made submissions that raised some issues of concern about the proposed development.

In addition to the submissions by the authorities identified above, the former Environment Protection Authority (now part of the Department of Environment and Conservation - DEC) indicated it was prepared to issue a license for the proposed development and provided its General Terms of Approval for this purpose. The General Terms of Approval have been incorporated in the draft Conditions of Consent.

Also the Department of Education and Training wrote to the Department on 9 April 2002 to express concerns about the impact of the proposed development, including concerns about health and safety risks to students and staff of the school, from rock blasting, air and noise pollution and the increase in vehicular traffic and generation of heavy vehicles.

The key issues that were raised in the submissions from the authorities listed above, and in the other submissions are considered below. Appendix B provides a summary of the submissions received.

Lithgow City Council provided comments on draft conditions of consent, raising several issues of concern. The draft conditions were revised in response to these concerns.

The Department is generally satisfied that the issues raised, including those raised by Lithgow City Council, have been noted and adequately addressed, either through additional information provided by the Applicant or in the proposed Conditions of Consent. However Council remains opposed to the proposed development and has advised it reserves the right to appeal to the Land and Environment Court.

## **4.2 GOVERNMENT AGENCIES**

### **4.2.1 Department of Land and Water Conservation (DLWC)**

DLWC (now part of the Department of Infrastructure, Planning and Natural Resources - DIPNR) was concerned that survey results applying to the proposed perimeter water management contour banks were not to scale or sufficiently detailed to determine their feasibility. These structures appear to be critical to the on- and off-site clean and dirty water systems.

The Applicant provided further information regarding the manner in which clean and dirty water streams would be organised. However, in assessing this information the Department is concerned that it is unclear whether the issues raised were fully addressed. The Department considers that the Applicant needs to address these issues in a Soil and Water Management Plan, to be required as a condition of consent, and to implement the DLWC requirement for monitoring water quality prior to any release of water off site.

### **4.2.2 Department of Mineral Resources (DMR)**

The DMR identified the need for a Mining Licence for the production of quartzite as quartzite was classified as a mineral under the mining legislation. The Applicant would be required to obtain a mining licence prior to commencement of activities, after development consent had been obtained.

### **4.2.3 National Parks and Wildlife Service (NPWS)**

NPWS (now part of the Department of Environment and Conservation – DEC) raised a number of issues, including concerns about the adequacy of surveys undertaken and the effectiveness of proposed mitigation measures to protect flora and fauna, including the Bathurst Copper Butterfly, and to minimise other impacts, including on hydrology and water quality; visitor safety and amenity; and visual quality of views from the Mount Walker Nature Reserve.

The Applicant has provided additional information, including further survey work undertaken for the Bathurst Copper Butterfly. The issues relevant to threatened species have also been considered under Section 3.5 above.

The Department is generally satisfied that the issues raised by NPWS have been, or can be adequately addressed, either through the additional information provided by the Applicant or in the proposed Conditions of Consent, including the requirement for a Flora and Fauna Management Plan which will need to include a protocol for dealing with any threatened species that may be identified.

### **4.2.4 NSW Agriculture**

A submission from NSW Agriculture did not raise any issues or objections to the proposal. In the submission it was noted that the EIS correctly identified that the adjacent land use did not involve the use of productive agricultural land and that the proposal would not impact on any agricultural enterprises in the area. Consequently NSW Agriculture was prepared to rely on other agencies for placing appropriate requirements on the development.

#### **4.2.5 NSW Fisheries**

NSW Fisheries identified a number of requirements to avoid sedimentation of waterways and other impacts that could affect their areas of responsibility.

This information was provided to the Applicant for inclusion in matters to be addressed and where appropriate further information was provided. The Department is generally satisfied that the issues raised have been adequately addressed either through the additional information provided by the Applicant or the proposed Conditions of Consent.

#### **4.2.6 NSW State Forests**

NSW State Forests referred to the need for a reconsideration of site occupation requirements, given the proposed size of the project, with a view to finding alternative locations for the facilities proposed to be established within State Forest. Other key issues to be addressed included the need for further information about the Bathurst Copper Butterfly, Native Title implications, the survey effort and potential habitat, safety and bushfire control.

The Applicant responded to the main issues and provided further survey work for the Bathurst Copper Butterfly (Wildthing, September 2002). The Applicant considered that relocation of facilities, as proposed by State Forests, was not feasible, having regard to the impacts that would then occur.

The Department is generally satisfied that the issues raised have been adequately addressed either through the additional information provided by the Applicant or the proposed Conditions of Consent.

#### **4.2.7 Roads and Traffic Authority (RTA)**

The Applicant now proposes to reduce the charge size and use appropriate blasting techniques to avoid the need to close the Great Western Highway during blasts, as proposed in the EIS, but was not acceptable to the RTA. A warning system would be provided to warn approaching motorists of trucks used to transport product and action taken to ensure truck movements out of the site would not occur during periods of low visibility.

The proposed access to the Great Western Highway will need to meet the design requirements and other requirements of the RTA. On this basis the RTA has given its General Terms of Approval for the proposed development.

The Department is generally satisfied that the issues raised have been, or can be adequately addressed, either through the additional information provided by the Applicant, the road design requirements of the RTA, or the proposed Conditions of Consent.

#### **4.2.8 Sydney Catchment Authority (SCA)**

The development site is located within the Sydney Catchment area. The concerns of SCA related to the level of detail provided on water management and about compliance of the Applicant with any conditions applied. SCA advised that the Applicant needs to demonstrate that the matters for consideration under Clause 10 of State Environmental Planning Policy No. 58 – Protecting Sydney's Water, including water quality if discharge from the site is required during storm events, have been satisfactorily addressed.

The Department is generally satisfied that the issues raised have been adequately addressed, either through additional information provided by the Applicant or in the proposed Conditions of Consent.

#### **4.3 LOCAL COUNCILS**

##### **4.3.1 Lithgow City Council**

Lithgow City Council, in whose local government area the proposed development would be located, initially raised issues concerning the proposed highway closures during blasting, setbacks from the adjacent electricity pylon and powerlines, the justification of the proposal, impacts on other utilities, fauna, the adjacent Nature Reserve and air quality. These issues were forwarded to the Applicant for a response.

Council was formally opposed to the project and advised that should consent be granted, Council would appreciate the opportunity to participate in the formulation of “without prejudice” conditions of consent.

In respect of Council’s request for re-exhibition of the project because of the changes to the proposed blasting regime it is considered that this action would not substantially assist in the assessment of the project. The proposed main change actually involves modifying blasting techniques to lessen the impact and avoid closing the Great Western Highway when blasting is to take place. Consequently no local residents or authorities should be disadvantaged by this change.

Council raised some concerns about whether there was sufficient market demand to justify the need for the project. It is appreciated that the project would operate in a competitive environment and the overall success of the project will depend on the ability of the Applicant to achieve an appropriate level of market share to ensure the economic feasibility of the project.

The Department provided Council with draft conditions of consent for comment. Issues raised by Council in response included ensuring that: there was appropriate environmental auditing to ensure consent conditions were met; the proposed Community Consultative Committee functioned properly; an adequate procedure was in place for inspecting dwellings that could potentially be affected by blasting; and there were suitable provisions for landscaping, screening of the development and arrangements for a performance bond. Subsequently a delegation from Council met with the Minister relative to its concerns.

The Department is generally satisfied that the issues raised have been adequately addressed, either through additional information provided by the Applicant, including as responses to issues raised by various authorities, or in the proposed Conditions of Consent, which have been prepared in consultation with Lithgow City Council. A number of changes were made to initial draft conditions in response to Council’s concerns. However, as noted in Section 4.1, Council remains opposed to the project.

##### **4.3.2 Blue Mountains City Council (BMCC)**

BMCC sent a late submission which raised concerns about the proposed increase in heavy vehicles on the Great Western Highway, and potential impacts on the Cox’s River, including those from the maintenance and fuel/chemical storage areas. Also, Council considered that the criteria for discharge and proposed monitoring methodology should have been covered specifically in the EIS.

The design of the heavy vehicle entry onto the Great Western Highway will need to meet RTA requirements. While the project would result in additional road traffic, the roads are understood to be capable of taking the additional traffic.

The use of rail transport as suggested by Council is not considered to be practical, given the diverse range of destinations for the product and the cost associated with using a combination of rail transport and road transport from a railhead. The Department is satisfied that the potential impacts, including those on the Cox's River, are manageable through compliance with the proposed Conditions of Consent.

