



## **APPENDIX 2**

### Authority Correspondence



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

**Mining & Extractive Industries  
Major Development Assessment**  
Phone: (02) 9762 8162  
Fax: (02) 9762 8707  
Email: david.kitto@dipnr.nsw.gov.au  
Level 4 Henry Deane Building  
20 Lee Street  
GPO Box 3927  
SYDNEY NSW 2001

Our ref: S04/00622  
1 October 2004

Mr Michael Heath  
Project Manager Marulan  
Readymix Holdings Pty Ltd  
PO Box 5697  
WEST CHATSWOOD NSW 1515

Dear Mr Heath

**RE: PROPOSED HARD ROCK QUARRY, MARULAN**

I refer to your request for the Director-General's requirements for the preparation of an Environmental Impact Statement (EIS) for the proposed hard rock quarry at Marulan in the Greater Argyle local government area.

**Statutory Issues**

Attachment No. 1 outlines the statutory matters that must be included in any EIS under clauses 71 and 72 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation).

**Specific Issues**

Under clause 73 (1) of the Regulation, the Director-General requires the EIS to address the following specific issues:

- **Description of the Proposal:** The EIS must include a full description of the proposal, clearly identifying the resource, the proposed site, the proposed works (including any rehabilitation works), and the proposed intensity of operations.
- **Permissibility:** The EIS must clearly demonstrate the permissibility of the proposal.
- **Justification for the Proposal:** The EIS must include a detailed justification of the proposal.
- **Environmental Planning Instruments:** The EIS must assess the proposal against relevant environmental planning instruments, including the provisions of *State Environmental Planning Policy No.11 – Traffic Generating Developments*; *State Environmental Planning Policy No.33 – Hazardous and Offensive Developments*; *State Environmental Planning Policy No.44 – Koala Habitat Protection*; *State Environmental Planning Policy No.55 – Remediation of Land*; *State Environmental Planning Policy No.58 – Protecting Sydney's Water Supply*; draft *Drinking Water Catchments Regional Environmental Plan No.1 - Sustaining the Catchments*; *Mulwree Local Environmental Plan 1995*; and any relevant development control plans and section 94 plans.
- **Strategic Planning Documents:** The EIS must assess the proposal against the relevant sections of the *Sydney-Canberra Corridor Strategy*, the draft *Marulan Settlement Strategy* and any other relevant documents.
- **Key Issues:** The EIS must assess the following potential impacts of the proposal during construction and operation, and describe what measures would be implemented to manage, mitigate or off-set these potential impacts:
  - surface and ground water;
  - air quality;
  - noise (including off-site rail and road traffic noise);
  - blasting and vibration;
  - soil;
  - land use;
  - traffic and transport;
  - flora and fauna, particularly critical habitats; threatened species, populations or ecological communities, or their habitats;
  - heritage, both Aboriginal and non-Aboriginal;
  - visual;
  - hazards;

- waste management;
- utilities and services;
- social; and
- economic (including a benefit-cost analysis).
- **Rehabilitation and Final Land Use:** The EIS must:
  - justify the final land use in relation to the strategic land use objectives for the Marulan area;
  - describe in detail how the site would be progressively rehabilitated; and
  - describe what measures would be put in place for the ongoing management of the site following cessation of quarrying activities, including consideration of the most appropriate mechanisms for securing sufficient resources for the implementation of these measures in the long term.
- **Environmental Monitoring and Management:** The EIS must describe in detail how the environmental performance of the proposal would be monitored and managed over time.

### **Land Use**

During the preparation of the EIS, the Department requires you to address potential land use conflicts between the proposed quarry and surrounding land uses. This should include consideration of the compatibility of the proposal with the predicted growth of residential and industrial land uses in the Marulan area during the operational life of the quarry and following cessation of quarrying activities. Consideration should also be given to measures to minimise and/or avoid any such conflicts (e.g. adoption of appropriate buffer zones).

It is recommended that you discuss this issue in more detail with the Department prior to lodging the DA for the proposal.

### **Guidelines**

During the preparation of the EIS you should consult the Department's EIS Guideline on *Extractive Industries - Quarries*.

The EIS Guideline is available for purchase from the Department's Planning Centre, 20 Lee Street, Sydney or by calling (02) 9762 8044.

### **Integrated Development**

Under section 91 of the *Environmental Planning and Assessment Act 1979* development is "integrated development" if it requires certain approvals in addition to development consent before it may be carried out.

In your Planning Focus Document, you indicated that your proposal will require additional approvals under the *Roads Act 1993*, *Rivers and Foreshores Improvement Act 1948*, *Water Management Act 2000/Water Act 1912*, the *Heritage Act 1977* and *Protection of the Environment Operations Act 1997*.

The detailed requirements for these approvals are included in Attachment No. 2.

If further integrated approvals are identified before the Development Application (DA) is lodged, you must conduct your own consultation with the relevant agencies, and address their requirements in the EIS.

### **Consultation**

During the preparation of the EIS you should consult the relevant local, State and Commonwealth government authorities, service providers and community groups, and address any issues they may raise in the EIS.

In particular, you should consult the surrounding landowners and occupiers that are likely to be impacted by the proposal.

Several agencies (see Attachment No. 3) have provided the Department with their requirements for the proposal, and you must consider these requirements in your EIS.

Details of the consultations carried out and issues raised must also be included in the EIS.

## **The Commonwealth Environment Protection and Biodiversity Conservation Act**

If your proposal contains any actions that could have a significant impact on matters of National Environmental Significance, then it will require an additional approval under the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). These approvals are in addition to any approvals required under NSW legislation. If you have any questions about the application of the EPBC Act to your proposal, you should contact the Department of Environment and Heritage in Canberra (6274 1111 or [www.deh.gov.au](http://www.deh.gov.au)).

### **State Significant Development Requirements**

For all State significant development proposals, the Director-General requires the Applicant to:

- nominate a contact person (with telephone number) to answer public enquiries about the proposal;
- provide the Department with an electronic copy of the Executive Summary of the EIS when you lodge the DA for exhibition on the Department's website; and
- advise the Department of the relevant newspapers circulating in the area affected by the proposal.

### **Administration**

You should notify the Department at least 3 weeks before you lodge the DA for the proposal, so that it can make the necessary arrangements to exhibit the DA and EIS.

When you lodge a DA for the proposal, you must include:

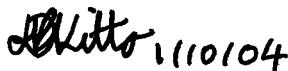
- at least 40 hard copies and 20 CD copies of the EIS ;
- an electronic copy of the Executive Summary of the EIS for the Department's website;
- a cheque for the DA fee and advertising (see clauses 246 and 252 of the Regulation), made payable to the Department;
- a cheque for \$715, made payable to the Department, for designated development;
- a cheque for \$250, made payable to each of the integrated approval bodies; and
- a cheque for \$110, made payable to the Department, for integrated development administration.

You should note that if the DA to which these requirements relate is not made within two years of the date of this letter, you must consult further with the Director-General prior to lodging the application.

### **Enquiries**

If you have any enquiries about the above, please contact Michael Young on (02) 9762 8167.

Yours sincerely

Handwritten signature of David Kitto, including the number 1110104.

David Kitto  
**Manager, Mining & Extractive Industries**  
**Major Development Assessment**

As Delegate of the Director-General

**STATUTORY REQUIREMENTS FOR THE PREPARATION  
OF AN ENVIRONMENTAL IMPACT STATEMENT UNDER PART 4 OF  
THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979**

In accordance with the *Environmental Planning and Assessment Act 1979* (the Act), an environmental impact statement (EIS) must meet the following requirements.

**Content of EIS**

Pursuant to Schedule 2 and clause 72 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation), an EIS must include:

1. A summary of the environmental impact statement.
2. A statement of the objectives of the development or activity.
3. An analysis of any feasible alternatives to the carrying out of the development or activity, having regard to its objectives, including the consequences of not carrying out the development or activity.
4. An analysis of the development or activity, including:
  - (a) a full description of the development or activity; and
  - (b) a general description of the environment likely to be affected by the development or activity, together with a detailed description of those aspects of the environment that are likely to be significantly affected; and
  - (c) the likely impact on the environment of the development or activity, and
  - (d) a full description of the measures proposed to mitigate any adverse effects of the development or activity on the environment, and
  - (e) a list of any approvals that must be obtained under any Act or law before the development or activity may be lawfully carried out.
5. A compilation, (in a single section of the environmental impact statement) of the measures referred to in item 4(d).
6. The reasons justifying the carrying out of the development or activity in the manner proposed, having regard to biophysical, economic and social considerations, including the following principles of ecologically sustainable development:
  - (a) The precautionary principle - namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.  
In the application of the precautionary principle, public and private decisions should be guided by:
    - (i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
    - (ii) an assessment of the risk-weighted consequences of various options,
  - (b) Inter-generational equity - namely, that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations,
  - (c) Conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,
  - (d) Improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as:
    - (i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,
    - (ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,
    - (iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

An environmental impact statement referred to in Section 78A(8) of the Act shall be prepared in written form. The prescribed form to accompany the environmental impact statement must comply with the requirements of clause 71 of the Regulation and be signed by the person who has prepared it.

Procedures for public exhibition of the EIS are set down in clauses 77 to 81 of the Regulation.

Attention is also drawn to clause 283 of the Regulation regarding false or misleading statements in EISs.

**Note**

If the development application to which the EIS relates is not made within 2 years from the date of issue of the Director-General's requirements, under clause 73(6) of the Regulation the proponent is required to reconsult with the Director-General.

**ATTACHMENT No. 2**



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

Contact: Karen Guymer  
Phone: 02 4868 3744  
Fax: 02 4868 3588  
Email: Karen.Guymer@dipnr.nsw.gov.au]

Michael Young  
DIPNR  
GPO Box 3927  
SYDNEY NSW 2001

Our ref: **ERM2004/3288**  
Your ref: S04/01809

20 September 2004

Dear Michael,

**EIS Requirements for proposed Hard Rock Quarry at Marulan**

There are several issues that need to be addressed in the EIS for the proposed quarry and these are listed below:

**Rivers and Foreshores Improvement Act (1948)**

All works proposed within 40 m of the high bank of the creeks that are located on the property needs to be detailed. Creeks of interest are to flow water permanently or intermittently, have defined bed and banks, and be shown on 1:25000 topographic maps.

Where possible, all access roads and construction activities should be located a minimum of 40 m from the high bank of any creek, but particularly the main trunk stream of Jaorimin Creek. It is recommended that a core riparian zone (CRZ) be established on the more major creeks, a minimum 40 m from both banks measured perpendicular to the flow direction.

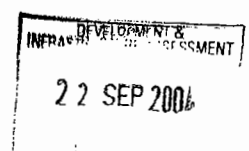
For all works within 40 m including creek crossings, include characteristics of the creek at those locations:

- Photos looking upstream and downstream
- A description of bed and bank material
- A description of the vegetation at the site, ie vegetation community, age, evidence of degradation, weeds and predominant species
- A description of features of the creek such as weirs, causeways, bed and bank erosion, pools and riffles, habitat values eg large woody debris
- Height of bank and width of channel at base and from top of bank to top of bank

**Water Act (1912) and Water Management Act (2000)**

The EIS needs to address the impact of the development on surface and groundwater supplies. All known water licenses within the vicinity of the development on all adjoining properties are to be mapped, and impacts on these determined.

