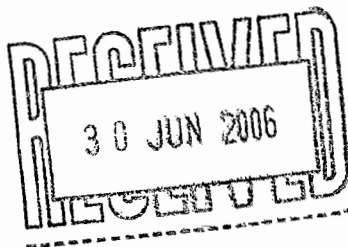


Our Ref: 236DA20-I (06/871)

Contact: Nicole Stevenson (4221 2523)

Your Ref: 102L10



T W Perram & Partners Pty Ltd
12 Clanwilliam Street
EASTWOOD NSW 2122

28 JUN 2006

CITY OF KIAMA – 102L10 – BERRY BEACH ROAD, EXTENSION OF GERROA SAND QUARRY, GERROA

Dear Sir / Madam

I refer to your letter dated 18 April 2006 regarding the subject development application forwarded to the RTA for consideration.

The RTA has reviewed the development application and does not object to the development application in principle.

In accordance with Section 79C(1)(b) of the EP&A Act, Council as the Consent Authority, is responsible to consider any likely impacts on the natural or built environment in the road reserve fronting this proposed development. For instance there could be traffic noise impacts on adjacent residences, impacts on indigenous or non-indigenous heritage items or threatened species. The RTA will not be making a separate Part 5 environmental assessment of the environmental impacts in the road reserve for this proposal.

Yours faithfully

Trish McClure
Manager, Road Safety and Traffic Management
Southern Operations and Services

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Roads and Traffic Authority



Level 4, 90 Crown Street
Wollongong NSW 2500

PO Box 477 Wollongong NSW 2520
DX5178 Wollongong

T 02 4221 2460

www.rta.nsw.gov.au

Our reference : 281283A8:WOF13949:CP
Contact : Craig Patterson, (02) 4224 4100

TW Perram & Partners Pty Ltd
(Attention: Mr Terry Perram)
12 Clanwilliam Street
EASTWOOD NSW 2122

Dear Sir

EXTENSION OF CLEARY BROS GERROA SAND QUARRY

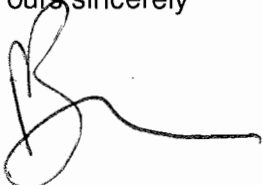
We are writing further to your letter dated 13 April 2006 seeking any additional comments from the Department of Environment and Conservation (DEC) for the above proposed development. We have reviewed the information submitted and provide the following comments.

In addition to issues identified in our previous letters dated 21 December 2004 and 30 September 2005, the environmental assessment should also consider the following guidelines:

- Draft Guidelines for Threatened Species Assessment – Available from Department of Planning;
- Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation – Available from Department of Planning; and
- Aboriginal Cultural Heritage Standards and Guidelines Kit – available through DEC's web page.

Should you require any further information please contact the officer listed above.

Yours sincerely

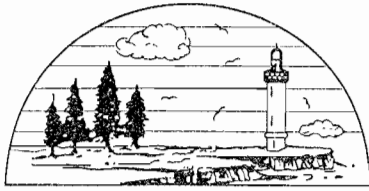


PETER BLOEM
A/Manager Illawarra
Environment Protection and Regulation

28/4/06

(N:\CP\2006\WOF13949 CB Gerroa Sand Quarry.doc)





*THE COUNCIL OF THE
MUNICIPALITY OF KIAMA*

Please address all communications to the General Manager

PO Box 75
KIAMA NSW 2533
Telephone: 02 4232 0444
Facsimile : 02 4232 0555

Telephone Enquiries to:

Ms Theresa Smyth
(02) 4232 0421

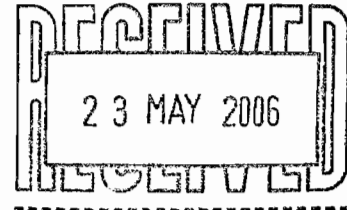
Your Ref: TS:ts
Our Ref: PR .01427

19 May 2006

Perram & Partners
12 Clanwilliam Street
EASTWOOD NSW 2122

Attn: Terry Perram

FAXED



Dear Mr Perram,

**Major Project Application No. MP 05_0099 - Proposed Extension of Cleary Bros
Gerroa Sand Quarry**

I write in response to your letter dated 13th April 2006 regarding the above proposal, which has been lodged with the Department of Planning for consideration. Thankyou for the opportunity to provide some comments on the proposal.