#### **4.4 UTILITIES**

Agility Services Pty Limited identified the presence of a 168mm OD transmission pipeline within a 20 metre wide easement, within, or in close proximity to the area and requested action to maintain pipeline integrity.

Telstra and Transgrid provided a plan of known utilities in the area, together with requirements to avoid impacts from the proposed development.

The Department considers that the issues raised in this context would need to be addressed by the Applicant prior to the commencement of any works in the vicinity of the utilities and consequently has incorporated appropriate requirements in the proposed Conditions of Consent.

#### **4.5 BUSINESS**

One business, Metromix Pty Ltd, made a submission. Metromix is the operator of the Marrangaroo Quarry, located near to the proposed development. This business raised concerns relating to the quality of the resource, quarry layout, markets for the resource, fauna, truck safety and noise. The Department is generally satisfied that the issues raised have been adequately addressed, either through additional information provided by the Applicant or the proposed Conditions of Consent.

#### **4.6 SPECIAL INTEREST GROUPS**

Submissions were received from the Good Samaritan Centre and the Western Region Development Committee. These submissions raised concerns about safety and access, hours of operation and visual impacts. The Department is generally satisfied that the issues raised have been adequately addressed either through additional information provided by the Applicant or the proposed Conditions of Consent.

#### **4.7 LOCAL COMMUNITY**

Forty individual letters were received from private persons. The main issues raised concerned noise, safety, traffic, potential impact on properties and property values, air quality, water quality, fauna, visual and amenity impacts.

One hundred and fifteen copies of a proforma letter were received regarding the proposed development. The issues raised related to the impacts of heavy vehicle movement, noise, impacts on Cox's River, and on fauna and flora.

One community petition with 399 signatures identified issues relating to: proximity to community facilities, closure of the Highway during blasting, impacts on native vegetation, rivers and streams and traffic impacts.

A major concern relating to the proposed closure of the Great Western Highway during blasting is now not relevant because the Applicant has revised the project to avoid the need for this closure.

The Department is generally satisfied that the issues raised have been adequately addressed either through additional information provided by the Applicant, or in the proposed Conditions of Consent.

#### **4.8 ELECTED REPRESENTATIVES**

The Member of Parliament for the area is Mr Gerard Martin MP, Member for Bathurst.

Mr Martin referred representations from his constituents about the proposed development to the Minister for a response but did not provide any personal views on the proposed development. The matters raised in the correspondence have been considered as part of this assessment.

#### **4.9 COMMISSION OF INQUIRY**

There were no specific requests for a Commission of Inquiry (COI) in any of the submissions received.

It is considered that the key issues have already been, or will be addressed to the satisfaction of the Department and other government agencies. A number of stringent consent conditions have been recommended to ensure the predicted impacts of the project can be adequately monitored, managed and mitigated. The Department is satisfied that the issues have been addressed adequately and that a COI is not warranted.

## **CONSIDERATION OF ENVIRONMENTAL ISSUES**

### **5.1 KEY ISSUES**

The Department has identified the key issues for the Proposal as being:

- Resource definition and project feasibility;
- Soil and water management;
- Noise and vibration;
- Flora and fauna;
- Visual and amenity; and
- Traffic and transport.

### **5.2 RESOURCE DEFINITION**

#### **5.2.1 Applicant's position**

The EIS describes the reserves as approximately 3.5Mt of product material, together with overburden.

In March 2002 Pacrim provided additional advice, based on work by Red Hill Geoscience, indicating an inferred quartzite resource of 3.26Mt, with an average silica concentration of 94.6%. The minimum inferred resource of quartzite was 1.29Mt.

For refractory purposes, the quartzite would need to be of approximately 97% purity. Therefore, as the quartzite to be produced does not meet this level of purity, the resource would be sold as roadbase material and possibly other uses, including for concrete, pavement material, bedding for pipes and railway line ballast.

#### **5.2.2 Community/Agency Position**

Private submissions on the exhibited project proposal raised concerns relating to the definition of size and quality of the resource and potential problems in marketing the product at an economic price.

#### **5.2.3 Department's Position**

Technical advice obtained by the Applicant indicates that the inferred quartzite resource is 3.26 to 3.5Mt, but could be as low as 1.29Mt.

This information indicates that the available resource is sufficient to sustain extraction of the minimum 200,000 tonnes per annum required for the project to be State significant development. The ability of the Applicant to achieve this level of production will depend on the quality of the material produced and success in obtaining markets for the material.

The Department will monitor the progress of the development, including the annual production rates actually achieved.



## **5.3 SOIL AND WATER MANAGEMENT**

### **5.3.1 Applicant's position**

#### *Overburden and resource storage, bunding requirements*

The EIS indicates that topsoil cannot be stripped by conventional means because of its general thinness and it would be removed by a combination of dozer and water spray prior to drilling each new area (EIS, p24). Runoff from this operation would be collected in a catch drain with sediment being removed in a series of silt traps.

Fine rejects and overburden material would be used as backfill. The EIS anticipates that 40,000 m<sup>3</sup> of overburden would be extracted in Stage 1 (EIS, p8) and a further 100,000m<sup>3</sup> of overburden would be extracted in Stage 2. Material would be replaced in the quarry as part of the rehabilitation process.

#### *Water Use*

The EIS estimates approximately 50,000L/d of water would be required for dust suppression activities (EIS, p18) during average climatic conditions. During dry years, it is anticipated that the on-site water supply would not be able to meet the demand for approximately 30% of this time. A biodegradable wetting agent is proposed and water would be trucked to the site.

Irrigation using excess water is proposed. Data presented in the EIS for 1990 from the Lithgow meteorological station (EIS, Appendix 3) show 5 events of daily falls in excess of 50mm, with higher rainfall events tending to occur over several days, generally commencing with falls in the range of 20-30mm before peaking. The EIS (p19) indicates that the opportunity for on-site irrigation and the demand for dust suppression would be reduced during rainy periods and discharge from the site may be required.

Potable water would be supplied by truck through the period of the quarry operation. Water for dust suppression would be trucked onto the site when water is not available from the Dam.

#### *Control of Runoff and Storage*

Runoff is assumed to be 30% of annual rainfall, based on typical local runoff rates of 10-30% of annual rainfall (EIS, p19). The runoff would be diverted around the site by diversion channels directly into the Cox's River (EIS, p35). During Stage 1 it would be diverted to the north and south of the quarry. (EIS, p20). During Stages 2 and 3 it would be diverted to the south.

Runoff from disturbed areas would be stored in the on-site water management dam up to a maximum of 7.7 megalitres (ML), including a maintained freeboard of 4.4ML (EIS, p36). Potentially contaminated runoff from the initial disturbance area of 6.75 ha would drain into the Dam. Coarse sediment traps would be used to settle sand and gravel size particles, prior to discharge into the water management dam (EIS, p19).

For Stages 2 and 3, the total area of disturbance for the actual quarry is 9.7ha (EIS, p20), with a maximum of 11 ha to include the associated infrastructure and facilities (EIS, p19).

The EIS states that water from the Dam would be used for all landscaping, vehicle washing and dust suppression and excess would be used to irrigate areas of woodlot vegetation around the site (EIS, p36). If the water quality in the catch dam were unacceptable, the water would be pumped to the Dam for further settlement. Additional

run off during Stages 2 and 3 would be directed to irrigation (EIS, Figure 4.1), irrigating approximately 20ha of woodland.

*Water treatment before release, including treatment of site effluent*

A water quality monitoring program is proposed as part of a Soil and Water Management Plan (SWMP), with regular monitoring at site(s) to be selected within the surrounding catchment and on the Cox's River upstream and downstream of the proposed development (EIS, p21).

### **5.3.2 Mitigation Measures proposed by the Applicant**

The EIS proposed the separation of clean runoff from undisturbed areas and the run off from the quarry development. Sediment from the latter would settle out in the Dam. Water from the Dam would be used for landscaping, vehicle washing and dust suppression activities. Sewage would be treated through an aerated wastewater treatment system and irrigated over a plantation area.

Discharge of water from the site may be required, such as from a large, long duration storm event. Discharge would only occur when all opportunities for water reuse are exhausted and the water management dam is nearing capacity.