The water cycle management study is to include a water balance, to show the sources of available water and the water requirements of the quarry, during construction and operation of the quarry.



The maximum harvestable right dam capacity (MHRDC) is to be calculated for the property, and all harvestable right (HR) creeks are to be marked. These creeks are intermittent first and second order streams. Find information brochures enclosed to assist with the determination of HR streams, and the MHRDC calculation.

### **Native Vegetation Conservation Act (1997) and Native Vegetation Act (2003)**

The total projected area to be cleared for construction and the 30-year quarry operation is to be estimated. Clearing approval may be required if clearing does not fit within the exemptions or exclusions under the NVCA (1997). Contact Lyall Bogie on 4428 6916 for further advice.

DIPNR encourages a no net loss principle. Therefore it is recommended that the area of trees planted or conserved is at least equivalent to the total area of trees and other native vegetation that is removed for the life of the quarry. The sites to concentrate natural regeneration, plantings and conservation are along CRZs and important habitat and heritage sites. It is recommended that a Property Vegetation Plan (PVP) be prepared for the site and certified by the Hawkesbury Nepean Catchment Management Authority to determine the best management practices for native vegetation on the site.

The adoption of the Native Vegetation Act (2003) is likely to occur about the time the EIS is due, so consideration needs to be given to the objectives and regulations of that act. For the clearing of native vegetation, once the new act is in place, a landholder has 2 options:

- a) submit a development application, or
- b) request a PVP through their local CMA

### **Socio-economic Assessment**

As discussed at the planning focus meeting, there exists a Stoney Creek Landcare Group that may wish to have input to the consultative process. For a list of contacts for other environmental or Landcare Groups contact Cathy Crawford on 4828 6752.

### **Groundwater issues**

#### **Background**

The site of the proposal, "Lynwood", is an established grazing property of 850 hectares. The target resource is the Bindook Porphyry, which is estimated to provide construction product for up to 100 years. The proposed site is located in elevated terrain, intersected by creeks, to the north west of Marulan, and is located within the catchments of Joarimin, Lockyersleigh and Marulan Creeks. All of these catchments have been evaluated as "stressed". The underlying geology consists of Bindook Porphyry with adamellite and andesite intrusions. The extraction depth may be down to 150 metres from the ground surface.

From the Department's Groundwater database there appears to be two bores located on the property. These bores were constructed for stock and domestic supplies, encountering small supplies within fracture zones. Water quality in the northern bore was considered "salty" for the upper aquifers at 14 and 20 metres, and "good stock" below that. The bore on the southern boundary is picking up small supplies of "fair" quality water. This bore appears to be in a differing geological unit of granite and granodiorite, which is the same as the numerous bores in the Marulan township and surrounds.

#### **Comments**

The groundwater available in the porphyry appears to be in fairly small quantities and of variable quality. There are only a few scattered bores in the Bindook Porphyry unit. The main concerns are probably more environmental, in terms of maintaining baseflow to nearby watercourses.



## Recommendations

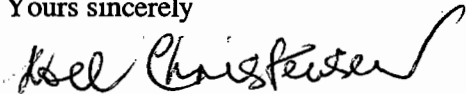
Requirements for the Environmental Impact Statement, should include the following information:

- 1) Any information with respect to the on-site groundwater resource, including:
  - water table position and known aquifer zones, plus hydraulic flow data;
  - water quality data, such as chemical and biological analyses;
  - water quantity data, such as bore yields, pumping rates, allocation entitlements, and proposed usage rates;
  - standing water levels of bores and any bore monitoring data collected.
  - other relevant geological and hydrogeological information such as aquifer storage and predicted drawdown of aquifer over time.
- 2) Discussion of the proposal's perceived impacts on the local groundwater resource, for example; issues such as the proposed water supply, and water quality impacts from both the quarrying and dewatering, etc
- 3) Discussion of the potential for groundwater contamination from the development, and the mitigation measures that would be employed to deal with such. This includes operation and ongoing management of the quarrying operations. Due to the depth of the extraction, the water quality of aquifers encountered should be assessed and precaution with construction of monitoring bores should be taken to prevent poorer quality water mixing with good quality water.
- 4) Outline of the proposed test drilling and bore monitoring programs to be undertaken, including, but not limited to parameters to be tested, sampling intervals, baseline monitoring prior to and post operations, review period etc.
- 5) Discussion of any environmental impacts on nearby ecosystems, such as watercourses (in particular Joarimin Creek), groundwater fed wetlands, nearby lakes, or neighbouring properties etc. What mitigation measures will be employed should there be reduction or loss of water supply to these systems?
- 6) Provide information on the rehabilitation process to be undertaken and the final landform.

**Any monitoring or investigation bores that are sunk as part of the proposal should be licensed with the Department.** The contact person for this is the Senior Licensing Officer Parramatta: (02) 9895 7780.

Any queries relating to matters raised above should be directed, in the first instance, to the Environmental Review Coordinator in Wollongong office ph:4224 9612.

Yours sincerely



Marwan El Chamy  
 Manager Resource Access  
 South Coast Region



Department of  
Environment and Conservation (NSW)

Your reference : Sn04-223/AS/04-06600  
Our reference : 280517A4:WOF11811:PW  
Contact : Paul Weame (02) 4224 4100

Department of Infrastructure, Planning and  
Natural Resources  
(Attention: Michael Young)  
Major Development Assessment  
GPO Box 3927  
SYDNEY NSW 2001

Dear Sir

**INTEGRATED DEVELOPMENT  
DIRECTOR-GENERAL REQUIREMENTS FOR THE PREPARATION OF AN ENVIRONMENTAL  
IMPACT STATEMENT FOR THE PROPOSED READYMIX HOLDINGS PTY LTD LYNWOOD  
QUARRY AT MARULAN**

We are writing in reply to your request dated 16 August 2004 for the requirements of the Department of Environment and Conservation (DEC) for an Environmental Impact Statement (EIS) regarding a proposed new quarry, known as the Lynwood Quarry at Marulan, to produce up to five million tonnes per annum of hard rock materials.

The proposed development will result in the Lynwood Quarry being one of the largest hard rock quarry operations in NSW. As indicated at the Planning Focus Meeting on 30 August 2004 the DEC considers that the EIS will need to consider all air, water, noise and waste issues and document those environmental protection measures necessary to demonstrate that the quarry operations will achieve contemporary best management environmental standards. The EIS will need to consider the impact of the proposal on native fauna and flora, including both protected and threatened species and on Aboriginal cultural heritage values.

We have considered the details of the proposal as presented at the Planning Focus Meeting and supporting documentation and have identified, in Attachment A, the environmental outcomes for the proposal and the information we require to develop General Terms of Approval. The environmental assessment should address all environmental issues relating to the development and any ancillary activities.

**Land Use Conflict**

The surrounding land use at Marulan is changing, in particular the pressure for future urban and rural residential development or other sensitive land use types. The outcome will be the potential for land use conflict. While Greater Argyle Council is attempting to address these issues in the Marulan Settlement Strategy, we support the Company's initiative in actively purchasing adjoining properties to develop a buffer to ensure the quarry's long term viability. While we understand that the land cannot be acquired to the west of the site, the proponent advises that a lease arrangement will be entered into for a strip of land to form a buffer to separate the land uses. The EIS should detail this arrangement and how this lease will be managed for the 30 year period especially if the land changes ownership.

INTEGRATED DEVELOPMENT  
16 SEP 2004

## **Flora and Fauna**

The Attachment below (Attachment B) provides generic environmental guidelines for flora and fauna assessment requirements of the EIS. If threatened species or their habitat are found or likely to occur in the area, an assessment under Part 5A of the *Environmental Planning and Assessment Act 1979* is required. This work should be undertaken by qualified ecologists who are familiar with the flora, fauna and endangered ecological communities that occur in the Greater Argyle Council areas.

The following outlines specific requirements the EIS will need to address.

It is understood that the proponents have already undertaken an ecological survey on parts of the property where a number of threatened species and an endangered ecological community have been identified. Additional surveys by the proponent are planned for Spring 2004. For the Spring survey, DEC recommends that further to a standard assessment, a number of additional species listed under the *Threatened Species Conservation Act 1995* be targeted. These include Rosenberg's Goanna (*Varanus rosenbergi*), Hooded Robin (*Melanodryas cucullata cucullata*) and Diamond Firetail (*Stagonopleura guttata*) that are either known from the surrounding areas, habitat exists and/or are likely to occur on the property.

The impacts on Rosenberg's Goanna (*Varanus rosenbergi*) and their habitat are of particular concern around the Greater Argyle Council Area where there is currently development pressure. In this region the goannas have large home ranges (300 to 500 ha), thus are susceptible to habitat fragmentation. When considering surveys for this species, they can be active in winter and active termite mounds are a critical resource for breeding.

The identification of a Squirrel Glider (*Petaurus norfolcensis*) in the north-west of the property<sup>1</sup> will need to be verified. A record in this location may be considered to be at the limit of its known distribution [see Section 5 A (h) of the *Environmental Planning and Assessment Act 1979*]. Should this species be impacted directly or indirectly by the proposed development, then DEC recommends a targeted survey needs to be undertaken, which could include trapping (a licence from DEC for trapping is required). Denning trees for this species are to be identified, as is identifying their food resources and how they move through the landscape. Not pre-empting the results of the targeted survey and Part 5 A assessment, ameliorative measures may also need to be considered. Some measures may included protection of hollow-bearing trees, possible provision of nest boxes, provision of habitat connectivity, exclusion of domestic pets, such as cats and dogs and removing/prohibiting the use of barbed wire etc.

In highlighting some of the issues raised in Attachment B, DEC reminds the proponent that the flora assessment is to include a complete plant list, a full description and map indicating the type, condition and location of existing vegetation, including native understorey species and individual paddock trees. An assessment of the likely impacts of the proposal on flora is required.

There are large patches of vegetation surrounding the proposed development, including the Morton National Park and Bungonia State Recreation Area, which are situated approximately seven km to the south east of the proposed quarry. The regional context of this proposal should be considered in the EIS, especially in light of wildlife corridor values.

<sup>1</sup> *Umwelt (Australia) Pty Ltd August 2004*

## **Aboriginal Cultural Heritage**

A full archaeological survey is required. This survey is to be consistent with DEC requirements as outlined in the NPWS Aboriginal Cultural Heritage Guidelines Kit and three copies of that report are to be forwarded to DEC for review prior to its inclusion in the EIS. Additionally the proponent should be advised that s.87 permits and/or s.90 consents issued under the *National Parks and Wildlife Act 1974* will be required before any Aboriginal objects may be disturbed during archaeological investigations or any construction of the proposed development. Attachment C outlines the general environmental assessment guidelines for Cultural Heritage.