Council wrote to the Department on 7th April 2006 to bring to its attention two matters which should be given consideration when assessing the application. These are:-

- (a) The recent determination (December 2005) by the NSW Scientific Committee to list as an endangered ecological community, the 'Bangalay sand forest, Sydney Basin and South Coast Corner bioregions'. This is within the area of the proposed sand extraction; and
- (b) The Kiama Council Study by Dr Ros Muston which deals with the regionally significant zonation from the beach through to the wetland areas, which is also present in the area of the sand mine extension proposal.

The above two matters should be considered in addition to the issues raised in Council's letter dated 20 December 2004 regarding this matter.

I trust that this advice is of assistance. Should you wish to discuss this matter further, please contact Theresa Smyth of Council's Building & Development Division on the above number.

Yours faithfully

Theresa Smyth
Senior Town Planner



City Administrative Centre

Bridge Road, Nowra NSW Australia 2541

Phone: (02) 4429 3111 • Fax: (02) 4422 1816 • DX 5323 Nowra

Address all correspondence to

The General Manager, PO Box 42, Nowra NSW Australia 2541

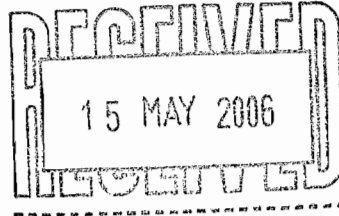
COUNCIL REFERENCE: 34236

CONTACT PERSON: Troy Bryce

YOUR REFERENCE: 102L06

Perram & Partners
12 Clanwilliam Street
EASTWOOD 2122

10th May, 2006



Dear Sir/Madam

Extension of Cleary Bros Gerroa Sand Quarry

With reference to your correspondence received 21 April, 2006, Council notes that the highlighted area for the proposed extension marked in 'pink' on the attached 2001 Ortho photo is located within the Municipality of Kiama.

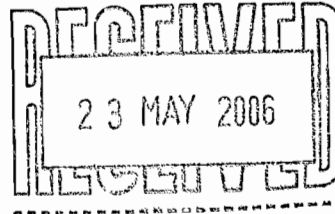
If you need further information about this matter, please contact Troy Bryce, Senior Development Planner on 4429 3319 **between the hours of 9.00 – 10.30am Monday to Friday**. Please quote Council's reference 34236.

Yours faithfully

Troy Bryce
Senior Development Planner



Mr Terry Perram
Perram & Partners
12 Clanwilliam Street
EASTWOOD NSW 2122



Our Ref: L88/0445
Your Ref: 102L08

Dear Sir

Proposed Extension of Cleary Bros Gerroa Sand Quarry

I refer to your letter of 13 April 2006 concerning matters that should be addressed in the Environmental Assessment for the above proposal. This is a coordinated response that incorporates the comments of the Mineral Resources, Agricultural and Fisheries divisions of the Department of Primary Industries. There are no issues relevant to the interests of Forests NSW.

Mineral Resources

Construction sand is not a prescribed mineral under the *Mining Act, 1992*. Therefore, the Department of Primary Industries has no statutory responsibility for authorising and regulating its extraction, apart from the Department's role under the *Mines Inspection Act 1901* concerning the safe operation of mines and quarries. However, the Department of Primary Industries is the principal government agency responsible for assessing the State's construction materials resources 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*.

The Gerroa sand extraction site is identified in the Illawarra Regional Environmental Plan No. 1 as a regionally significant extractive resource. It is also the subject of a Section 117(2) Direction No. 5 (formerly G28) – Coal, other Minerals, Petroleum and Extractive Resources notification provided to Kiama Council by the (former) Department of Mineral Resources on 6th March 1996.

Standard requirements of the Mineral Resources Division of the Department of Primary Industries for an environmental impact statement (EIS) for extractive industry proposals are provided in the accompanying attachment.

In particular, it is considered essential that the proponent undertakes a detailed resource assessment through a drilling and testing program to enable determination of the physical extent and quality of the construction sand resource. The results of resource assessment should be outlined in the EA or appended as a supporting document.