The Applicant identified a number of mitigation measures to minimise surface water impacts (EIS, p36, and Supplementary Report to EIS, pp14-20). These measures include:

- The quality of treated water would be monitored prior to discharge off-site, to confirm it is within the agreed discharge limits;
- A detailed monitoring program would be included in the Water Management Plan for the site, which would be provided to the EPA and DLWC (now DEC and DIPNR respectively) for approval prior to commencement of construction;
- The monitoring program would include analysis for pH, EC, TSS and periodically, hydrocarbons;
- Temporary controls would include silt fences, hay bales and sediment traps; and
- The management of wet-weather flows and wastewater management would be included in the Soil and Water Management Plan.

### **5.3.3 Community/Agency Position**

The private submissions received by the Department and also provided by Lithgow City Council identified the issues of water use, control of runoff and storage, and water treatment before release. In summary, these concerns included:

- The proposed perimeter water management contour banks were not to scale or sufficiently detailed to determine their feasibility;
- Establishing appropriate criteria for discharge, proposed monitoring methodology and parameters to be monitored;
- Capacity of water management system; and
- Run-off issues are poorly addressed.

DLWC (now DIPNR) raised concern about the plans provided in the EIS, including the very steep land in the vicinity of the quarry. These proposed banks may make the drainage system difficult or impossible to construct and/or maintain adequately.

NPWS (now DEC) identified the need to ensure that potential impacts on hydrology and water quality in the Cox's River were adequately addressed.

NSW Fisheries identified limits to quarrying to protect the Cox's River and aquatic ecology values.

Sydney Catchment Authority identified issues relating to the workability of the overall water management strategy and maintaining water quality in the Cox's River (SEPP 58 considerations).

Lithgow City Council noted that removal of topsoil and overburden was prohibited by Council and raised concerns about the overall management of erosion, stormwater and drainage and the Department requested that the Applicant address these issues.

The Applicant provided responses to these issues in the Supplementary Report to the EIS (July 2002). The Applicant's responses and proposed mitigation measures are as indicated in Section 5.3.2 above.

#### **5.3.4 Department's Position**

The Department notes that the Applicant will manage the impacts through erosion control measures and operational procedures, covered by a water management plan and, through this plan, a water quality monitoring program.

In respect of the proposed dam at the development site, the Department has noted advice to the Applicant from the Dams Safety Committee which determined that the dam would not be prescribed, based on the information provided, as the embankment is of low height, the storage capacity is small and the Consequence Capacity is Very Low.

Monitoring of stormwater for a range of pollutants will be required as part of the development. Waste water will be collected, stored treated, used and disposed of through the requirements set out in the proposed development consent conditions relating to the water management plan. The Department considers that the mitigation measures proposed by the Applicant, together with the conditions of consent, will adequately protect the quality of water that could be impacted upon by the proposed development.

The Department is satisfied that, subject to the provision of adequate monitoring and erosion controls and working procedures, water quality issues can be effectively managed. For this purpose, the proposed conditions of consent require the Applicant to provide a detailed water management plan, prepared in consultation with the Sydney Catchment Authority, and to the satisfaction of the Director-General and DEC, to ensure that any potential impacts are identified and effectively controlled and minimised.

### **5.4 NOISE AND VIBRATION**

#### **5.4.1 Applicant's position**

During the preparation of the EIS the Applicant engaged Atkins Acoustics and Associates Pty Ltd to conduct a noise and blast impact assessment of the proposed quarry (EIS, Appendix 9). Key issues relating to operational and traffic noise and vibration and blasting are outlined in Sections 5.8 and 5.9 of the EIS respectively (EIS, pp41-48).

The Applicant conducted a noise assessment in accordance with the NSW EPA's *Industrial Noise Policy* (INP) (January 2000), the NSW EPA's *Environmental Criteria for Road Traffic Noise* (May, 1999) and the *Environmental Noise Control Manual* (1994).

#### Existing Noise Environment

Background noise monitoring was undertaken at three monitoring locations. These locations are generally to the north and north-east of the development site at distances between 400m and 1100m approximately. The background  $L_{A90}$  levels are summarised in the Table below (Table 5.8, EIS p42):

**Table 2: Background noise levels**

Location	Day dB(A)	Evening dB(A)	Night dB(A)
1.	39.9	40.7	34.4
2.	38.4	37.5	34.2
3.	39.2	39.8	33.7

The  $L_{Aeq, 15 \text{ min}}$  noise level from new operational sources should not exceed the existing  $L_{Aeq}$  by more than 5dB(A), as required by the Industrial Noise Policy.

The day time project noise was estimated as ranging from 43 to 44 dB(A)  $L_{Aeq}$  at various receptors, located to the north-west, north and north-east of the development site, including the Forest Ridge Drive and Barton Avenue areas.

The estimated external noise level at Wallerawang Primary School, of  $L_{Aeq}$  45dB(A), was considered acceptable as this equated to the internal level recommended by the EPA of 35dB(A) for classrooms.

Also in the EIS it was noted that the NSW EPA Traffic Noise objectives apply to developments with the potential to create additional traffic on existing freeways and arterial roads. The assessment goals for daytime  $L_{Aeq, 15hr}$  and  $L_{Aeq, 9hr}$  are 60dB(A) and 55dB(A) respectively. In addition, the existing noise level should not be increased by more than 2dB(A).

The EIS also indicated that a daytime traffic noise assessment goal of 55dB(A)  $L_{Aeq, 1hr}$  was applied to potential receivers located near the proposed quarry access to the Great Western Highway. Night time operational noise goals were not considered in the EIS because it is intended that the quarry will only operate during day time hours.

However the access road to the quarry is not a public road and consequently noise from vehicle movements is covered by the Industrial Noise Policy rather than the EPA Environmental Criteria for Traffic Noise. Therefore the limits on noise levels on vehicles on the quarry access road will be the same as for the operational noise of the quarry.

#### Impact Assessment

##### Quarry Noise

Modelling for the worst case scenario of all plant, vehicles and equipment operating simultaneously indicated that the greatest noise impact would occur at the nearest residential receptors during Stages 1 and 2 of the proposed development.

Initial modelling showed that operational noise level criteria would be exceeded at some northern receptors during the Stage 1 quarrying operations. To deal with this problem a quarry design modification was incorporated, involving a 6 to 8m high wall.

It was concluded that, even with the proposed 6 to 8m high wall, exceedances of operational noise criteria may occur under adverse weather conditions.

Under temperature inversions (3°C/100 metres) exceedances of up to 8 dB(A) at existing residential receivers and up to 12 dB(A) at the nearest sub-divisions, respectively, may occur during the Stage 1 initial trench development.

On completion of Stage 1, these exceedances would be 6 dB(A) and 8 dB(A) at the existing residential receivers and sub-divisions respectively. (EIS, Appendix 9, p22)

Under windy conditions (greater than 3 metres/s) towards sensitive receivers, the exceedances may be slightly higher than those under temperature inversions.

The original proposal to load trucks towards the end of the day shift for distribution in the early morning hours was deemed impractical and loading and dispatch during night-time hours (10pm to 7am) is now considered necessary.

#### Transport noise

The predicted  $L_{Aeq, 1 \text{ hr}}$  traffic noise level at the nearest receiver to the site access road was estimated to be 28dB(A) for truck movements at the intersection.

This predicted level would meet the criteria under both the Industrial Noise Policy and for public roads.

#### Blasting

Initial blast design for the project was developed for blasts that would require the closure of the Great Western Highway. Subsequently, blast design was modified to avoid the need for Highway closures. These changes in blast design would further limit the likely impact at sensitive receptors.

Blasting is proposed once per two months and once per fortnight for an extraction rate of 125,000tpa and 500,000tpa respectively. Blasting was assessed against the EPA limits for overpressure of 115dB (Linear Peak) which may not be exceeded on more than 5% of the total number of blasts over a period of 12 months and not exceed 120dB (Linear Peak) at any time; and for ground vibration the peak particle velocity from the blasting operations may not exceed 5mm/s for more than 5% of the total number of blasts over a period of 12 months and not exceed 10mm/s at any time. The EIS indicated that the Applicant could comply with these limits through appropriate mitigation measures.

The impact of blasting on the nearest Transgrid pylon was considered manageable through charge design and minimum offset distances. For the pylon, a limit of 25mm/s maximum permissible peak particle velocity at the nearest pylon is not to be exceeded at any time.

The Applicant advised that Atkins Acoustics made an assessment of noise and blasting and estimated that the long term vibration goal of 2mm/s would be achieved at less than 500m from the development site, based on the maximum charge and the highest bench assessed.