The DEC requests that the proponent provide us with four copies of the Development Application/EIS. These documents should be lodged at the DEC address provided on the letterhead

If you have any further queries or comments, please contact the above officer at this office.

Yours sincerely

*William Dove 13/09/2004*

WILLIAM DOVE  
Acting Regional Manager South Coast  
Environment Protection and Regulation Division  
**Department of Environment and Conservation**

Att

(N:\IDA\DRAFTS\LYNWOOD QUARRY MARULAN1 - DGS.DOC)

## **ATTACHMENT A**

### **Issues to be addressed in the development of an Environmental Impact Statement for the proposed Readymix Hardrock Quarry, Marulan**

The Department of Environment and Conservation (DEC) requests that the following issues be addressed in the Environmental Impact Statement (EIS) for the Readymix Holdings P/L Lynwood Quarry at Marulan to produce up to five million tonnes per annum of hard rock materials. The following issues also include those matters raised by the Department during the Planning Focus Meeting that was held on 30 August 2004.

#### **Preamble**

We were advised at the Planning Focus Meeting that the proponent is investigating a rail intermodal facility in Sydney which will be subject to a separate development assessment process. Improving the efficiency of freight journeys and reducing adverse environmental impacts is a key goal for DEC. The DEC is supportive of the proponent's initiatives in maximizing rail haulage of material and reducing heavy vehicle haulage from the site and also suggest the Department of Infrastructure, Planning and Natural Resources encourage the proponent to implement this initiative.

Based upon the information provided, the applicant will require an Environment Protection Licence (EPL) under the Protection of the Environment Operations Act (POEO) 1997 for the following scheduled activities:

- Scheduled development works;
- Extractive Industries; and
- Crushing, grinding and separating works.

A cultural heritage approval to destroy, deface or damage an Aboriginal object or Aboriginal place, under section 90 of the National Parks and Wildlife Act (NPW Act) may also need to be sought.

The DEC recommends that the format of the EIS be such that the Environmental Outcomes in the following sections are highlighted at the start of each relevant section, with each section detailing how these objectives will be achieved.

#### **1. Executive Summary**

The executive summary should include an overview discussion of the extent to which the proposal achieves the specified environmental outcomes.

#### **2. Reasons for the proposal**

The EIS needs to clearly state:

- 2.1 The reasons for the proposed development;
- 2.2 The expected quantity of materials which will be extracted and processed at the premises;
- 2.3 The proposal's relationship and linkages to the existing operations at the quarry;
- 2.4 The staging and timing of the proposal and any plans for future expansion;
- 2.5 The proposal's relationship to any other industry;
- 2.6 Whether there are any alternatives to the proposal and the implications of such proposals such as the opportunities to install additional crushers; and
- 2.7 Whether there is justifiable demand for the extraction of such quantities of materials in terms of natural resource management. (Are there viable alternatives to this material such as slags etc or opportunities to integrate with other resources).

#### **3. Description of the Proposal**

##### **3.1. The Location**

Provide an overview of the location of the proposed development including the affected environment to place the proposal in its local and regional environmental context including:

- 3.1.1 Surrounding land uses and any future changes in land uses surrounding the premises (potential synergies and conflicts);
- 3.1.2 Surrounding landuses and planning zonings;
- 3.1.3 Describe all potential sensitive receptors and locations likely to be affected by activities at the site, such as residential properties, schools, churches, and hospitals.
- 3.1.4 Define the premises (including any other premises associated with the proposed activity) relevant to the Development Application and details of the land use zoning, and any potentially affected areas. (Note: details will need to be documented on the contractual arrangement between Boral and Rail Infrastructure Corporation (RIC) in relation to use of the RIC land for access and extraction of material. Property details are also required as Boral will be the occupier of this land for the purpose of Environment Protection Authority (EPA) Licensing);
- 3.1.5 Describe the existing quarrying operations including any existing pollution controls;
- 3.1.6 Meteorological data (for example rainfall, temperature and evaporation, wind speed and direction);
- 3.1.7 Topography (for example landform element, slope type, gradient and length);
- 3.1.8 Soil types and properties to assist in understanding and assessing the performance of existing water pollution controls (including erodibility, engineering and structural properties, dispersibility and any soil issues such as acid sulfate soil); and
- 3.1.9 Availability of services and the accessibility of freight transport.

### **3.2 Scope of Works**

Fully scope the development in the EIS including information on:

- 3.2.1 The size and type of the operation, the nature of the processes and the products including material handling, by-products and waste produced (both for current operation and proposed future operation);
- 3.2.2 All new equipment or activities which will be installed or undertaken at the premises as a result of the proposed development;
- 3.2.3 A life cycle approach to the use or management of all materials and products;
- 3.2.4 An overview of actions to achieve cleaner production principles;
- 3.2.5 All works associated with the proposal including all linkages with existing activities and processes at the premises, truck cleaning and maintenance areas, storage/stockpile areas etc (a diagram of the layout of the site should also be included in the EIS);
- 3.2.6 All phases of the project cycle including construction, routine operation, start-up operations etc;
- 3.2.7 Any site contamination, treatment and prevention systems;
- 3.2.8 Anticipated land contours after mining;
- 3.2.9 Potential long-term use of the land after mining operations cease and its relationship to other lands within the regional context;
- 3.2.10 Any final Mine Closure Plan developed to address needs in accordance with the proposed final land use; and
- 3.2.11 Details on construction timetable and staging; hours of construction, environment protection measures; including water controls, noise mitigation measures, dust control measures and waste management.

### **4. Identification and Prioritisation of Issues**

- 4.1 Provide an overview of the methodology used to identify and prioritise issues. The methodology should take into account:
  - relevant NSW government policies and guidelines;
  - industry guidelines;
  - relevant research and reference material;
  - relevant preliminary studies or reports for the proposal; and
  - consultation with stakeholders.

- 4.2 Provide a summary of the outcomes of the process including:
- all issues identified including local, regional and global impacts;
  - key issues which will require a full analysis (including comprehensive baseline assessment);
  - issues not needing full analysis though they may be addressed in the mitigation strategy;
  - justification for the level of analysis proposed (the capacity of the proposal to give rise to high concentrations of pollution compared with the ambient environment or environmental outcomes is an important factor in setting the level of assessment).

## 5. Cumulative Impacts

- 5.1 The EIS must assess the following issues in regard to cumulative impacts:
- the extent that the receiving environment is already stressed by existing development;
  - infrastructure requirements flowing from the proposal (for example, water and sewerage services, transport infrastructure upgrades);
  - likely impacts from such additional infrastructure and measures reasonably available to the proponent to contain such requirements or mitigate their impacts.

## 6. Air

### Environmental Outcomes

The development must be designed, constructed, operated and maintained so that:

- There is no offensive odour beyond the boundary of the premises.

In addition, the development must be designed, constructed, operated and maintained to minimise:

- Visible dust emissions from material handling, storage, processing, haul roads, transport and material transfer systems.
- Vehicular kilometres travelled

The DEC considers that the following policies and guidelines need to be considered when taking into account air quality issues on site:

- NSW EPA, 2001, *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW*.
- NSW EPA 2001, *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW*.

### Identification of potential pollutants and assessment of impacts

The assessment should consider all phases and ancillary activities and identify all activities likely to generate air impacts or have the potential to cause harmful effects on the environment including health and amenity, and all related environmental issues and identify those measures that will ameliorate those impacts.

In addition to relevant standards in regulations, for the purpose of assessment the criteria pollutants are dust deposition, TSP and PM10.

### Issues to be addressed

The EIS must demonstrate that the above outcomes will be achieved and, in particular, include information concerning the following:

## **6.1 Existing Environment**

6.1.1 Describe existing air quality, using existing information and on-site monitoring. Any necessary air monitoring programs should be established as early as possible in the site evaluation and project formulation. This should be undertaken in accordance with the documents cited above. The following should be considered in developing a baseline monitoring program:

- Simultaneous meteorological data collection;
- Pollutants to be monitored;
- Number and location of sampling sites;
- Duration of survey;
- Sampling equipment;
- Sampling protocols; and
- Existing monitoring data.

## **6.2 Identification of potential pollutants and assessment of impacts**

6.2.1 The assessment should consider all phases and ancillary activities and identify all activities likely to generate air impacts or have the potential to cause harmful effects on the environment including health and amenity, and all related environmental issues, including those detailed below.

## **6.3 Material Handling, Storage and Quarry site**

6.3.1 Details of material handling, storage and transfer system.

6.3.2 Details of cleaning devices fitted to any conveyor systems.

6.3.3 Details of any pollution controls or mitigation measures and expected performance to suppress dust at transfer points, crushers etc as a result of material being processed and transferred around the premises. Note: All conveyors must be fully enclosed to prevent wind blown dust.

6.3.4 Details on any mobile crushing and associated pollution controls to meet the environmental performance objectives.

6.3.5 Details on the location and size of any stockpiles including their management to prevent wind blown dust.

6.3.6 Details of proposed techniques to suppress wind blown dust especially the quarry site and associated activities.

6.3.7 Information should be provided on strategies for dust suppression in relation to high wind early warning management.

6.3.8 Details of spillage response including details of sealed surface management to prevent windblown dust in particular truck and rail loading areas.

6.3.9 Details on truck and rail loading including details on dust suppression during loading operations.

## **6.4 Haul Road**

6.4.1 Details on location of the haul road including information on its design, construction and management in satisfying the above environmental outcomes.

## **6.5 Emissions and Environmental Impacts**

6.5.1 Identify all air pollutants likely to be generated, including but not necessarily restricted to odour, dust, dust deposition, total suspended particulates and PM10:

- Provide emission rates for those pollutants for the different activities being undertaken at the premises;
- Determine the resulting ground level concentration of pollutants.

6.5.2 Determine the effects of pollutant concentrations on the environment including human health and amenity.

6.5.3 Provide details of environmental monitoring required to demonstrate impact assessment criteria are not being compromised in the construction and operational phases.



- 6.5.4 Due to the close proximity of the premises to residential land uses, computer dispersion modelling must be undertaken to predict any impacts as a result of emissions.
- 6.5.5 The assessment must also assess local cumulative impacts and any regional cumulative impacts.
- 6.5.6 The modelling assessment must include information on:
- modelling technique and calibration protocols;
  - topography and climatic influences on dispersion ;
  - surrounding land uses – if there is the possibility of a health risk, note exact locations of dwellings or other sensitive land uses, provide a perspective view of the study area such as the terrain file used in dispersion models;
  - all assumptions;
  - relationship to air quality standards, goals and guidelines;
  - recommendations for future monitoring during construction and operational phases; and
  - details on the adequacy of pollution controls or mitigation measures to meet environmental objectives.