Please note that the Mineral Resources Division of the Department of Primary Industries routinely collects production data for all mines and quarries in the State. Data has not been provided from this operation since 1995 and it is therefore requested that the proponent provide a detailed record of annual construction sand production (by financial year) for the last 10 years and an estimate of the proportions of construction sand from Gerroa used in the Shoalhaven, Kiama, Shellharbour and Wollongong local government areas.

In order to assist in the ongoing collection of production data, the Department will be recommending to the consent authority that, if development consent is granted, it 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, in the form required.

Fisheries

As the proposal involves extraction of sand and construction of a flood levee in close proximity to Blue Angle Creek the Environmental Assessment will also need to address the following matters relevant to aquatic habitats and fisheries;

1. describe and evaluate the importance of the aquatic and riparian habitats adjacent to the sand extraction area. This should include a description and assessment of both aquatic and riparian vegetation communities, and a description of the morphology (width, depth, pools/riffles, snags etc) and hydrology (fresh, saline, tidal, water quality, rate of flow, flooding characteristics etc) of the channel.
2. describe the methodology for deviating the channel and describe how it will be stabilised to minimise the risk of erosion and conveyance of sediment to downstream habitats.
3. predictions as to the potential impacts of the expanded operations upon water quality in the channel and downstream in the Crooked River estuary under a range of flow scenarios, including floods.
4. include an assessment of the risks to downstream aquatic habitats posed by potential exposure of acid sulfate soils.
5. describe proposals for the long term (post extraction) management of the ponds.

Agriculture

The following issues relating to adjacent agricultural land will need to be addressed;

Noise: The impact of noise on rural landholdings, including any production losses (livestock)

Dust:

- The impact of dust generated from the quarry itself, truck movements or other operations. In particular, the impact of dust on rural residences and pastures (production) in a range of weather and atmospheric conditions.
- Proposed dust mitigation measures, including timing of implementation of these measures.

Site Rehabilitation: Plans for site rehabilitation, including the indicative nature, scale and value of the rehabilitation works

Buffer zones between adjacent landholdings and the quarry should be considered to manage the impacts outlined above.

If you have any further queries concerning this proposal, please contact Iain Paterson, Senior Geologist, Land Use, DPI Minerals Division, on 4931 6704. Any queries relating specifically to fisheries and agricultural issues may be directed to Allan Lugg, A/Program Manager, Aquatic Habitat Protection (4441 8969) and Wendy Goodburn, Agricultural Environment Officer, (4828 6635) respectively.

Yours faithfully,



I B L Paterson
For Chief Geoscientist, Land Use

18 May 2006

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

The Department of Primary Industries considers that it is in the best interests of the proponent to fully assess the resources that 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 (eg, 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:
 - a) For clay/shale extraction proposals, ceramic properties such as plasticity, drying characteristics (eg, dry green strength, linear drying shrinkage), and firing characteristics (eg, shrinkage, water absorption, fired colour) should be addressed.
 - b) 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.
 - c) 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.
 - d) For other proposals, properties relevant to the range of uses proposed for the particular material should be indicated.

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.
4. An assessment of the quality of the material and its suitability for the anticipated range of applications should be given.
5. 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.
6. 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.
7. 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.
8. 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.
9. Information on the location and size of markets to be supplied from the site.

10. Transport routes for the material to the market.
11. Disposal of waste products and the location and size of stockpiles.
12. Assessment of noise, vibration, dust and visual impacts, and proposed measures to minimise these impacts.
13. Proposed rehabilitation procedures during and after completion of extraction operations, and proposed final use of site.
14. Assessment of the environmental sustainability of the proposal.

Safety Issues

In relation to 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 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
Environment and Conservation (NSW)

Your reference : W92/00173
Our reference : 281283A7:WOF12177:CP
Contact : Craig Patterson, (02) 4224 4100

The Director
Department of Infrastructure Planning and Natural Resources
(Attention: Michael Young)
GPO Box 3927
SYDNEY NSW 2001

Dear Sir

**DIRECTOR-GENERAL REQUIREMENTS FOR THE PREPARATION OF AN ENVIRONMENTAL
IMPACT STATEMENT FOR THE PROPOSED EXTENSION OF SAND EXTRACTION
OPERATIONS AT GERROA SAND QUARRY, GERROA**

We are writing further to the Planning Focus Meeting held on 8 December 2004 and your letter received on 29 November 2004 requesting Director-General requirements for the preparation of an Environmental Impact Statement (EIS) for the above proposed development. This response addresses those issues regulated by the Department of Environment and Conservation (DEC) in relation to the Protection of the Environment Operations Act, the Threatened Species Conservation Act and the National Parks and Wildlife Act.