### 5.4.2 Mitigation measures proposed by the Applicant

The Applicant proposes the following measures:

- Wind speed and weather conditions would be monitored at a permanent exposed location to allow operational modification to occur during the initial phases of quarry development;
- A noise management plan would be prepared and implemented to ensure that the operation of the quarry would not cause significant impact to residential receivers;
- Regular blast monitoring would be undertaken to determine safe working levels. In the event that excessive impacts from blasting occur, alternative explosive charges would be used or blasting operations would be suspended;
- Vibration monitoring would occur near the base of the transmission line pylon;
- A minimum set back of 50 metres from the pylon would be maintained throughout the life of the proposed quarry operation;
- Drill and blast design would take into account factors such as:
  - Use of non-electric Nonel initiation system instead of detonating cord trunk lines and down lines; adequate and proper stemming material;
  - Optimal stemming height;
  - Avoiding overloaded holes;
  - Design of appropriate drill patterns to minimise air-blast and vibration and produce intended bench heights;
  - Avoidance of shallow blast depths;
  - Sufficient time delay sequence between successive blasts;
  - Modification or suspension of operations as necessary if exceedances occur during adverse weather conditions.

### 5.4.3 Agency/Community Position

#### *Noise*

The EPA identified the noise associated with the early morning loading of trucks as a potential issue and indicated that the predicted noise levels for this operation would need to be justified by monitoring. This operation would only be permissible if there were no complaints.

The NPWS raised concerns about the impact of noise on the Mount Walker Nature Reserve.

Concerns about noise and vibration impacts were raised in a number of other submissions. Community submissions identified noise impacts from blasting and heavy vehicles, effects of wind direction and temperature inversions on noise, the location of the crusher, the impacts of noise from the rock breaker, hours of operation, the early morning loading of trucks and shift worker sleep disturbance.

#### *Vibration*

The RTA referred to the impact of blasting on the Great Western Highway and the need to maintain through traffic on this road. Lithgow City Council identified the potential impacts on the high-pressure pipeline and other utilities as being of concern.

Community issues related to vibration impacts from blasting, blast overpressure impacts on horses and fishing, the safety limit at the Delta Electricity power pylon, impact on the

fibre optic cable and the gas line, damage to buildings, impacts on the walls of Lake Wallace Dam and concerns about general amenity.

The Department requested that the Applicant address these issues. Responses to these issues were provided in Supplementary Report to the EIS (July 2002).

#### **5.4.4 Department's position**

Responses to submissions were provided in the Supplementary Report to the EIS prepared by Pacrim (July, 2002). The Department is generally satisfied with the noise and vibration assessment presented in the EIS, together with the additional information subsequently provided.

##### *Noise*

Stage 1 development, including a perpendicular trench and access using drilling and blasting techniques, is expected to take 12 to 14 months depending on the extraction rate. Where works are exposed prior to formation of a quarry wall, project specific noise limits (EIS p42, Section 5.8.3) would be exceeded at locations described above for the worst case scenario of plant and equipment operations and adverse weather conditions.

It is considered that with appropriate safeguards and work practices the Applicant should be able to manage noise levels within the limits set for this proposed development. This would include meeting the noise emission criterion  $L_{Aeq, 15 \text{ mins}}$  of 50dB(A) for passive recreation at the nearest boundary to the Mount Walker Nature Reserve. However, the Department believes that the Applicant should be required to prepare a Reactive Noise Management Plan for the development, outlining what measures would be implemented to ensure that the development does not exceed the noise limits for the development, even under adverse weather conditions.

In ensuring that the Applicant can assess the success of measures to limit noise below specific noise limits, the Department requires that the Applicant prepare and implement a Noise Monitoring Program, in consultation with DEC, to monitor for compliance and to minimise noise at all times.

##### *Blasting*

The Applicant has withdrawn the proposal to close the Great Western Highway during blasting. Proposed blasting methods, including changes to charge sizes and placement of charges, have been revised to limit the area affected by flyrock and the extent of vibration.

The EIS states that quarry would comply with the ANZECC guidelines for air blast on the majority of occasions. In the responses to submissions the Applicant undertook that, during the initial stages of development, blasting would be monitored to ensure compliance with the EPA's criteria for overpressure and ground vibration. A 50 metre set back from the Delta Electricity pylon would be the minimum set back distance and monitoring would be undertaken at the base of the pylon. Further monitoring would be required to ensure that the potential impact to property is minimised at all times.

The Applicant will be required to prepare a blast monitoring program and a management protocol covering both noise and blasting, to the satisfaction of the DEC.

## Conclusion

The Department is satisfied that, having regard to the EIS, additional information provided by the Applicant and the proposed Conditions of Consent which incorporate General Terms of Approval provided by DEC, the impacts of noise and vibration could be controlled and managed appropriately.

## 5.5 FLORA AND FAUNA

### 5.5.1 Applicant's position

Appendix 4 of the EIS provides a report entitled "Statement of Effect on Threatened Flora and Fauna" for the development site, prepared by Wildthing Environmental Consultants. It is stated that the site was found to contain a single vegetation assemblage, Sub-Alpine Eucalypt Woodland, which occurs on a ridgetop and associated slopes that reach 978m in altitude. Similar native vegetation is immediately continuous in most directions from the site and it appears that this habitat type is well represented both locally and on a regional scale.

The consultants conclude that it is considered unlikely that the development as proposed would significantly impact upon any threatened species, population or ecological community such that local extinction would occur. The most diverse native species were birds, and it is considered that abundant suitable habitat occurs in the vicinity to accommodate any displaced individuals. Native vegetation occurring on site is also well represented in the immediate vicinity of the site.

A list of the flora and fauna that were identified on site is provided in Appendix 4 of the EIS. The EIS identified no species of flora named on Schedules of the *Threatened Species Conservation (TSC) Act 1995*. A search of data bases identified potential habitat for 15 species of threatened fauna within the general vicinity of the quarry. During preliminary surveys only one species, the Yellow-bellied Sheathtail Bat was confirmed. Local community members advised during consultation that the Platypus occurred in the Cox's River and the Spot-tailed Quoll occurred on site.

A number of issues were raised by PlanningNSW (now DIPNR), State Forests of NSW and NSW National Parks and Wildlife Service (now DEC) on the exhibited development proposal, relative to flora and fauna. Wildthing conducted a further field visit on 27 and 28 March, 2002 and responded to the matters raised by these agencies in a report dated April 2002. A further report prepared by Wildthing, dated September 2002, considered the likely effects of the proposal on the endangered species *Paralucia spinifera* (Bathurst Copper Butterfly).

### Impact Assessment

The initial assessment of the EIS concluded that the while many suitable roosting trees and hunting areas were available at the proposed site, it was considered unlikely that disturbance would result in adverse impacts for the local population of the Yellow-bellied Sheathtail Bat.

An 8 Part test (5A Assessment) was undertaken for the Yellow-bellied Sheathtail Bat. The assessment proposed mitigation for this species through recovery of any individuals during the clearing of trees containing hollows.

Also, initial studies for SEPP 44 "Koala Habitat Protection" found that the site was considered to be "Potential Koala Habitat". Field investigations found no evidence of the



use of this site by Koalas and concluded that the site did not constitute “Core Koala Habitat”.

Also the Applicant’s consultants, Wildthing, concluded that it should be possible for the Bathurst Copper Butterfly and the quarry to co-exist if the management plan recommended in their report were implemented.

#### **5.5.2 Mitigation measures proposed by the Applicant**

The Applicant stated in the EIS that good management during the extractive operation and site rehabilitation will minimise the impact of the development and result in the site returning to a floristic and fauna diversity commensurate with the surrounding area.

This will include protecting butterfly habitat by minimising damage to *Bursaria* (Blackthorn) the habitat plant of the Bathurst Copper Butterfly, planting *Bursaria* within the landscaping for the development site, and preparing and implementing a comprehensive management plan to protect the butterfly and its habitat.

#### **5.5.3 Agency/Community Position**

In response to the exhibition of the EIS, State Forests of NSW requested information concerning the Booroolong Frog, the Rufous Bettong, Masked Owl, White-eared Monarch, Bush Curlew, Red Goshawk and *Eucalyptus pulverulenta*, and the conservation status of the woodland community towards achieving catchment management, native vegetation and other regional conservation goals.