## 7. WATER

### Environmental Outcomes

The facility must be designed, constructed, operated and maintained so that:

- There is no pollution of waters (including surface & groundwater) and it complies with Section 120 of the POEO Act at all times.
- Polluted water (including process waters, wash down waters, polluted stormwater or sewage) is captured on the site and directed to reticulated sewer where available or else collected, treated and beneficially reused, where this is safe and practicable to do so.
- Bunding is in accordance with the EPA technical guidelines '*Bunding and Spill Management*' and designed for no-discharge.
- There is no inconsistency with any relevant Statement of Joint Intent (SoJI) established by the Healthy Rivers Commission; and
- It is acceptable in terms of the achievement or protection of the River Flow Objectives (RFOs) and Water Quality Objectives (WQOs).

The following reports, policies and guidelines should be considered when taking into account water issues on site:

- Healthy Rivers Commission Report into the Hawkesbury-Nepean River and Statement of Joint Intent (SoJI).
- ANZECC (2000) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*;
- The NSW State Groundwater Policy - Framework Document, Quality Protection Policy, Groundwater Quantity Management Policy and Groundwater Dependent Ecosystems Policy;
- The relevant targets within the State Water Management Outcomes Plan;
- State Environmental Planning Policy No 58 - Protecting Sydney's Water Supply and other relevant Government policies;
- Environment and Health Protection Guidelines: 'Onsite Sewage Management for Single Households', February 1998 (Silver Book);
- NSW EPA, February 1995, Draft Environmental Guidelines for Industry: The Utilisation of Treated Effluent by Irrigation; and
- NSW Department of Housing '*Managing Urban Stormwater: Soils and Construction*', (4<sup>th</sup> Edition March 2004).

### Issues to be addressed

The development must be considered in the context of the proposals location in the Sydney Drinking Water Catchment. The Government has indicated the broad environmental goals and outcomes expected for this catchment in State Environmental Planning Policy (SEPP) 58, as well

as in the Statement of Joint Intent (SoJI) in reply to the Healthy Rivers Commission (HRC) report into the Hawkesbury-Nepean River. In developing any water management strategies for the development the proponent should also be mindful that the waters of the Wollondilly River at Marulan are classified "Specially Protected Waters", while the tributaries of the Wollondilly River are classified "Protected Waters" under the POEO Act. The proposal must transparently consider these outcomes, alongside economic, social and other environmental considerations.

SEPP58 specifies that in assessing the development, consent and approval authorities must consider the water quality objectives and whether the development will have a Neutral or Beneficial Effect on water quality. WQOs and RFOs can be found in the HRC report and SoJI for the Hawkesbury Nepean River (<http://www.hrc.nsw.gov.au>). The EIS must assess the level and extent of impact against these heads of consideration.

The EIS must characterise current ambient water quality, river flow and river health, using available data and information (with respect to the WQOs and RFOs). The impact of the proposal on river/stream systems and its water quality should be described and the likely impact (including on WQOs and RFOs) of each option predicted. Option selection should demonstrate which options contribute most effectively to these outcomes and how the preferred option achieves the optimal outcome.

Clearly, performance against with these requirements cannot be addressed in isolation from the broader environmental goals and outcomes expected in the catchment. This catchment context should be addressed in the EIS.

The proponent's environmental assessment must:

- predict the ambient water quality outcomes associated with the proposal and demonstrate whether these are acceptable in terms of the achievement or protection of the RFO's and WQO's;
- Where WQO's are currently achieved in the ambient waters, will the proposal protect them?
- Where WQO's are not currently achieved, does the proposal contribute towards their achievement over time?

The proponent must also present information that allows consent and approval authorities, including the EPA to consider the requirements of SEPP58, including neutral or beneficial effect on water quality.

The WQO's establish the environmental values and human uses for ambient waters. The ANZECC 2000 Australian and New Zealand Guidelines for Fresh and Marine Water Quality are then used to identify the water quality that supports these values including numerical concentrations, biological measures and other water quality descriptors. These are not discharge criteria. The EIS should demonstrate that the in-stream result of any discharge will not degrade the water quality objectives and where they are not currently achieved, will contribute towards their achievement. Clearly, where other sources contribute pollutants to the catchment, the proposal should make an appropriate contribution to the water quality objectives but is not solely responsible for their achievement.

The proposal appears to be located within areas defined as "Class P" and "Class S" waters under the *Clean Waters Regulations 1972*. These *Regulations* list certain requirements in respect to discharges to waters. The *Regulations* have effect through Environment Protection Licences issued under the POEO Act. The Department will need to ensure that any licence issued for the proposal is consistent with the requirement of the *Regulations*.

Any proposed techniques for assessment of water impacts, for example, modelling, should be developed in consultation with the Department and should include use of statistically sound data, appropriate choice of a model based on complexity of situation to be modelled, recognised calibration techniques and verification of model results with field data.

The EIS must demonstrate that the above outcomes will be achieved and, in particular, include information concerning the following:

- 7.1 Details are required on the surface and groundwater hydrological catchments including the existing water environment.
- 7.2 Description of the potential sources of pollution and assessment of the pollutant characteristics.
- 7.3 As assessment of the adequacy of the design and management measures to minimise impacts, including those to prevent and control any discharges from the premises.
- 7.4 Details should be provided on the adequacy of surface water pollution controls and the proposed strategy to handle collected waters so that there are:
  - a) separate controls for defined dirty and clean areas of the site; and
  - b) structures available for any successive rainfall events.
- 7.5 Details of surface water management and anticipated levels of performance for:
  - a) any equipment and maintenance areas, including wash down facilities, oil and water separation;
  - b) open stockpiles;
  - c) extraction areas;
  - d) material processing and transfer areas;
  - e) loading facilities;
  - f) haul roads; and
  - g) any associated treatment and reuse systems.

## **8. NOISE**

### **Environmental Outcomes**

The facility must be designed, constructed, operated and maintained so that the facility:

- Does not cause intrusive noise at the nearest affected premises.
- Does not compromise local planning noise amenity goals.

The DEC considers that the following Noise Policies and Guidelines should form the basis for noise assessment and management for this development:

- Environmental Noise Management Series: *NSW Industrial Noise Policy, January 2000.*
- Environmental Noise Management Series: *Environmental Criteria for Road Traffic Noise, May 1999.*
- Chapter 171 Noise Control Guideline, *Construction Site Noise, Environmental Noise Control Manual, 1994.*
- *Technical basis for Guidelines to Minimise Annoyance due to Blast Overpressure and Ground Vibration, Australian and New Zealand Environment Council, September 1990.*
- Chapter 171 Noise Control Guideline, *Construction Site Noise, Environmental Noise Control Manual, 1994.*
- Chapter 163 Noise Control Guideline, *Rail Traffic Noise, Environmental Noise Control Manual, 1994.*

### **Issues to be addressed**

The EIS must show that the above objectives will be achieved and, in particular, include information concerning the following:

- 8.1 A blasting impact assessment must be undertaken to assess any impacts to the nearest most affected residences including the identification of measures to prevent impact.
- 8.2 Describe the development and its operation identifying all noise sources from the development and proposed mitigation controls. This must include expected noise level and

noise character (for example, tonality, impulsiveness, vibration) likely to be generated from noise sources and proposed mitigation measures during:

- (a) operational phases including noise impacts associated operation of crushers, material transfer, reversing alarms, pumps, fans, conveyor systems, stockpile operation, transport of goods, product handling, etc;
- (b) transport including rail and traffic noise generated by the proposal (Note; In relation to rail activities the impacts associated with night-time activities and shunting need to be assessed);
- (c) other services.

- 8.3 If night time operation is proposed, specific measures to address noise impact during night time hours will need to be specified in the EIS. In addressing night time activity, sleep disturbance criteria apply.
- 8.4 Specify times of operation of rail activities and measure to address any associated noise impacts. ( Note: The EIS should also include information regarding discussions with RIC in relation to night time haulage operations and the implications of any potential noise impacts and how these will be addressed.)
- 8.5 Specify the times of operation and all noise producing activities including number and times of truck movements and proposed truck routes to and from the proposed development.
- 8.6 An assessment of cumulative noise impact and the implications of surrounding quarry operations, changes in surrounding land use and future highway upgrade.
- 8.7 Details on noise monitoring to assess compliance with the predictions.
- 8.8 For projects with a significant potential traffic noise impact provide details of road alignment (include gradients, road surface, topography, bridges, culverts etc), and land use along the proposed road and measurement locations – diagrams should be to a scale sufficient to delineate individual residential blocks.

#### **Describe baseline conditions**

- 8.9 Determine the existing background ( $L_{A90}$ ) and ambient ( $L_{Aeq}$ ) noise levels in accordance with the NSW Industrial Noise Policy.
- 8.10 Determine the existing road traffic noise levels in accordance with the NSW Environmental Criteria for Road Traffic Noise, where road traffic noise impacts may occur.
- 8.11 The noise impact assessment report should provide details of all monitoring of existing ambient noise levels including:
  - Details of equipment used for the measurements;
  - A brief description of where the equipment was positioned;
  - A statement justifying the choice of monitoring site, including the procedure used to choose the site, having regards to the definition of 'noise sensitive location(s)' and 'most affected location(s)' described in Section 3.1.2 of the NSW Industrial Noise Policy;
  - Details of the exact location of the monitoring site and a description of land uses in the surrounding areas;
  - A description of the dominant and background noise sources at the site;
  - Day, evening and night assessment background levels for each day of the monitoring period;
  - The final RBL value;
  - Graphs of the measured noise levels for each day should be provided;
  - A record of periods of affected data (due to adverse weather and extraneous noise), methods used to exclude invalid data and a statement indicating the need for any re-monitoring under Step 1 in Section B1.3 of the NSW Industrial Noise Policy; and
  - Determination of  $L_{Aeq}$  noise levels from existing industry.

#### **Assess environmental impacts**

- 8.12 Determine the project specific noise levels for the site. For each identified potentially affected receiver, this should include:
  - a) determination of the intrusive criterion for each identified potentially affected receiver;

- b) selection and justification of the appropriate amenity category for each identified potentially affected receiver;
- c) determination of the amenity criterion for each receiver; and
- d) determination of the appropriate sleep disturbance limit.

*Note: Maximum noise levels during night-time period (10pm-7am) should be assessed to analyse possible effects on sleep. Where  $L_{A1(1min)}$  noise levels from the site are less than 15 dB above the background  $L_{A90}$  noise level, sleep disturbance impacts are unlikely. Where this is not the case, further analysis is required. Additional guidance is provided in Appendix B of the NSW Environmental Criteria for Road Traffic Noise.*

- 8.13 Determine expected noise level and noise character (for example: tonality, impulsiveness, vibration, etc) likely to be generated from noise sources during:
- a) site establishment;
  - b) construction;
  - c) operational phases;
  - d) transport including traffic noise generated by the proposal; and
  - e) other services.

*Note: The noise impact assessment report should include noise source data for each source in 1/1 or 1/3 octave band frequencies including methods or references used to determine noise source levels.*

- 8.14 Determine the noise and vibration levels likely to be received at the most sensitive locations (these may vary for different activities at each phase of the development). Potential impacts should be determined for any identified significant adverse meteorological conditions. Predicted noise levels under calm conditions may also aid in quantifying the extent of impact where this is not the most adverse condition.