We have considered the details of the proposal as provided by the Department of Infrastructure, Planning and Natural Resources. Full details of the information we require in relation to the proposal is in Attachment A. In summary, these relate to:

1. Surface water quality (including stormwater) management on site;
2. Control of noise emissions related to the proposal;
3. Control of dust emissions;
4. Materials handling, storage and transport; and
5. Natural and Cultural Heritage.

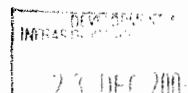
The environmental assessment of the proposal need not necessarily be limited to the information outlined in the attachment. The EIS should address all environmental issues relating to the development.

Natural and Cultural Heritage

Attachment B and Attachment C provides standard guidelines for consideration of flora, fauna and Aboriginal Heritage within impact assessment.

There are known Aboriginal sites in the vicinity of the quarry at Gerroa, including an Aboriginal midden and other sites of high cultural significance to Aboriginal people. A thorough Archaeological survey done in conjunction with relevant Aboriginal groups (the Jerrinja Local Aboriginal Land Council) is required. A permit for test pitting may also be required.

The EIS should assess the extent of endangered vegetation and include a report on how present operations are affecting the endangered vegetation. The size of the buffer between the quarrying operations and endangered vegetation should also be identified.



The proposed extension area should be surveyed for hollow bearing trees, as the Seven Mile Beach Area is a particularly important habitat for threatened bats. The Blackbutt Woodland should also be surveyed as it may be a habitat for several other threatened species.

The EIS will need to examine cultural reporting and mitigation requirements that are part of pre-existing cultural heritage approvals and how they have been met.

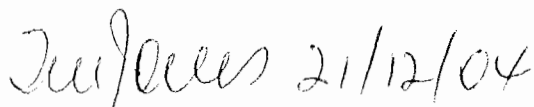
The cultural and natural heritage surveys should include both the Quarry site and any disturbance that is required for access or infrastructure connection.

Based upon the information provided with your letter and at the recent Planning Focus Meeting, an amendment to the current Environment Protection Licence (Licence 4146) may not be required as the proposed extraction area is already covered by the premises description and it is not proposed to increase the extraction rates as a result of the proposed development.

The existing licence includes the Scheduled Activity of dredging and permits the extraction of between 50,000 to 100,000 cubic metres of material annually.

We request that the applicant provides two copies of the EIS when lodging its application with the DEC. These documents should be lodged at Level 3, 84 Crown Street, Wollongong NSW 2500. Should you have any further enquiries, please contact the officer above.

Yours sincerely



TREVOR JONES
Regional Manager South Coast
Environment Protection and Regulation Division
Department of Environment and Conservation

Att:

cc: Michael Hood
Department of Environment and Conservation
Conservation Planning and Programs
PO Box 2115
QUEANBEYAN NSW 2620

(N:\IDA\DG REQUIREMENTS\WOF12177 - CLEARY BROS - GERROA SAND QUARRY.DOC)

ATTACHMENT A

Issues to be addressed in the development of an Environmental Impact Statement for the proposed extension of quarrying operations at Gerroa

The Department of Environment and Conservation (DEC) requests that the following issues be addressed in the Environmental Impact Statement (EIS) for the proposed extension of quarrying operations at the Cleary Bros (Bombo) Pty Ltd Gerroa Sand Quarry at Gerroa.

Preamble

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. The NSW Department of Infrastructure, Planning and Natural Resources (DIPNR) Environmental Impact Statement Guideline 'Extractive Industries Dredging and other Extraction in Riparian and Coastal Areas' (September 1996) should also be consulted.

A. EXECUTIVE SUMMARY

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

B. REASONS FOR THE PROPOSAL

The EIS needs to clearly state:

1. The reasons for the proposed development;
2. The expected quantity of materials which will be extracted and processed at the premises;
3. The proposal's relationship and linkages to the existing operations at the quarry;
4. The staging and timing of the proposal and any plans for future expansion;
5. The proposal's relationship to any other industry;
6. Whether there are any alternatives to the proposal and the implications of such proposals such as the opportunities to install additional crushers; and
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).