NPWS noted that the Yellow-bellied Sheath-tail Bat was identified on site and that habitat trees were also present. The Applicant’s proposal to relocate any Yellow-bellied Sheath-tail Bats found on the area of the site to be disturbed is not a preferred option of NPWS.

The Department requested further information relating to the survey effort, weather conditions at the time of the survey, the area of impact for listed species, impact on the Grey-headed Flying Fox and a 5A Assessment for each species potentially present. Further information responding to the issues raised was provided to the Department in the Applicant’s Supplementary Report to the EIS, dated July 2002.

#### **5.5.4 Department’s Position**

The Department notes that a number of concerns have been raised about the likely impact of the proposed development on flora and fauna. The Department is satisfied that the issues raised have been, or will be adequately addressed, either through additional information and undertakings provided by the Applicant relative to implementation of the proposed development and/or the recommended draft Conditions of Consent.

### **5.6 VISUAL AND AMENITY ISSUES**

#### **5.6.1 Applicant’s position**

The EIS noted that the quarry site is located on a treed hill and visual changes will result from vegetation clearing during pre-quarrying development, modifications to topographic features during Stages 1 and 2 of the quarrying operations as the hill surface is lowered, and exposure of rock surfaces during the quarrying operations.

The EIS notes that quarry operations would not be visible from most public viewing areas but would be likely to be seen from the elevated western approaches of the Great Western Highway. The operations would also be visible from points on the north-western side of the Highway, including along Forest Ridge Drive, which are approximately the same topographic height as the top of the quarry.

As quarrying progresses visual effects would result, including from lighting, vegetation clearing, stockpiles, buildings, roads and fences and the quarry operation where it is orientated relative to sight lines. Lighting of the site would occur to a limited extent during winter for maintenance activities, security purposes, and the loading of trucks during night-time hours, as required to meet market demands.

Existing trees of 10-15m in height will largely screen all quarrying operations from viewpoints to the north and east of the development site.

### **5.6.2 Mitigation measures proposed by the Applicant**

Measures proposed by the Applicant in the EIS and Supplementary Report to the EIS, July 2002, that would contribute to minimising visual impact include:

- Retention of peripheral vegetation;
- Rehabilitation involving revegetating the quarry benches. Species, including canopy, understorey and groundcover species occurring on or near to the quarry site, would be selected for use in the revegetation program;
- Rehabilitation commencing after Stage 1 (first bench) extraction when disturbance of the natural slope east of the quarry would cease; and
- Revegetation of disturbed areas around access and haul roads and the processing facilities and amenities areas on completion of construction in those areas;
- Lighting to be low glare and to be oriented away from public viewing locations.

### **5.6.3 Agency/Community Position**

NPWS identified the visual impacts from the Mount Walker Nature Reserve and the impact on visual quality from that area. Community concerns related to the changes to the ridgeline, with the proposed new slope identified as difficult to disguise since it would be near the main entrance to the Highway from Wallerawang.

### **5.6.4 Department's Position**

The available information indicates that the quarry would be visible from several residences situated along Forest Ridge Drive and visibility would remain during the construction, operation and rehabilitation of the quarry until vegetation was re-established. The Department would require the Applicant to undertake progressive revegetation where practicable, for the duration of the quarrying operation, and to complete rehabilitation within 2 years of quarrying ceasing.

Visual impact may also result from some other viewing points, to the extent that quarrying would result in a visible lowering of the surface topography, although the actual quarrying probably could not be seen.

To avoid night lighting effects, the Department requires that lighting conform to Australian Standard AS4282(INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting through the Consent Conditions. Visual controls to screen visibility of quarry

related activities from residences, the potential Mount Walker Nature Reserve and roadways are also required through these Conditions.

The recommended conditions of consent would reduce both visual impact and noise by requiring the Applicant to install bunds at strategic locations around the development site. Also the Applicant will need to plant additional trees around the boundary of the development site to the satisfaction of the Director-General, in order to screen the development, as far as is practicable, from external viewers.

Also the Applicant would be required to investigate ways to minimise the visual impact of the development, if an owner of any dwelling located to the west or north-west of the development requests the Applicant in writing to investigate ways to reduce the visual impact at his/her dwelling and the Director-General considers such investigation is warranted.

The Department is satisfied that the Applicant can manage the visual impacts of the proposed development. For this purpose the requirements of the recommended conditions of consent will need to be met.

## **5.7 TRAFFIC AND TRANSPORT**

### **5.7.1 Applicant's position**

At present, there is no adequate road access to the quarry. The intended access involves the construction of a new sealed road, approximately 350m in length, from the proposed surface facilities area to an intersection with the Great Western Highway.

The new junction is to be located approximately 500m west of the Barton Avenue intersection with the Highway. The seagull entry to the Highway that was proposed in the EIS was revised following consultation by the Applicant with the RTA.

The access as currently proposed is shown in Figures 4 and 5 of the Supplementary Report to the EIS, dated July 2002. It would involve the construction of a new intersection at the junction with the Great Western Highway, and would include lanes to enable traffic travelling in either direction along the Highway to turn into, or exit the quarry, based on RTA design requirements.

The EIS (p56) indicated the predicted impact of quarry vehicles on traffic flow on the Great Western Highway and the Mudgee Road. The EIS gives the estimated percentage change in road usage (compared to the present daily average volume of articulated vehicles) for a maximum extraction rate of 500,000tpa as 28% (from 570 to 730 truck movements per day) on the Great Western Highway and a 73% change (from 220 to 380 truck movements per day) for traffic on the Mudgee Road for the same extraction rate. The Applicant has advised that these maximum production volumes are dependent on the Wallerawang Industrial Park being developed and contracts won to supply this development.

However the figures for existing traffic provided above are only for articulated trucks. If rigid trucks not associated with the development are added to the average number of vehicles per day, the total trips are increased by 430 and 160 for the Great Western Highway and Mudgee Road respectively. On this basis the percentage increase that would be generated by the proposed development would be decreased accordingly.

The EIS proposed that closure of the Great Western Highway would occur during blasting at the quarry. However the Applicant subsequently advised that this would not be necessary. The revised procedures should have the advantages of decreased blasting impacts and avoid the need to road closures.

#### **5.7.2 Mitigation measures proposed by the Applicant**

The EIS proposed that no trucks would be permitted to leave the development site during poor visibility conditions. RTA-approved signage would be prominently displayed in both directions along the Highway warning motorists of truck movements and a new access junction to meet RTA requirements would be constructed.

#### **5.7.3 Agency/Community Position**

The RTA advised that the proposal for access to the Great Western Highway in the EIS would create a hazardous and dangerous merge and requested that an alternative entry and exit proposal be provided. An appropriate warning system would be required to advise approaching motorists of heavy vehicle manoeuvres and there should be no haulage in adverse weather conditions.

Lithgow City Council identified road safety issues during foggy periods and raised concerns about the location of the road access, the impact of increased traffic, the Mudgee Road (Castlereagh Highway) traffic increases, heavy vehicle movements during night time hours and impacts from additional traffic movements on the Great Western Highway.

The Department of Education and Training wrote to the Department on 9 April 2002 to express concerns about the impact of the proposed development, including health and safety risks to students and staff of the school, from rock blasting, and air and noise pollution, in addition to concerns about the increase in vehicular traffic and generation of heavy vehicles.

#### **5.7.4 Department's Position**

An RTA approved design of the access point linking the road from the development site to the Great Western Highway is required and the proposed consent conditions incorporate this requirement. Also, safety measures applying to the access are required to the satisfaction of the RTA. These measures include the installation of a warning system to advise approaching motorists of heavy vehicle slowing, stopping and turning manoeuvres.

To ensure trucks do not leave the site during periods of poor visibility, the Applicant has undertaken to not to allow trucks to leave the site if an appropriately located sign could not be read because of fog or other adverse weather conditions.

Noise from traffic leaving the site was considered in Section 5.4 of this report. The noise levels predicted in the EIS indicate that the relevant requirements can be met, as set out in the proposed conditions of consent, which incorporate the DEC General Terms of Approval

The Department is generally satisfied that the issues raised in respect of traffic and transport have been adequately addressed either through additional information provided by the Applicant or the proposed conditions of consent, and subject to meeting RTA requirements.

## **6. SECTION 79 (C) CONSIDERATION**

Section 79C of the Act sets out the matters that a consent authority must take into consideration when it determines a development application.