- 8.15 The noise impact assessment report should include:
- A plan showing the assumed location of each noise source for each prediction scenario;
  - A list of the number and type of noise sources used in each prediction scenario to simulate all potential significant operating conditions on the site;
  - Any assumptions made in the predictions in terms of source heights, directivity effects, shielding from topography, buildings or barriers, etc
  - Methods used to predict noise impacts including identification of any noise models used. Where modelling approaches other than the use of the ENM or SoundPlan computer models are adopted, the approach should be appropriately justified and validated;
  - An assessment of appropriate weather conditions for the noise predictions including references to any weather data used to justify the assumed conditions;
  - The predicted noise impacts from each noise source as well as the combined noise level for each prediction scenario under any identified significant adverse weather conditions as well as calm conditions where appropriate;
  - For developments where a significant level of noise impact is likely to occur, noise contours for the key prediction scenarios should be derived; and
  - An assessment of the need to include modification factors as detailed in Section 4 of the NSW Industrial Noise Policy.

- 8.16 Discuss the findings from the predictive modelling and, where relevant noise criteria have not been met, recommend additional mitigation measures.

- 8.17 Where relevant noise/vibration criteria cannot be met after application of all feasible and reasonable mitigation measures the residual level of noise impact needs to be quantified by identifying:

- locations where the noise level exceeds the criteria and extent of exceedence
- numbers of people (or areas) affected
- times when criteria will be exceeded;
- likely impact on activities (speech, sleep, relaxation, listening, etc)
- change on ambient conditions.
- the result of any community consultation or negotiated agreement.

8.18 For the assessment of existing and future traffic noise, details of data for the road should be included such as assumed traffic volume; percentage heavy vehicles by time of day; and details of the calculation process. These details should be consistent with any traffic study carried out in the EIS.

8.19 Where blasting is intended, the following details of the blast design should be included in the noise assessment:

- bench height, burden spacing, spacing burden ratio
- blast hole diameter, inclination and spacing
- type of explosive, maximum instantaneous charge, initiation, blast block size, blast frequency.

## 9. WASTE

### Environmental outcomes

The development must be designed, operated and maintained:

- In accordance with the principles of the waste hierarchy and cleaner production.
- To ensure that the handling, processing and storage of all materials used at the premises does not have negative environmental or amenity impacts.
- The beneficial reuse of all wastes generated at the premises are maximised including but not necessarily limited to slurries, dusts and sludges.
- No waste disposal occurs on site except in accordance with an EPA licence.

In addition:

- *Liquid and non-liquid waste residuals should be classified and managed according to the Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes (NSW EPA, 1999).*

### Issues to be addressed

- 9.1 Characterisation of all wastes in accordance with relevant guidelines.
- 9.2 Outline cleaner production actions, including:
- (a) measures to minimise waste
  - (b) proposals for use or recycling of by-products (including recycling of screenings)
  - (c) proposed long term management methods of solid and liquid waste
- 9.3 Provide details of liquid and non-liquid waste management at the facility, including:
- (a) Identification and scale of all possible waste streams;
  - (b) Methods for handling/transportation of any wastes generated at the premises;
  - (c) Details of any stockpiling or storage of wastes and the time frame for reuse;
  - (d) The method for management of all wastes or recovered materials at the facility; and
  - (e) Characterisation and quantities of all wastes their destinations and management.
- 9.4 Provide details of the type and quantity of any chemical substances to be used or stored and describe arrangements for their safe use and storage.
- 9.5 Waste tracking and control. Identify all wastes that cannot be reused including their associated management. In the assessments of these wastes reasons must be provided on why these wastes cannot be reused.
- 9.6 Clearly detail all environmental impacts associated with waste management.

- 9.7 All other information necessary to demonstrate how the above environmental outcomes and policy requirements will be achieved.

## **10. ENVIRONMENTAL MANAGEMENT**

The EIS must show that these objectives will be achieved and in particular, include information concerning the following:

- Operational procedures to manage air and noise emissions and any potential water discharges.
- Measures to assess any pollution control failures, including appropriate alarms to alert operators.
- Reporting procedures for exceedences to the EPA.
- Details of any monitoring programs.
- Environmental training program.
- Complaint handling mechanisms.
- Strategies to achieve acceptable emissions in responding to the event of exceedences and emergency management plans.

## **11. GENERAL**

- 11.1 Details on progressive mine site rehabilitation (including the existing excavation site and the appropriate landuse for the existing site.)
- 11.2 Details on any site clearing and management of stripped topsoil to ensure it is available for rehabilitation of the site.
- 11.3 Details on overburden management including the identification of controls to prevent wind blown dust and contaminated stormwater pollution.
- 11.4 Details on the relocation of the power supply to the site. This information should include whether the power lines are to be overhead or underground? If underground, the proposed route needs to be assessed for its archaeological potential? In addition details should be documented on a program for the rehabilitation of the existing power line route.

## Attachment B

# ENVIRONMENTAL ASSESSMENT GUIDELINES FLORA AND FAUNA

## INTRODUCTION

The *Environmental Planning and Assessment Act (1979) (EP&A Act)* requires that proponents of a development/activity and the Consent/Determining Authorities adequately assess the impact of a development or activity in any Environmental Impact Assessment (EIA) documents. These EIA documents include:

- Statement of Environmental Effects (SoEE), or
- Review of Environmental Factors (REF), or
- Environmental Impact Statement (EIS).

These are introductory, generic specifications of the Department of Environment and Conservation (DEC) for an adequate assessment of the impacts of a development proposal on native flora and fauna (ie including protected and threatened species). However, the DEC recognises that the scale and complexity of the project will to some extent, dictate the level of information that is required to address the questions posed below. Consequently, flora and fauna assessments need to be tailored to suit the proposal. For example, a development which is proposed on land which has already been totally (or substantially) cleared should address the issues raised below, however the amount of work required to address these issues may be substantially less than if the area comprised undisturbed bushland and, therefore, of more significant wildlife habitat value. A preliminary assessment, including a desktop investigation and a preliminary site inspection, may indicate the need for a detailed survey of the site.

Aboriginal cultural heritage and archaeological sites may still be present on substantially disturbed areas and appropriate assessment of these is required. (Please refer to separate Cultural Heritage Assessment Guidelines included.)

It is up to the proponent (and later the consent and/or determining authorities after appropriate consultation) to determine the detail and comprehensiveness of assessment required to form legally defensible conclusions regarding the impact of the proposal. The scale and intensity of the proposed development should dictate the detail of investigation.

It is important that all conclusions are supported by adequate data and that these data are clearly presented in EIA documentation.

The DEC will consider the following issues when reviewing an EIA document:

1. **Concerns** - What are the DEC's concerns regarding the conservation of natural and cultural heritage in accordance with the relevant legislation? Is the proposal likely to affect natural and cultural heritage? How?
2. **Provision of Information** - Is adequate information provided for a valid assessment of the impacts?
3. **Validity of Conclusions** - Has the proponent arrived at valid conclusions as a result of the assessment of impacts?
4. **Recommended Conditions to Consent** - Should Consent or Approval be granted, what conditions (if any) are required to ensure that the project is developed, and thereafter



managed in accordance with natural and cultural heritage conservation and the provisions of legislation administered by the DEC?

Thus the EIA document should fully describe the existing environment including flora and fauna, so that future impacts can be properly assessed and then reviewed (for example, during the public participation phase).

## FLORA

### Background

The Australian flora comprises many endemic taxa and is therefore unique in the world. Although the proposed development site may be disturbed by various landuses, any native vegetation, including remnants, riparian and wetland areas, is of significant natural heritage value. The area of vegetation and habitat at the proposed site may provide an area of high biological diversity, high conservation value or may not be well represented or protected elsewhere. It may also act as a corridor or migratory route for wildlife, drought refuge habitat or have other important values.

The NSW community places a high value on those areas of native vegetation that remain. The DEC is committed to the protection, appropriate management, and where necessary, rehabilitation of native vegetation. For these reasons, the DEC considers that careful planning should precede any development that involves further vegetation clearance or other significant impact within areas of native vegetation.

### Report Requirements

The EIA documentation should include a report on the flora that includes the following:

- detailed location map and identification of the area surveyed (including the location of photographs, transects, areas of significance etc),
- at least one of the following: a land satellite image, vegetation communities map, aerial photograph, or a remnant vegetation map,
- a complete plant list (including scientific names of those plants) of all tree, shrub, ground cover and aquatic species, categorised according to whether they are native or exotic,
- A detailed description of vegetation structure (in terms of a scientifically accepted classification system) and spatial distribution (that is, plant densities and patterning) on the site, including a vegetation map,
- describe the condition and integrity of the vegetation including a description of any past disturbance,
- an account of the likely original vegetation communities (pre-, or at early settlement), and an assessment of the likely regional distribution of the original communities,
- an assessment of whether the plant communities are adequately represented in conservation reserves or otherwise protected,
- an account of the hydrology of the area and how this relates to the dynamics of the vegetation communities,
- a list of **known** and **likely** threatened species as listed under Schedules 1 & 2 (*Threatened Species Conservation Act 1995*) which might occur at the site. The DEC database needs to be accessed and the likelihood of occurrence of threatened flora species determined,
- an assessment of the impacts of the proposal on flora, on-site and off-site (for example, siltation, water availability or drainage changes) and measures to mitigate these impacts,
- an assessment of the significance of the impact of the development at both the site and at the regional scale,
- a detailed rehabilitation/management plan including a list of the plant species to be used during rehabilitation (if required),
- detail methodologies used and a list of the reference literature cited, and
- any other issues that may be considered relevant.

The above guidelines will provide some of the information necessary to conduct an '8-Part Test of Significance' required for threatened flora and fauna under Section 5a of the *EP&A Act*, should threatened species be likely or known to occur in the locality of the subject development proposal. Similarly, it will provide some of the information required if an application is found to be necessary under the *Native Vegetation Conservation Act (1997)*. However the above relates mostly to the specific environmental assessment processes under the *EP&A Act* and does not constitute an '8-Part Test of Significance'.

### **Native Vegetation Conservation Act (1997)**

The DEC wishes to stress that the proponents will need to consider the provisions of the *Native Vegetation Conservation Act (1997)*. If the proposal involves the clearing of native vegetation it may require the consent of the Director General of the Department of Infrastructure, Planning and Natural Resources.

## **FAUNA**

### **Background**

Native vegetation including wetland, riparian and remnant environments, provide significant areas of fauna habitat. Therefore any development in such areas should fully consider the impact on fauna and its habitat, including modification, fragmentation, reduction in size, loss of connectivity and edge effects.