C. DESCRIPTION OF THE PROPOSAL

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:

- 1.1. 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;
- 1.2. Surrounding land uses, planning zonings and any future changes in land uses surrounding the premises (potential synergies and conflicts);
- 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;
- 1.4. Meteorological data (for example rainfall, temperature and evaporation, wind speed and direction);
- 1.5. Topography (for example landform element, slope type, gradient and length);

- 1.6. Soil types and properties to assist in understanding and assessing the performance of water pollution controls (including erodibility, engineering and structural properties, dispersibility and any soil issues such as acid sulfate soil); and
- 1.7. Availability of services and the accessibility of bulk materials transport.

2. Scope of Works

Fully scope the development in the EIS including information on:

- 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;
- 2.2. All equipment or activities which will be installed or undertaken at the premises as a result of the proposed development;
- 2.3. Provide a description of the extraction method and machinery to be employed at the site.
- 2.4. Provide details on the staging of the dredging works and progression of the dredge, proposed location of the dredge channels.
- 2.5. Provide schematics of the location and layout of the site including location of all stockpile/storage areas, fines pond, location of dredge machine, processing areas, maintenance areas and truck washing areas, and all other equipment and activities that would be undertaken at the site as a result of the proposed development.
- 2.6. Provide details of measures to ensure that the launching of the dredging platform and removing the dredge does not damage banks or the creek(s) and does not cause pollution of waters.
- 2.7. Describe the location of any pipeline and crossing for any pipeline to ensure potential damage to banks and the creek system will be minimised and avoids the removal of vegetation or inadvertent impacts caused by breakage or leakage of the pipeline.
- 2.8. A life cycle approach to the use or management of all materials and products;
- 2.9. An overview of actions to achieve cleaner production principles;
- 2.10. 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);
- 2.11. All phases of the project cycle including construction, routine operation, start-up operations etc;
- 2.12. Any site contamination, treatment and prevention systems;
- 2.13. Anticipated land contours after mining;
- 2.14. Provide details on any staged rehabilitation plan developed to address needs in accordance with the proposed final land use. Provide details on the potential long-term use of the land after operations cease (including anticipated land contours, drainage lines and the nature of the surface materials, for example, grasses, trees, buildings, etc after cessation of extraction operations) and its relationship to other lands within the regional context.
- 2.15. Any final Mine Closure Plan developed to address needs in accordance with the proposed final land use; and
- 2.16. Details on construction timetable and staging; hours of construction, environment protection measures, including water controls, noise mitigation measures, dust control measures and waste management.

D. IDENTIFICATION AND PRIORITISATION OF ISSUES

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.

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).

E. CUMULATIVE IMPACTS

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.

F. 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 Environment Protection Authority (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*.

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:

1. Existing Environment

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.

2. Identification of potential pollutants and assessment of impacts

- 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.

3. Material Handling, Storage and Quarry site

- 3.1. Details of material handling, storage and transfer system;
- 3.2. Details of cleaning devices fitted to any conveyor systems;
- 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;
- 3.4. Details on any screens, blending, mobile crushing and associated pollution controls to meet the environmental performance objectives;
- 3.5. Details on the location and size of any stockpiles including their management to prevent wind blown dust;
- 3.6. Details of proposed techniques to suppress wind blown dust especially the quarry site and associated activities;
- 3.7. Information should be provided on strategies for dust suppression in relation to high wind early warning management;
- 3.8. Details of spillage response including details of sealed surface management to prevent windblown dust in particular truck loading areas; and
- 3.9. Details on truck loading including details on dust suppression during loading operations.

4. Haul Road

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

5. Emissions and Environmental Impacts

- 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;
- 5.2. Provide emission rates for those pollutants for the different activities being undertaken at the premises;
- 5.3. Determine the resulting ground level concentration of pollutants;
- 5.4. Determine the effects of pollutant concentrations on the environment including human health and amenity;
- 5.5. Provide details of environmental monitoring required to demonstrate impact assessment criteria are not being compromised in the construction and operational phases; and
- 5.6. The assessment must also assess local cumulative impacts and any regional cumulative impacts.