The Department has assessed the development application for the proposed Wallerawang Quarry against these matters (see Appendix A), and is satisfied that:

1. The proposal is generally consistent with the provisions of the relevant planning instruments;
2. The potential impacts of the proposal could either be mitigated or managed; and
3. The proposal is generally in the public interest.

## **7. PROPOSED INSTRUMENT OF CONSENT**

The recommended conditions of consent at Attachment “A” have been prepared taking into consideration the General Terms of Approval provided by the Department of Environment and Conservation and the Roads and Traffic Authority and matters raised by Government agencies, Lithgow City Council (the local council for area where the development is proposed to be located) and all other persons and organisations who made submissions on the exhibited development proposal, including land owners, community groups and independent organisations.

The recommended conditions of consent include administrative conditions such as defining the scope of the approval, setting production limits, and establishing the duration of quarrying; specific environmental conditions for appropriate management of environmental matters, including soil and water management, noise and vibration, flora and fauna, visual and amenity and transport and traffic issues; and a range of requirements for environmental management, monitoring and reporting.

The Department has consulted with the Applicant and Lithgow City Council, on the content of the draft conditions of consent. The Applicant does not object to the draft conditions. However, Council is opposed to the development, notwithstanding that the Department has made a number of changes to the initial draft conditions to address Council's concerns.

## **8. CONCLUSION**

The Department is of the opinion that the proposed development is consistent with State and regional planning objectives relating to environmental management, sustainable development and resource utilisation. It is further considered that the potential environmental impacts of the proposal can be suitably managed such that they do not preclude the granting of development consent. The proposal would also provide socio-economic benefits in the local area and Sydney, including income from employment generation, fuel sales, equipment maintenance and other operating costs, and resource availability.

It is therefore concluded that the proposal should be approved, subject to the conditions of consent designed to control and mitigate potential environmental impacts.

Also, as the development would be within the area of a Mining Lease being sought by the Applicant the project would also be subject to the granting of the Mining Lease with conditions if development consent is given.

## **9. RECOMMENDATION**

It is RECOMMENDED that the Minister:

- (i) Consider the findings and recommendations of this report;
- (ii) Approve the DA (DA 344-11-2001) for the proposed Wallerawang Quarry as submitted by Sitegoal Pty Ltd, subject to conditions under Section 80 of the Act; and
- (iii) Sign the attached Instrument of Consent.

David Kitto  
**Manager**  
**Mining and Extractive Industries**

Sam Haddad  
**Deputy Director General**

## APPENDICES

### APPENDIX A – 79C CONSIDERATION

#### **MATTERS FOR CONSIDERATION - GENERAL**

In determining a development application, a consent authority is to take into consideration such of the following matters as set out in section 79C of the EP&A Act as are of relevance to the development the subject of the development application:

**(a) the provisions of:**

**(i) any environmental planning instrument**

The Department's consideration of the relevant environmental planning instruments is provided in Section 3.4 of this Report.

**(ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority**

No relevant draft environmental planning instrument has been identified.

**(iii) any development control plan**

No relevant Development Control Plan has been identified.

**(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), that apply to the land to which the development application relates**

No relevant regulations have been identified.

The Department is satisfied that the relevant provisions have been addressed and considered in the determination of the development application. The Department concludes that the proposal is consistent with the aims, objectives and provisions of all the applicable planning instruments, plans and policies.

**(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;**

The likely environmental impacts of the proposal are considered and assessed in Section 5 of this Report. The Department has considered the environmental, social and economic impacts of the proposal and concludes that the proposed development can be managed, subject to the imposition of the recommended conditions of consent. The recommended conditions of consent address performance criteria, environmental management plans, environmental monitoring and environmental auditing, which would apply to the development, if approved.

**(c) the suitability of the site for the development;**

The suitability of the site for the development is considered in Sections 3 and 5 of this Report. The proposal is generally consistent with land use objectives. The Department

is satisfied that potential impacts of the proposal can be effectively managed. The location of the quarry is limited by the location of quartzite outcrops. The Department concludes, on the basis of this assessment, that the site is suitable for the proposal.

**(d) any submissions made in accordance with this Act or the regulations;**

The issues raised in submissions have been considered in Section 4 and summarised in Appendix B of this Report. Submissions were received from government agencies, council and members of the public. The issues raised in the submissions have been addressed in this assessment of the proposal and/or appropriate conditions of consent have been incorporated to manage these concerns and potential impacts.

**(e) the public interest.**

The Department has considered the issues of concern raised in public submissions. Assessment of each of these issues has concluded that the proposed development can be carried out within appropriate environmental limits. It is considered that the proposal would not result in any significant changes to environmental amenity and quality in the locality and the region during its operation and appropriate site rehabilitation will be required. The local community would benefit from the economic flow on effects of the development.

The Department recognises the importance of utilising minerals and other extractive resources to meet market demands. Having regard to the objectives of the proposed project, the Department is satisfied that it is in the public interest.

The Department places on record that Lithgow City Council is opposed to the project and reserves the right to appeal to the Land and Environment Court.



## **APPENDIX B – SUMMARY OF SUBMISSIONS RECEIVED**

### **4.1 Government agencies**

Submissions, including late submissions, were received from:

- Department of Land and Water Conservation (DLWC), now DIPNR;
- Department of Mineral Resources (DMR);
- National Parks and Wildlife Service (NPWS), now DEC;
- NSW Agriculture;
- NSW Fisheries;
- Roads and Traffic Authority (RTA);
- State Forests (SFNSW);
- Sydney Catchment Authority (SCA);
- Lithgow City Council; and
- Blue Mountains City Council (late submission)

#### Department of Land and Water Conservation (DLWC) - DIPNR

DLWC was concerned that survey results applying to the proposed perimeter water management contour banks were not to scale or sufficiently detailed to determine their feasibility. These structures appear to be critical to the on- and off-site clean and dirty water systems.

The Applicant provided further information regarding the manner in which clean and dirty streams would be organised. However, in assessing this information the Department is concerned that it is unclear whether the issues raised were fully addressed. Consequently, the Department considers that the Applicant needs to address a number of matters through a water management plan and implement the DLWC requirement for monitoring water quality prior to any release off site.

#### Department of Mineral Resources( DMR)

The DMR identified the need for a Mining Licence for the production of quartzite, because quartzite was classified as a mineral under the mining legislation. The Applicant would be required to obtain a mining licence prior to commencement of activities, after development consent had been obtained.

#### National Parks and Wildlife Service (NPWS) - DEC

The following issues were raised by NPWS:

- NPWS does not support recovery of the Yellow-bellied Sheathtail Bat as this is not an effective mitigation strategy. However, if recovery were planned, the Applicant would need to apply for a licence under the *National Parks and Wildlife Act*;
- Concerns about the survey effort for the Purple (Bathurst?) Copper Butterfly. Any confirmed habitat should be avoided on the margins of the site through redesign of operational areas;
- Issues in relation to the Mt Walker Nature Reserve including hydrology and water quality; visitor safety and amenity; visual quality of views from the Nature Reserve.

NPWS subsequently identified outstanding concerns, particularly in a letter (29 November 2002) as summarised below:

- Inadequate information is available on the methods employed to identify Koala, Tiger Quoll and Yellow-bellied Sheath-tail Bat and other species identified as potentially present;
- Unclear whether targeted surveys were conducted to determine the presence of these threatened species within suitable habitat on site;
- For species with potential to occur off-site which may be impacted indirectly, including the Booroolong Frog, there is insufficient information i.e. known and potential habitat has not been mapped;
- NPWS considers that translocation does not correspond to mitigation/amelioration and does not reduce the significance of impacts for these species at the site. Strategies are required to avoid and minimise impacts on areas of high conservation value through project planning and construction and including retaining a certain number of hollow-bearing habitat trees;
- Generally, 8-part tests should be revised to:
  - Justify assumptions made on the capability of surrounding bushland to provide similar habitat to that proposed to be cleared i.e. do the threatened species being impacted occur at these localities and is the bushland secure. This will need to be confirmed by survey of surrounding areas e.g. for species likely to utilise hollow-bearing trees, an assessment of the number of hollow-bearing / potential habitat trees in the surrounding area, their condition and value as potential habitat is needed;
  - Include consideration of indirect impacts on and off-site from water quality impacts (Booroolong Frog), dust, noise, machinery and vehicular movement impacts etc.;
- Conditions need to be imposed in any development consent that may be given to:
  - Avoid direct impacts;
  - Where direct impacts are unavoidable provision is required for a viable and secure compensatory habitat, with a management plan and funding for long term conservation

Concerns about threatened species have been addressed in Section 3.5 of this report. The Department is generally satisfied that the issues raised by NPWS have been, or can be adequately addressed, either through the additional information provided by the Applicant or in the proposed conditions of consent. The proposed conditions of consent include a requirement to prepare a Flora and Fauna Management Plan.