### **Report Requirements**

The EIA document should include a report on the fauna (including protected and threatened species), that includes the following:

- detailed location map and identification of the area surveyed (including the location of photographs, transects, areas of significance etc),
- at least one of the following: a land satellite image, vegetation communities map, aerial photograph, or a remnant vegetation map,
- a complete list of all **known** and **likely** terrestrial and aquatic species (for example, birds, mammals, reptiles and amphibians including scientific names). It is suggested that invertebrates also be considered as they form part of the food chain for many fauna species,
- those species which are protected, threatened or listed under any international agreements, as well as introduced species,
- those species known or likely to breed in the area,
- any species which have specific habitat requirements found within the project area,
- those species or populations which may be near the limit of their geographic range or are a disjunct/isolated population,
- assessment of the importance or otherwise of the location as a corridor, migratory route or drought refuge, in relation to other remnant vegetation, riparian and wetland areas or habitat in the region,
- assessment of the impacts of the proposal on all fauna and its habitat, at both the site and at the regional scale,
- identification of any mitigation measures proposed to limit or ameliorate the impact of the proposal,
- detailed methodologies used and a list of the reference literature cited, and,
- any other issues that may be considered relevant.

### **SEPP No 44 - Koala Habitat Protection**

The Shire may be listed in Schedule 1 of SEPP No 44 - Koala Habitat Protection. If so, the requirements of the SEPP regarding Koala habitat protection should be considered by the proponents.

## **THREATENED SPECIES OF FAUNA AND FLORA**

### **Background**

Apart from the need to consider the impact on protected species, the proponent will need to address the requirements of legislation that currently governs threatened species protection and impact assessment in NSW.

The *Threatened Species Conservation Act (1995) (TSC Act)* protects all threatened flora and fauna native to NSW (excluding fish and marine plants). The proponent will need to consider the provisions of this Act.

The *TSC Act* contains lists of threatened species, which are divided into five categories – those presumed extinct, endangered species, endangered populations, endangered ecological communities and vulnerable species. This Act also allows for the declaration of critical habitat, key threatening processes and the preparation of both Recovery Plans and Threat Abatement Plans. These listings and plans must be considered as part of the EIA process.

If an activity or development is proposed in a locality likely or known to be occupied by a threatened species, population, ecological community or critical habitat, any potential impact to that threatened species must be taken into account during the development assessment process. However under the *EP&A Act*, some types of development are not required to go through approval processes. Please note that a licence may still be required under the *TSC Act* if such a development/activity is likely to harm a threatened species, population or ecological community.

### **8-Part Test & Species Impact Statements**

If during the flora or fauna assessment or survey, threatened species are **found** or are **likely** to occur in the area, the proponents must undertake an '8-Part Test of Significance' as outlined in section 5A of the *EP&A Act* to determine whether or not the development would be likely to have a significant impact upon threatened species.

The '8-Part Test' is a statutory mechanism which allows decision makers to assess whether a proposed development or activity is likely to have a significant effect on threatened species, populations or ecological communities, or their habitats.

The '8-Part Test' is contained within section 5A of the *EP&A Act* and consists of eight factors which need to be addressed for informed decisions to be made regarding the effect of a proposed development or activity on threatened species, populations or ecological communities, or their habitats.

Following threatened species assessment via the '8-Part Test', it may be necessary to prepare a Species Impact Statement (SIS). The proponent will need to prepare a SIS in the following circumstances:

- If (after having addressed Section 5A) the flora/fauna assessment concludes that there is likely to be a significant impact to threatened species, or
- The proposed development is likely to affect critical habitat declared under the *TSC Act*.

If a SIS is required, the proponent (not the consultant) must write to the Director-General of DEC for any formal requirements for the SIS that he might deem appropriate. The SIS must then be prepared in accordance with these requirements and provided to the Director-General. In some instances the Minister for the Environment will also need to be consulted for approval.

Methods to reduce the impact on the protected and threatened species should be considered fully, and are considered an integral requirement within any SIS document.

The DEC advises that conducting an '8-Part Test' or a SIS according to the provisions of the *EP&A Act* and the *TSC Act* is a complex task and should be undertaken by suitably qualified person(s).

#### **AVAILABLE DATA**

The DEC can supply, at the standard cost, fauna prediction data and recorded fauna sightings data (Wildlife Atlas of NSW) to help in the investigation.

The following information on site recordings of Flora and Fauna is available from DEC:

- Atlas of NSW Wildlife (1995). A DEC database containing records of fauna and flora, including threatened species. Computer printouts for all records on a 1:100,000 mapsheet are available (at cost) from the Data Exchange Officer on (02) 9585 6684.

Other reference literature may be available for the subject locality/region. The proponent should explore this possibility thoroughly and liaise with the Threatened Species Unit (TSU) within the Environment Protection and Regulation Division of DEC. TSU (Southern) can be contacted on (02) 6298 9715.

## Attachment C

### ENVIRONMENTAL ASSESSMENT GUIDELINES CULTURAL HERITAGE

Aboriginal sites are widespread throughout New South Wales. There is considerable regional variation in the types of sites, their age, their contents and how they are situated on the landscape. Under the *National Parks and Wildlife Act 1974* it is an offence to knowingly destroy, deface or damage an Aboriginal place or object without consent from the Director-General of National Parks and Wildlife. Aboriginal cultural significance is not limited to archaeology. In some cases there is Aboriginal oral tradition concerning significant sites or landscape features.

The Department of Environment and Conservation (DEC) has a statutory role in the protection and preservation of Aboriginal sites. This includes reviewing and assessing the Aboriginal cultural and archaeological aspects of environmental studies, as well as a regulatory role in their impact or destruction.

The Environmental Impact Statement (EIS) or other environmental assessment should consider Aboriginal cultural heritage, even if the area is disturbed in some way. The EIS should consider:

- Accessing the DEC's Aboriginal Heritage Information Management System (AHIMS) in the initial planning stage. This is to determine if there are any already known sites which will require protection, or if there is a need for a Section 87 Permit or Section 90 Consent (see below). The AHIMS database is not a conclusive indicator that sites may exist in the development area. Information from the AHIMS database may be made available by the AHIMS Registrar. For general information about the Aboriginal Heritage Information Management System please contact the Cultural Heritage Branch of DEC on 02 95856471.
- The Aboriginal community (which may include Local Aboriginal Land Councils, Native Title Groups and Elders Groups) needs to be consulted so that they can be advised that there may be impact to sites relevant to their heritage. There also may be knowledge in the community about sites in the development area, particularly those related to oral tradition. This process of Aboriginal consultation should be maintained throughout the entire EIA procedure.
- An archaeological survey is to be conducted, including an on-the-ground systematic archaeological investigation. If there is a likelihood of buried sites not visible on the surface, a Section 87 Permit from the DEC may be needed for sub-surface testing.
- If the study area is considered to have archaeological potential or cultural significance then a survey and assessment should be undertaken by an archaeologist in accordance with NPWS guidelines contained in the "Aboriginal Cultural Heritage: Standards and Guidelines" kit that has been made widely available to archaeologists undertaking this work.
- The outcome of the survey is to determine what sites can be avoided, and what ones cannot. Another objective is to assess the significance of the sites. It may be that damage or destruction of some sites is unacceptable, or that special safeguards are needed for others.

If Aboriginal objects/places are known to be directly or indirectly adversely affected, the Proponents will need to apply for, and be issued, a Section 87 Permit or a Section 90

Consent by the Director-General of the DEC to comply with the *National Parks and Wildlife Act (1974)*. A necessary part of this is a written statement detailing the concerns and opinion of the proposed impact from the Aboriginal community.

Normally, Special Conditions are attached. These may include provisions for impact minimisation and salvage. Salvage is a form of mitigation by documenting in detail what is to be lost by the impact. Frequently it involves archaeological excavation and analysis, or other types of recovery and study.

Alternatively the development might be redesigned by the Proponent to accommodate and protect the site(s). The archaeological survey, analysis and reporting, as well as the negotiation with the Aboriginal community, can be a lengthy process. If a Permit for salvage is needed, then this can add on more time. It is important to begin the study for Aboriginal site impacts in the very earliest stages to avoid delays in the developments' timeline.

# GREATER ARGYLE COUNCIL

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INFORMATION DEVELOPMENT & PLANNING  
3 - SEP 2004

Contact: Environmental and Strategic Planning: CF

Reference: Landuse Planning

31 August 2004

Department of Infrastructure, Planning and Natural Resources  
GPO Box 3927  
Sydney NSW 2001  
Attention: Michael Young

Dear Michael

**SUBJECT: FOCUS MEETING, READYMIX HARD ROCK QUARRY - MARULAN**

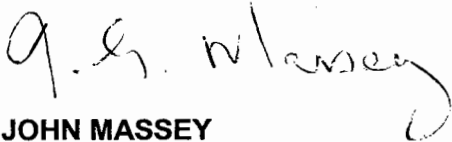
The issues to be addressed in the proposed EIS were succinctly summed up by you at the meeting. It is not the Council's intention to repeat that detail. However, the following key issues are emphasised:

1. The importance of a total water management strategy, which details impacts on existing and potential (eg groundwater) potable water supply for Marulan and water quality generally.
2. The need to address the issue of compatibility between what is proposed and the future western expansion of Marulan township (as detailed within the Draft Settlement Strategy). Any development buffers should be contained within the proponent's own land.
3. Heavy vehicle movement impacts on Marulan township and the RTA acknowledged unsafe at-grade crossing with the Hume Highway at the southern end of Marulan in the construction and pre-interchange phases.
4. The proponents propose a grade separated interchange at the Marulan South road intersection. While the merits of this are acknowledged the Draft Settlement Strategy also proposed a similar interchange in town to replace the current unsafe at grade crossing. The EIS should address the cost/benefits of one grade separated interchange which addresses all objectives.
5. EIS to include up front management plan/s which detail short, medium and long term recommendations/actions/monitoring programs etc on:
  - Visual amenity;
  - Remediation/rehabilitation of quarry site and overburden sites;
  - Integrated water cycle management
  - Dust and noise suppression
  - Protection and enhancement of threatened/endangered fauna and flora
  - Protection of identified Aboriginal sites

- Landscaping etc

If you require further information on this matter please contact Claire Finch on 4823 4408.

Yours faithfully

A handwritten signature in black ink, appearing to read "J. Massey". The signature is written in a cursive style with a large, sweeping flourish at the end.

**JOHN MASSEY**  
**MANAGER STRATEGIC PLANNING**

for  
**ACTING GENERAL MANAGER**



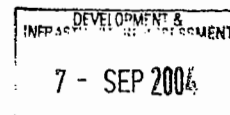


Our Ref: 04/1634

Contact: Chris Millet (4221 2570)

Your Ref: S04/01809

31 AUG 2004



Mr Michael Young  
Major Development Assessments  
Department of Infrastructure Planning and Natural Resources  
GPO Box 3927  
SYDNEY 2001

**GREATER ARGYLE COUNCIL - DEVELOPMENT PROPOSAL S04/01809 - SH2,  
READYMIX HARD QUARRY, HUME HIGHWAY MARULAN**

Dear Sir

I refer to your letter dated 16 August 2004 regarding the subject development proposal forwarded to the RTA for consideration and the subsequent Planning Focus Meeting held on 30 August 2004.