G. WATER

Environmental Outcomes

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

- There is no pollution of waters (including surface and groundwater) and it complies with Section 120 of the Protection of the Environment Operations Act at all times;
- All polluted water (including process waters, wash down waters and 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 practical 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 Intent (Sol) established by the Healthy Rivers Commission; and

- It is acceptable in terms of the achievement or protection of the River Flow Objectives (RFO) and Water Quality Objectives (WQO).

The following policies and guidelines may need to be considered when taking into account water issues on site:

- Water Quality and River Flow Interim Environmental Objective '*Illawarra Catchment*' (October 1999)
- Acid Sulfate Soil Manual, NSW Acid Sulfate Advisory Committee, Aug 1998 (ASS Manual).
- 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*', (4th Edition March 2004).

Issues to be addressed

The development must consider the broad environmental goals and outcomes expected for the appropriate catchment using the policies and guidelines specified above. The proposal must transparently consider these outcomes, alongside economic, social and other environmental considerations.

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 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 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.

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:

1. Details are required on the surface and groundwater hydrological catchments including the existing water environment.
2. Description of the potential sources of pollution and assessment of the pollutant characteristics.
3. Provide an assessment of the potential risk of contamination of groundwater given the proposed design, management and location.
4. Provide details on changes resulting from the extraction of sand to existing surface and groundwater flow regimes and regional watertables as a result of the proposed development. In particular provide details on any potential risk for the groundwater table to be lowered.
5. An assessment of the adequacy of the design and management measures to minimise impacts, including those to prevent and control any discharges from the premises.
6. 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. 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.

Acid Sulfate Soils

1. Provide details on the effectiveness and adequacy of any soil management and mitigation measures during construction and operational phases of the development in relation to Acid Sulfate Soils (ASS) in accordance with the ASS Manual. A management plan should be prepared and included in the EIS that provides details on the management of ASS in particular, the fines from the washing, screening cyclone process.

H. 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.*

Issues to be addressed

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

1. Describe the development

- 1.1. 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 dredges, crushers, material transfer, reversing alarms, pumps, fans, conveyor systems, stockpile operation, transport of goods, product handling, etc;
 - (b) transport including traffic noise generated by the proposal; and
 - (c) other services.
- 1.2. 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;
- 1.3. 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;
- 1.4. An assessment of cumulative noise impact and the implications of surrounding quarry operations and changes in surrounding land use;
- 1.5. Details on noise monitoring to assess compliance with the predictions; and
- 1.6. 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.

2. Describe baseline conditions

- 2.1. Determine the existing background (L_{A90}) and ambient (L_{Aeq}) noise levels in accordance with the NSW Industrial Noise Policy;
- 2.2. 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;
- 2.3. 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 Rated Background Level (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.

3. Assess environmental impacts

- 3.1. 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.

- 3.2. 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.

- 3.3. 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;

- 3.4. 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.

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

- 3.6. 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; and
- the result of any community consultation or negotiated agreement.

- 3.7. 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.
- 3.8. 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; and
 - type of explosive, maximum instantaneous charge, initiation, blast block size, blast frequency.

I. 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 Environment Protection Licence.

The DEC considers that the following guidelines should form the basis for waste classification management for this development:

- a) *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

1. Characterisation of all wastes in accordance with relevant guidelines.
2. Outline cleaner production actions, including:
 - a) measures to minimise waste;
 - b) proposals for use or recycling of by-products (including recycling of screenings); and
 - c) proposed long term management methods of solid and liquid waste.
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.
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;
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;
6. Clearly detail all environmental impacts associated with waste management; and
7. All other information necessary to demonstrate how the above environmental outcomes and policy requirements will be achieved.

J. ENVIRONMENTAL MANAGEMENT

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

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

K. GENERAL

Issues to be addressed

1. Details on progressive mine site rehabilitation (including the existing excavation site and the appropriate landuse for the existing site);
2. Details on any site clearing and management of stripped topsoil to ensure it is available for rehabilitation of the site;
3. Details on overburden management including the identification of controls to prevent wind blown dust and contaminated stormwater pollution; and

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 'Eight 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.