In preparing the required Flora and Fauna Management Plan, the Applicant needs to ensure that the issues raised by NPWS are adequately addressed. For any threatened species found to utilise the site, the Applicant needs to provide adequate flora and fauna management for those species, according to a threatened species protocol, prepared to the satisfaction of the Director-General prior to the commencement of any work.

#### NSW Agriculture

A submission from NSW Agriculture did not raise any issues or objections to the proposal. NSW Agriculture noted that the adjacent land use did not involve the use of productive agricultural land and that the proposal would not impact on any agricultural enterprises in the area. Consequently NSW agriculture was prepared to rely on other agencies for placing appropriate requirements on the development.

#### NSW Fisheries

General requirements were provided by NSW Fisheries requesting that:

- No quarrying be undertaken within 50 m of a waterway;
- The riparian zone within 50m of any waterway is conserved;

- Best practice sedimentation and erosion control practices are provided;
- Environmental flows are not compromised;
- Water leaving the site does not decrease the water quality in the Cox's River;
- Weeds are controlled on the site;
- Rehabilitation is with endemic vegetation;
- The impact on non-aquatic threatened species is minimised; and
- Any waterway crossing follows NSW Fisheries Policy.

These issues were forwarded to the Applicant for inclusion in matters to be addressed and where appropriate the Applicant arranged for responses to be provided. The Department is generally satisfied that the issues raised have been, or can be adequately addressed, either through the additional information provided by the Applicant or the proposed conditions of consent.

#### NSW State Forests (SFNSW)

The following issues were raised by SFNSW:

- For a level of extraction of 500,000tpa, site occupation requirements would need to be reviewed and land would need to be transferred to freehold with due compensation or other arrangement;
- An alternative site for surface facilities outside SFNSW land without clearing vegetation should be considered;
- Native Title implications;
- Approvals would be required eg *Forestry Act* 1916 to damage/destroy native vegetation and timber;
- Requirements of the Mines Inspection Act 1901, Mines Inspection Rule 2000 and Mines Inspection Regulation 1999;
- The survey effort and potential habitat for the Bathurst Copper Butterfly and consideration of Booroolong Frog; Rufous Betong; Masked Owl; White-eared Monarch; Bush stone Curlew; Red Goshawk; *Eucalyptus pulverulenta*; and the woodland community for achieving regional goals, including catchment management;
- Consideration of recreational users and their safety as the forest receives a high level of such users; and
- Consideration of Bush Fire Management Committee Risk Plans and specific details of the minimum requirements for equipment and training.

These issues were provided to the Applicant for a response. In particular, further information about the Bathurst Copper Butterfly, Native Title implications, the survey effort and potential habitat, safety and bushfire control were raised as key issues to be addressed. The Applicant responded to the main issues, with further survey effort for the Bathurst Copper Butterfly. Wildthing (April 2002) indicated that there was no evidence of the White-eared Monarch and no habitat was present for this species. In general the site has scattered tree cover on the quartzite outcrop. No *Eucalyptus pulverulenta* were present on the site. Further consideration has been given to the Booroolong Frog, Rufous Bettong, Masked Owl, Bush stone Curlew and Red Goshawk and comments are provided in Section 3.5 of this report, relative to consideration of threatened species.

The Department is generally satisfied that the issues raised have been adequately addressed either through the additional information provided by the Applicant or the proposed Conditions of Consent.

### Roads and Traffic Authority (RTA)

The RTA:

- Opposed the closure of the Great Western Highway during blasting operations;
- Requested that an alternative method to road closure be sought;
- Required an alternative to the proposed seagull configuration for providing site access;
- Requested an assessment under Part 5 of the Act for the roadworks on and adjacent to the highway formation and full details of works;
- Required an appropriate warning system to be put in place to advise approaching motorists;
- Required that no haulage operations occur in snow, fog or low cloud; and
- Required that works carried out at no cost to the RTA.

In response to these issues, the Applicant withdrew the proposal to close the Great Western Highway during blasts and intends to reduce the blast charge size. A warning system would need to be provided, to warn approaching motorists, and movements out of the site not allowed to occur during periods of low visibility.

The Department is generally satisfied that the issues raised have been adequately addressed either through the additional information provided by the Applicant, including a revised design for the intersection of the development site access road with the Great Western Highway to meet RTA requirements, or in the proposed Conditions of Consent.

### Sydney Catchment Authority (SCA)

The SCA raised concerns about:

- The level of detail provided on water management and about compliance of the Applicant with any Conditions applied;
- Concerns about the conceptual layouts shown in figures and the workability of the overall water management strategy, including the gradient of the peripheral water system and the technical difficulties associated with achieving a stable flow into the Hoskins quarry dam, given site constraints;
- The need to demonstrate, satisfactorily, matters for consideration under Clause 10 of State Environmental Planning Policy No. 58 – Protecting Sydney's Water, including water quality if discharge from the site is required during storm events;
- Site constraints on construction and long term stability of the proposed catch drains, diversion channels and dam overflows pose considerable difficulties; the constraints have not been addressed;
- Insufficient information to assess whether the on-site effluent treatment and disposal system will be of appropriate size and in an appropriate location. Factors to consider should include soil profile to 1.5 metres; climate, terrain, aspect, maximum potential effluent generation and sizing of a sustainable effluent management area;
- Any effluent management area must be located at a distance greater than 100 metres from any watercourse; and
- SCA would be happy to reassess the DA once the above issues are addressed.

The Department is generally satisfied that the issues raised have now been adequately addressed, either through additional information provided by the Applicant, or in the proposed Conditions of Consent, including the requirement for a water management plan.

The key issues are discussed in Section 5 of this Report.

## Local Councils

### Council of the City of Lithgow

Council advised the Department that it formally resolved at a council meeting on 11 February 2002 to oppose to the project and indicated that the late changes to the blasting regime seemed to alter, significantly, the impacts particularly with regard to highway closures and setbacks from the power infrastructure and the EIS should be re-exhibited. Should consent be granted, Council would appreciate the opportunity to participate in the formulation of “without prejudice” conditions of consent.

Council noted it had received a significant number of submissions from the public. The majority of submissions came from Wallerawang residents, but there were also submissions from across the Council area and from the Blue Mountains. The submissions included: form letters – 104, petition signatures – 336, other letters – 36.

Council advised that the public submissions all strongly opposed the development for a variety of reasons, including (essentially in descending order):

- Noise pollution (blasting, crushing and transport)
- Visual pollution
- Concerns over blasting (flyrock safety, vibration, damage to property)
- Traffic and traffic safety (location of intersection, amount of extra truck traffic)
- Closure of the Great Western Highway
- Dust (both health concerns and visual pollution)
- Real Estate values, enjoyment of property and insurance concerns
- Proximity to Primary school and community facilities
- Effects on the Cocks River and Sydney catchment
- Effects on flora and fauna
- Effects on Threatened Species (Copper Butterfly)
- Effects on gas and electricity infrastructure

The issues raised in these submissions were generally also raised in submissions made directly to the Department in response to the exhibition of the project.

Also, Council officers examined the EIS that had been submitted and found what they considered were a number of shortcomings with the document. These were briefly summarised as follows:

- Market projections justifying the development are dependent on the establishment of the proposed Wallerawang Industrial Park. Council would be aware that this development is dependent on a number of proposals that to date are not finalised. There is no guarantee that material would be sourced from the proposed development.
- The EIS acknowledges that material would not be suitable for silicon production and therefore the project would be in direct competition with Marrangaroo Quarry (operating well below approved production levels) and the Hartley Quarry (non-operational to date) that would likely have the capacity to supply the needs of the Industrial Park. It may be argued this situation exists due to a lack of market demand.
- Estimates of supply short falls to the Sydney market need greater justification given the limited information provided.
- No consideration of potential impacts on the high-pressure gas pipeline nearby.
- No Species Impact Statement has been submitted for the Bathurst Copper Butterfly.