As indicated in the Planning Focus Meeting, the developer will need to prepare a Traffic Impact Study for the subject development. As a guide, the attached document (Table 2.1 of the *RTA Guide to Traffic Generating Developments*) outlines the key issues that should be considered in preparing a Traffic Impact Study.

If you require further information please contact Chris Millet on 4221 2570.

Yours faithfully



Trish McClure  
Road Safety and Traffic Manager  
Southern Client Services



## 2.3 Issues to be addressed

A traffic impact study should follow the standard format and structure that is listed in Table 2.1. This format covers the key issues to be addressed in determining the impact on traffic of a development. Use of this format and the checklist will ensure those involved in the preparation and / or assessment of Development Applications that the most significant matters are considered.

**Table 2.1**  
Key issues in preparing traffic impact studies

Procedures & Key Parameters	Source	Check ✓
<i>Brief description of the development</i>		
<i>Application and study process</i>		
<b>Introduction</b>		
<i>Background</i>		
<i>Scope of report</i>		
The key issues and objectives of a traffic impact study		
<b>General Data Collection / Existing Conditions</b>		
<i>Description of the Site and Proposed Activity</i>		
<i>Site location</i>		
Current land use characteristics (zoning) of the proposed site and land use in the vicinity	Council	
Site access		
<i>The Existing Traffic Conditions</i>		
Road hierarchy; including the identification of the classified road network (major and minor roads) which may be affected by the development proposal	Council / RTA	
Inventory of road widths, road conditions, traffic management and parking control	Council, RTA and Survey	
Current and proposed roadworks, traffic management works and bikeways	Council / RTA	
<i>Traffic Flows</i>		
Selection of key streets - possibly divided into the major and the minor road network; selection of key assessment periods, chosen to cover the times at which the development would be expected to have its major impacts	Section 3	
AADT on key streets	RTA / Council / Survey	
Daily traffic flow hourly distribution, particularly in or near residential areas	Survey	



Procedures & Key Parameters	Source	Check ✓
<b>Proposed Development</b>		
<i>The Development</i>		
Plan reference, if plans not contained in study report		
Nature of development		
Gross floor areas of each component of development		
Projected number of employees/users/residents		
Hours and days of operations		
Staging and timing of development		
Selection of appropriate design vehicles for determining access and circulation requirements	Section 6	
<i>Access</i>		
Driveway location, including review of alternative locations	Sections 5, 6	
Sight distance of driveways and comparisons with stopping and desirable minimum sight distances	Section 6	
Service vehicle access	Section 6	
Analysis of projected queuing at entrances	Section 6	
Current access to site and comparison with proposed access		
Provision for access to, and by, public transport	Section 6	
<i>Circulation</i>		
Proposed pattern of circulation	Section 6	
Internal road widths	Section 6	
Provision for bus movements		
Service area layout		
<i>Parking</i>		
Proposed supply		
Parking provision recommended by State Government policy	RTA	
Council code and local parking policies and plans	Council	
Parking layout		
Projected peak demand, based where appropriate on similar research reports and on surveys of similar developments;	Section 5	
Parking for Service / courier vehicles and bicycles	Section 5	



Procedures & Key Parameters	Source	Check ✓
Effect of recommended works on public transport services, including bus routes, bus stops and access thereto		
Provision of LATM measures		
Funding of proposed improvement projects		
Noise attenuation measures		



Contact: E Broomhead  
Telephone: (02) 9873 8573  
broomhe@heritage.nsw.gov.au  
File: H04/00002  
Our Ref: HRL30420  
Your Ref: S04/01809

Mr Michael Young  
Senior Environmental Planning Officer  
Major Development Assessment  
Department of Infrastructure, Planning and Natural Resources  
GPO Box 3927  
Sydney NSW 2001

Attention: David Kitto

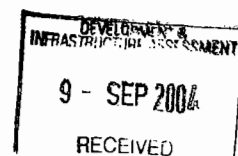
Dear David,

**RE: Proposed Environmental Impact Statement for Readymix Hard Rock Quarry,  
Marulan**

I refer to your letter dated received by this Office on 18 August, 2004, requesting information regarding the NSW Heritage Council's requirements for the preparation of the above mentioned Environmental Impact Statement.

It is advised that in accordance with the provisions of Clause 73 of the *Environmental Planning and Assessment Regulation 2000*, the EIS should address the following issues:


- The heritage significance of the site and any impacts the development may have upon this significance should be assessed. This assessment should include natural areas and places of Aboriginal, historic or archaeological significance. It should also include a consideration of wider heritage impacts in the area surrounding the site.
- The Heritage Council maintains the State Heritage Inventory which lists some items protected under the *Heritage Act, 1977* and other statutory instruments. This register can be accessed through the Heritage Office home page on the internet (<http://www.heritage.nsw.gov.au>), or can be searched by Heritage Office staff upon request. You should consult lists maintained by the NSW National Parks and Wildlife Service, the National Trust, the Commonwealth's Department of the Environment and Heritage and the local council in order to identify items of heritage significance in the area affected by the proposal. Please be aware, however, that these lists are constantly evolving and that items with potential heritage significance may not yet be listed.



- Non-Aboriginal heritage items within the area affected by the proposal should be identified by field survey. This should include any buildings, works, relics (including relics underwater), gardens, landscapes, views, trees or places of non-Aboriginal heritage significance. A statement of significance and an assessment of the impact of the proposal on the heritage significance of these items should be undertaken. Any policies/measures to conserve their heritage significance should be identified. This assessment should be undertaken in accordance with the guidelines in the NSW Heritage Manual. The field survey and assessment should be undertaken by a qualified practitioner/consultant with historic sites experience. The NSW Heritage Office can provide a list of suitable consultants.
- The proposal should have regard to any impacts on places, items or relics of significance to Aboriginal people. Where it is likely that the project will impact on Aboriginal heritage, adequate community consultation should take place regarding the assessment of significance, likely impacts and management/mitigation measures. For guidelines regarding the assessment of Aboriginal sites, please contact the NSW Department of Environment and Conservation's National Parks and Wildlife Service division on (02) 9585 6444.
- The relics provisions in the *Heritage Act* require an excavation permit to be obtained from the Heritage Council, or an exception to be endorsed by the Heritage Council, prior to commencement of works if disturbance to a site with known or potential archaeological relics is proposed. If any unexpected archaeological relics are uncovered during the course of work excavation should cease and an excavation permit, or an exception notification endorsement, obtained.
- If approval is required under the *Heritage Act* due to the listing of an item or place on the State Heritage Register, or being subject to an Interim Heritage Order, the Heritage Council's approval must be sought prior to an approval being issued by the consent authority under the *Environmental Planning and Assessment Act* (except where application relates to Integrated Development). In accordance with section 67 of the *Heritage Act*, an approval given by a consent authority in these cases before the Heritage Council's determination of the application has been notified to the consent authority, is void.

The Heritage Office would be happy to review any further documentation that may address any likely heritage impacts. If you have any further enquiries regarding this matter, please contact Elizabeth Broomhead on (02) 9873 8573.

Yours sincerely,



6/09/04

**Vincent Sicari**  
Principal Heritage Officer

**ATTACHMENT No. 3**



PO Box 323 Penrith NSW 2751  
Level 2, 311 High Street  
Penrith NSW 2750  
Tel 1300 722 468 Fax 02 4732 3666  
Email [info@sca.nsw.gov.au](mailto:info@sca.nsw.gov.au)  
Website [www.sca.nsw.gov.au](http://www.sca.nsw.gov.au)

Ref: 2004/01691

Michael Young  
Major Development Assessment  
Department of Infrastructure, Planning and Natural Resources  
GPO Box 3927  
SYDNEY NSW 2001

Dear Mr Young

### **Proposed Readymix Quarry, Marulan**

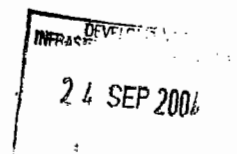
I refer to the Planning Focus Meeting held on the 30 August 2004 regarding the above. The purpose of this letter is to provide advice to the Department to assist in formulating the Director-Generals requirements for the environmental impact statement (EIS).

The Sydney Catchment Authority (SCA) requests the requirements state that the EIS needs to:

1. Consider State Environmental Planning Policy No. 58 – Protecting Sydney's Water Supply (noting, in particular, the matters specified in clauses 11(3) and 11(4) of the SEPP;
2. Consider the draft Regional Plan – Sustaining the Catchments;
3. Contain a water cycle management study prepared in respect of the development that addresses the following matters:
  - pre-development and post-development run off volumes and pollutant loads from the site of the proposed development;
  - the assessment of the proposed development against the matters for consideration specified in clause 10 of SEPP 58;
  - the impacts of the development on receiving waters;
  - the water cycle management strategies and best management practices proposed to be employed to address those impacts; and
  - the arrangements to be made for the ongoing maintenance and monitoring of the water cycle management system.

The water cycle management study should:

- address surface and ground waters;
- have regard for periods of wet weather;
- consider the design, construction, operational and decommissioning phases; and



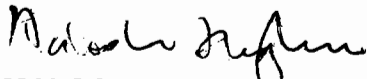


- in addressing clause 10(c) have regard for the water quality objectives as detailed in the draft Regional Plan (see section 3.2.1 of Part 1 and clause 6 of the draft Regional Environmental Plan);
4. Provide details of the proposals to manage waste waters associated with processing quarry materials, general stormwater runoff and human activities;
  5. Provide details of and assess the impacts associated with the relocation of watercourses;
  6. Provide details of the practices proposed to ensure materials transported from the site by road and rail do not spill (as solid, liquid or dust); and
  7. Assess measures proposed to be adopted to offset impacts associated with construction activities e.g. earthworks, vegetation clearing, track construction etc (these measures could include remediation of existing gully and sheet erosion and improved management of watercourses and related riparian areas).

The SCA requests that the requirements encourage the proponent to continue to consult with the Authority.

If you wish to discuss any matter raised in this letter please do not hesitate to contact me on 47252139.

Yours sincerely



**MALCOLM HUGHES**  
**R/Manager Statutory Planning**

20/9/04



Major Development Assessment  
Department of Infrastructure, Planning and Natural Resources  
GPO Box 3927  
SYDNEY NSW 2001

Attention: Mr Michael Young

Our Ref: 04/2390  
Your Ref: S04/00622

Dear Sir,

**Proposed Lynwood Quarry, Marulan**

I refer to your letter of 16<sup>th</sup> August 2004 and the planning focus meeting on 30<sup>th</sup> August 2004 regarding the Lynwood Quarry proposal by Readymix Holdings Pty Ltd.

Coarse aggregate is not a prescribed mineral under the Mining Act, 1992. Therefore, the Department of Primary Industries has no statutory authority over its extraction, apart from its role under the Mines Inspection Act, 1901 (as amended) concerning the safe operation of mines and quarries. Despite this, the Department of Primary Industries is the principal government authority responsible for assessing the State's resources of construction materials and for advising State and local government on their planning and management. With regard to safe operation of the quarry, the operator must observe all relevant requirements of the Mines Inspection Act, 1901 (as amended).

The proposed Lynwood Quarry is subject of a Section 117(2) Direction No. G28 – Coal, other Minerals, Petroleum and Extractive Resources notification provided to Greater Argyle Shire Council by the (former) Department of Mineral Resources on 10/05/2004.

The Mineral Resources Division standard requirements for an environmental impact statement (EIS) are provided in the accompanying information.

The Department routinely collects production statistics for all mines and quarries in the State. In order to assist in the collection of this data, Department requests that, if development consent is granted, the consent includes the following condition:

- The operator is required to provide annual production data as requested by the Mineral Resources Division of the Department of Primary Industries.

If you have any queries on this matter, please contact Greg MacRae of the Geological Survey on (02) 9901 8341.

Yours faithfully,

Iain Paterson  
Acting Manager,  
Industrial Minerals and Land Use

1-09-04

**DEPARTMENT PRIMARY INDUSTRIES  
MINERAL RESOURCES DIVISION  
EIS RESOURCE DATA**

The Department of Primary Industries, Mineral Resources Division considers that it is in the best interests of the proponent to fully assess the resources which are subject of the proposal. This means that a thorough geological assessment should be undertaken to determine the nature, quality and extent of the resource. Failure to undertake such an assessment could lead to operational problems and possibly failure of the proposal.

**Resource Assessment**

The following issues need to be addressed in the environmental impact statement (EIS):

1. A summary of the regional and local geology including information on the stratigraphic unit or units subject of the proposal.
2. The amount of material available for extraction and the method or methods used to determine this amount (e.g. drilling, trenching, geophysical methods). Plans and cross-sections summarising this data, at a standard scale, showing location of drillholes and/or trenches, and the area proposed for extraction, should be included in the EIS. Relevant supporting documentation such as drill logs should be appended. Major resource proposals should be subject to extensive drilling programs to identify the nature and extent of the resource.
3. Characteristics of the material or materials to be produced:
4. For clay/shale extraction proposals, ceramic properties such as plasticity, drying characteristics (e.g. dry green strength, linear drying shrinkage), and firing characteristics (e.g. shrinkage, water absorption, fired colour) should be addressed.
5. For sand extraction proposals, properties such as composition, grainsize, grading, clay content and contaminants should be indicated. The inclusion of indicative grading curves for all anticipated products as well as the overall deposit is recommended.
6. For hard rock aggregate proposals, information such as grainsize and mineralogy, nature and extent of weathering or alteration, and amount and type of deleterious minerals, if any, should be indicated.
7. For other proposals, properties relevant to the range of uses proposed for the particular material should be indicated.
8. Details of tests carried out to determine the characteristics of the material should be appended. Such tests should be undertaken by NATA registered testing laboratories.
9. An assessment of the quality of the material and its suitability for the anticipated range of applications should be given.
10. The amount of material anticipated to be produced annually should be indicated. If the proposal includes a staged extraction sequence details of the staging sequence needs to be provided. The intended life of the operation should be indicated.
11. If the proposal is an extension to an existing operation, any past annual production data (by financial year) for all products should be supplied in support of the proposal.
12. An assessment of alternative sources to the proposal and the availability of these sources. The impact of not proceeding with the proposal should be addressed.
13. Justification for the proposal in terms of the local and, if appropriate, the regional context. Identification of the subject site in relevant planning instruments such as regional environmental plans, should be noted.
14. Information on the location and size of markets to be supplied from the site.

15. Transport routes for the material to the market.
16. Disposal of waste products and the location and size of stockpiles.
17. Assessment of noise, vibration, dust and visual impacts, and proposed measures to minimise these impacts.
18. Proposed rehabilitation procedures during, and after completion of, extraction operations, and proposed final use of site.
19. Assessment of the ecological sustainability of the proposal.

### **Safety Issues**

On the safety issues, the following points are made:

1. All operations are to comply with the Mines Inspection Act, 1901, as amended.
2. The company is to nominate a person (or persons) as General Manager and Production Manager as required by the Mines Inspection Act 1901, Section 5 and 5B.
3. The General Manager must appoint trained and competent shotfirers to conduct all blasting operations.
4. The company is required to contact the Regional Inspector of Mines for a list of guidelines and safety issues which are to be addressed and for the required competencies for a Production Manager.

### **Mineral Ownership**

The *Mining Act 1992*, and its precursors, apply to those minerals specified in the regulations of the Act. Many construction materials are not prescribed minerals under the Mining Act. In general terms, this means these materials are owned by the Crown where they occur on Crown land and by the landowner in the case of freehold land. A Mining title is not required for their extraction although a Crown Lands licence is required where they occur on Crown land.

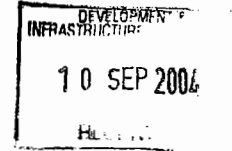
Construction materials such as *sand (except for marine aggregate), loam, river gravel, and coarse aggregate materials such as basalt, sandstone, and granite* are not prescribed minerals under the Mining Act 1992. Therefore, the Department of Mineral Resources Division of the Department of Primary Industries has no statutory authority over the extraction of these commodities, apart from its role under the Mines Inspection Act 1901 (as amended) with respect to safe operation of mines and quarries. However, the Department is the principal government authority responsible for assessing the State's resources of construction materials and for advising State and local government on their planning and management.

Minerals such as *structural clay (ie clay for brick, tile and pipe manufacture), dimension stone, quartzite, kaolin and limestone* are prescribed minerals under the Mining Act 1992. Minerals which are prescribed as minerals under the terms of the Mining Act may, in some cases belong either to the Crown or to the landowner, depending on a number of factors including the date on which the mineral was proclaimed and the date of alienation of the land. The proponent needs to determine whether the material is privately owned or Crown mineral (publicly owned). If it is privately owned, then either a notification under Section 8 of the Mining Act 1992 or, alternatively, a mining lease or mineral claim would be required. If it is a Crown mineral, an application for a mining lease or mineral claim will have to be lodged.

If you are unsure whether a mining title is required for your proposal you should contact the Mineral Resources Division of the Department of Primary Industries.



Department of Infrastructure, Planning and Natural Resources  
GPO Box 3927  
SYDNEY NSW 2001



Attention: Mr Michael Young

7<sup>th</sup> September 2004

Dear Michael,

**RE: Requirements for Environmental Impact Statement for a proposed Readymix  
Hard Rock Quarry, Marulan.**

I refer to your letter dated 16<sup>th</sup> August 2004 regarding the above mentioned development proposal. The Department has reviewed the documentation and considers that the following issues will need to be addressed within the EIS.

1. Quarry impacts. The impact of the quarry on surrounding properties will need to be investigated. In particular, the impacts of noise, dust and vibration.
2. Water. The impacts of the quarry on the quality and quantity of surface and ground water will need to be considered. Water extraction may have some impact on water resources. Any potential impact will need to be identified.
3. Final Site Use. The use of the site when extraction is complete. When and how the quarry be rehabilitated to a landscape of value to the community.
4. Storage of topsoil. A plan for effective storage and management of topsoil held for rehabilitation of the quarry should be included.
5. Weeds. Disturbed ground creates an environment suitable for weeds. A management plan to control the spread of weeds should be developed in the document.
6. Livestock management. If livestock are proposed to be run in the vicinity of the site, the document should indicate how livestock are to be excluded from the quarry, waste water control dams, transport routes and other facilities.
7. Dust. The control of dust is imperative. Pastures and crops when covered by dust become unpalatable. Prevention of even the slightest dust nuisance is essential.

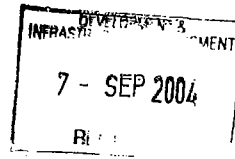
This Department would be pleased to review the document when it is prepared.

Yours sincerely,

**WENDY GOODBURN**  
Agricultural Environment Officer  
Goulburn

Level 15, 55 Market St  
Sydney NSW 2000  
GPO Box 47 Sydney  
NSW 2001 Australia

Telephone (02) 9224 2311  
Facsimile (02) 9224 3991



6 September 2004

Mr Michael Young  
Major Development Assessment  
Department Infrastructure Planning  
and Natural Development  
20 Lee Street  
CHIPPENDALE NSW 2008

Dear Michael,

**SUBJECT: READYMIX LYNWOOD QUARRY PROJECT AT MARULAN**

Thank you for the opportunity to attend the Planning and Focus meeting on 30<sup>th</sup> August 2004.

We confirm our comments from the meeting:

1. Balloon loop rail siding for train operations and loading is strongly supported. It provides optimal working of trains by eliminating shunting and repositioning of locomotives. This will assist minimising rail noise levels in the project.

A minor tonnage is predicted for rail haulage, southwards from the project site toward Goulburn. The project should therefore address options in the EIS to accommodate such train movements. Such working may entail sharing the existing ballast siding as a train reversing location when such movements are required.

2. Providing a buffer zone, potentially 200m wide, between the rail corridor and mining area is noted. This will assist ensuring no flyrock endangers rail traffic or maintenance personnel within the rail corridor during blasting.
3. Quarrying will not enter an exclusion zone beneath the rail corridor. Such zones are typically set as an area bounded within 45° outward, downward sloping section starting from the boundary of the rail corridor. Proposed 200m wide buffer zone assists in this regard.
4. Proponent's intention of 7 day, 24 hour operation of rail loading is endorsed. This provides maximum operational flexibility to meet haulage demand into the Sydney Metropolitan market clear of commuter peak service periods. Rail has the capacity to meet the projects transportation needs.

5. The project's proposing internal access across the Main Southern Line using bridges is also supported. A level crossing based option for a major quarry operation with heavy trucks crossing, and rail traffic passing at speeds of 115km per hour (for freight trains) and 160km per hour (for XPTs) would have posed unacceptable risks.
6. The longer-term strategy is for the rail corridor height clearances to be increased. Australian Rail Track Corporation (ARTC) will commence lease of this line section from 5<sup>th</sup> September 2004. Their future height clearance requirements for any bridge or conveyor structure crossing the line should be sought and included in the EIS Report.

We look forward to further participation, and thank you for consulting with us. The views provided in this reply we believe will be consistent with ARTC's position. They will need to be included in future consultations.

Yours sincerely



**TONY GAUSDEN**  
**A/ General Manager Access**



**AUSTRALIAN RAIL TRACK CORPORATION LTD**

8 March 2005

Mr David Kelly  
Development Manager, Sydney  
ReadyMix Holdings Pty Ltd  
Po Box 400  
Parramatta NSW 2124

Re: Letter of advice regarding line capacity on Main South corridor

Dear David,

Further to our discussions regarding the Readymix Development application and subsequent Environmental Impact Statement for the proposed Readymix Lynwood Quarry site at Marulan, this letter is to advise the line capacity availability to accommodate future ReadyMix service operation on the Main South line.

ARTC have reviewed the current corridor capacity and are able to advise that there is capacity on the Main South corridor to accommodate the transfer of these services on ARTC territory.

Please do not hesitate to contact me for any further information or clarification regarding this matter.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark Owens', is written above the typed name.

Mark Owens  
Manager, Sydney Operations  
Australian Rail Track Corporation