- No consideration of the impacts on the proposed Mt Walker Nature Reserve immediately adjacent to the site.
- Insufficient detail has been provided to ascertain the effectiveness of the water management system.
- Concerns regarding impact assessment on flora and fauna.
- Concerns regarding the impact assessment of air quality.

Informal discussions by Council with a number of agencies identified concerns about the project. These agencies were: Sydney Catchment Authority, Department of Land and Water Conservation, NSW Roads and Traffic Authority and the NSW National Parks and Wildlife Service. *(Note: In this assessment report the issues raised by the various authorities are considered separately for each authority).*

Council advised that concerns outlined in public submissions, those identified by Council's professional staff and those highlighted by state agencies through informal discussion must be weighed against the benefits provided by the proposed development. Given the small number of jobs created under the proposal, the uncertainty of markets and the potential disruption to the environment Council's professional staff advised Council to oppose the development application in its present form.

These issues were provided to the Applicant for response. The key issues of noise, air quality, soil and water issues were generally addressed in the Applicant's response. The Department is generally satisfied that the issues raised have been adequately addressed either through the additional information provided by the Applicant or the proposed Conditions of Consent. (See also Section 4.3.1 above). However Council remains opposed to the development.

#### Blue Mountains City Council (BMCC)

BMCC sent a late submission which raised concerns about the proposed increase in heavy vehicles on the Great Western Highway, and potential impacts on the Cox's River, including those from the maintenance and fuel/chemical storage areas. Also, Council considered that the criteria for discharge and proposed monitoring methodology should have been covered specifically in the EIS.

The Department requires the design of the heavy vehicle entry onto the Great Western Highway to meet RTA requirements through the Consent Conditions. Truck movements along the Highway would be spread out, mainly between early morning and general working hours. The Department is satisfied that the potential impacts on the Cox's River are manageable through compliance with the proposed Conditions of Consent.

## **4.2 Utilities**

Agility Services Pty Limited identified the presence of 168mm OD transmission pipeline within a 20 metre wide easement, within or in close proximity to the area. The following requirements were sought:

- A detailed study of the impacts on the pipeline integrity must be carried out;
- The following should be considered:
  - Operations over the pipeline and easement;
  - Blasting and vibration impacts;
  - Access by the utility owner for maintenance and surveillance; and
  - New roads and Great Western Highway alignment over the pipeline and easement.

Telstra and Transgrid provided a plan of known utilities in the area together with requirements relating to these.

The Department considers that the issues raised would need to be addressed prior to the commencement of any works in the vicinity of the utilities and consequently has made this a requirement in the proposed conditions of consent, including requirements for the protection of public infrastructure.

#### **4.3 Community Stakeholders**

##### Special Interest Groups

The Good Samaritan Centre and the Western Region Development Committee provided submissions. Issues raised were:

- Need for adequate site rehabilitation;
- Opposition to increases in truck numbers and Highway closure;
- On-site parking should be well away from the weighbridge (safety of visitors using the quarry car park);
- Seagull turns may lead to a major accident, and preference is for a roundabout at Forest Ridge Road (type of access to and from the Highway);
- An approach warning system and adequate sight distances should be provided;
- Operation should only be during daylight hours;
- No haulage operations should occur during fog, snow or low cloud; and
- Visual impact of quarrying.

The Applicant has indicated that rehabilitation would occur progressively, where possible, that a warning system would be provided and that haulage would be limited to periods in which adequate visibility existed. The Department further requires the Applicant to address these and the other issues through the proposed conditions of consent. The Department considers that provided these conditions are a requirement of the development, the impacts identified should be manageable.

##### Business

One business, Metromix, the operator of the Marrangaroo Quarry, provided a submission which raised the following issues:

- Changes to Sydney markets from existing quarries and changes to opportunities in the Wallerawang Industrial Park may make the proposal uneconomic;
- Imprecise quarry product definition. The silica market is quite small and would not be of sufficient scale to justify another local investment in the area;
- Contractor/Applicant responsibilities require clarification;
- Water management system capacity, including runoff and water quality testing;
- Commonwealth *EPBC Act*;
- Conceptual layout size and location;
- Rehabilitation requirements;
- Amount of fines and overburden removed and then used in rehabilitation;
- Figures 3.3 and 3.9 are contradictory. It should be clear whether extraction is entirely within quartzite seam or also from sandstone/siltstone areas. If sandstone or other materials would be removed, then the EIS should indicate how these materials are going to be utilised or disposed of;
- The quarry plan is rudimentary eg the bench levels are not identified. It is difficult to assess accurately the practicality and feasibility of the proposed quarrying process

without this type of detail. Also, extraction times, types of materials extracted at various stages;

- It is estimated it will take approximately 180 days to extract 500,000t based on 8,000BCM /blast. This appears inadequate if it includes removal of overburden;
- Frequent adverse weather conditions may not enable drilling to be limited to appropriate periods of weather conditions;
- Effect on traffic and businesses etc;
- Quantification of peak loading, including the number, size and frequency of truck movements on anticipated peak load days should be presented, as should truck movement times; and
- Clarification of operating hours and noise impacts.

These issues were raised with the Applicant, whose response included additional detail on resource definition, referral of the proposal to Environment Australia to determine whether it is a controlled action, further information about haulage and operating hours, and noise impacts.

Information received indicated that the proposed development is not a controlled action under the *EPBC Act* and the proposed mitigation measures provided further controls on the proposal. The Department is generally satisfied that the issues raised have been adequately addressed either through additional information provided by the Applicant or the proposed conditions of consent.

#### **4.3 Public Submissions to the Proposal**

Forty submissions were received from the general public. These submissions raised concerns about the following issues:

##### Individual Private Submissions

- Misleading information provided about the process;
- Over 30 houses within 2 km, not 19 as stated in EIS;
- Damage to historic St John's Church and to residences;
- Proximity of crushing stockpiles to Highway (150m);
- The increase in heavy vehicle movements and the associated potential increase in noise,
- Safety and hazards, pollution and other potential traffic impacts, for eg congestion, flyrock;
- Noise and vibration impacts from blasting, structural damage to homes;
- Impacts associated with the closure of the Great Western Highway, including access for emergency crews;
- Impact on air quality, flora and fauna, water quality and the Cox's River;
- Impact on amenity and lifestyle;
- Proximity to schools (within 400m) and community facilities;
- Poor justification for the proposal; and
- EIS is inconclusive.

One community pro-forma letter was received and this identified the following issues:

- Increased heavy vehicle movements would cause noise and traffic hazards, safe traffic management would be compromised;
- Closure of the Great Western Highway would be a hindrance to the community and emergency crews;
- Local environmental impacts such as on Cox's River, flora and fauna ;
- Impact on future urban development; and



- Concerned that environmental management control will be implemented during operation instead of being dealt with up front.

A community petition containing 115 signatures raised the following issues:

- Proximity to schools, residences and community facilities;
- Impacts associated with the closure of the Great Western Highway;
- Impacts on native vegetation, rivers and streams; and
- Traffic impacts from increased heavy vehicle movements.

These submissions included concerns about a number of the key issues that have been considered in Section 5 of this report. Concerns about the possible impact on property values were addressed in the Applicant's Supplementary Report to the EIS (response number 136) where it was stated that public awareness of the proposed quarry and other local developments had not resulted in any adverse effect on property values for rural residential development. To support this conclusion the report included reference to the increase in values adopted by the Valuer General.

The Department is generally satisfied that the issues raised have been, or can be adequately addressed either through additional information provided by the Applicant or in the proposed Conditions of Consent.

## **APPENDIX C - REFERENCES**

Pacrim Environmental, 2001: Sitegoal Pty Limited Environmental Impact Statement, Proposed Wallerawang Quarry, Report No. 01/206.1, November 2001.

Pacrim Environmental, 2001: Supplementary Report to Environmental Impact Statement, Proposed Wallerawang Quarry, Report No. 02/206.1, July 2002.

Red Hill Geoscience, 1999: Sitegoal Pty Ltd. Wallerawang Silica Project EL 4473 Wallerawang, Annual Report, July 1999.

Wildthing Environmental Consultants, 2002: Response to comments made regarding the Statement of Effect on Threatened Flora and Fauna Report, for the Proposed Wallerawang Quarry near Wallerawang NSW, April 2002.

Wildthing Environmental Consultants, 2002: *Paralucia spinifera* (Bathurst Copper Butterfly) Survey for the Proposed Wallerawang Quarry near Wallerawang NSW, September 2002.