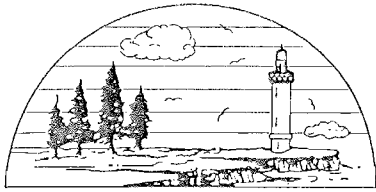
The EIS or other environmental assessment should consider Aboriginal cultural heritage, even if the area is disturbed in some way. The EIS should consider:

- 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 assessment of the need for an archaeological survey, and if so, to what level of detail. This should be defined by a study plan or research design. In most cases, an on-the-ground systematic archaeological investigation will be needed. 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 maybe 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.



THE COUNCIL OF THE
MUNICIPALITY OF KIAMA

Please address all communications to the General Manager

PO Box 75
KIAMA NSW 2533
Telephone: 02 4232 0444
Facsimile : 02 4232 0555

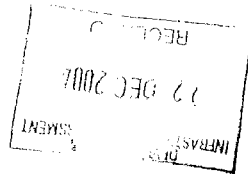
Telephone Enquiries to:

Your Ref: GD:gd
Our Ref: I26.003.000 (12 dipnr)

Mr Glenn Debnam
(02) 42 320442

20 December 2004

Department of Infrastructure,
Planning and Natural Resources
GPO Box 3927
SYDNEY NSW 2000



Attention:- Michael Young

Dear Sir

Gerroa Sand Quarry - Proposed Extension

I refer to your correspondence of 29th November 2004 and to the Planning Focus Meeting and site inspection held on 8th December 2004.

It is understood that Cleary Bros is seeking to extend its Gerroa sand quarry into existing cleared areas, which are presently mapped as areas of High Conservation Value under Kiama Local Environmental Plan 1996, and a northward extension of the extraction area, running parallel to Crooked River Road.

A number of issues were raised and discussed during the meeting and site inspection and I wish to confirm that, from Kiama Council's viewpoint (and in addition to statutory planning matters and matters prescribed by the Director-General), the following issues should be addressed in the environmental impact statement, subject to the agreement of the Director-General:-

1. Vegetation Management & Flora and Fauna Issues

- No extraction should take place within the Swamp Mahogany Forest. The extent of Swamp Mahogany Forest along the drainage channel to the north needs to be investigated, particularly as it is intended to realign the drainage channel and extract from the area.
- A flora and fauna assessment should be undertaken and should include an Eight Part Test. The assessment should thoroughly investigate the consequences of the removal of the Blackbutt Woodland, and also determine an appropriate setback between the Swamp Mahogany Forest and the extraction area (inclusive of bunding) to ensure the protection of the threatened ecological community.

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- A Vegetation Management Plan to provide for compensatory revegetation, rehabilitation of existing degraded areas, and links between wildlife corridors.
- A Rehabilitation Plan detailing proposed works to be undertaken once quarrying activities have ceased.

2. Hydrological Issues

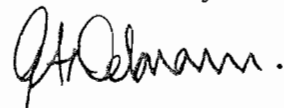
- It is understood that a previous flood study prepared for the quarry extension is being revised to take into account the latest development proposal.
- Consideration should be given to the Crooked River Estuary Management Plan.
- An investigation of ground water and acid sulfate soils should be undertaken.
- The proposed re-routing of the drainage channel is to be thoroughly investigated.

3. Operational Issues

- It is understood that the existing access arrangements will be maintained and that there will be no increase in truck movements above the existing situation. This information should be confirmed in the EIS.
- Information should be provided in relation to the movement of trucks around the proposed extended extraction area and the location of the material screening plant, during operations.

Should you have any enquiries regarding the above, please contact Glenn Debnam of Council's Building and Development Division.

Yours faithfully



Glenn Debnam
Senior Town Planner

Michael Young - Sand Extraction - Cleary Bros - Crooked River Rd, Gerroa

From: "Dixon, Stuart" <DIXONS@shoalhaven.nsw.gov.au>
To: <michael.young@dipnr.nsw.gov.au>
Date: 8/12/2004 4:31 PM
Subject: Sand Extraction - Cleary Bros - Crooked River Rd, Gerroa

Michael,

Further to the Planning Focus Meeting of today's date, please be advised that Council would require that the following matters be addressed in any EIS proposing extension to the quarrying operations:-

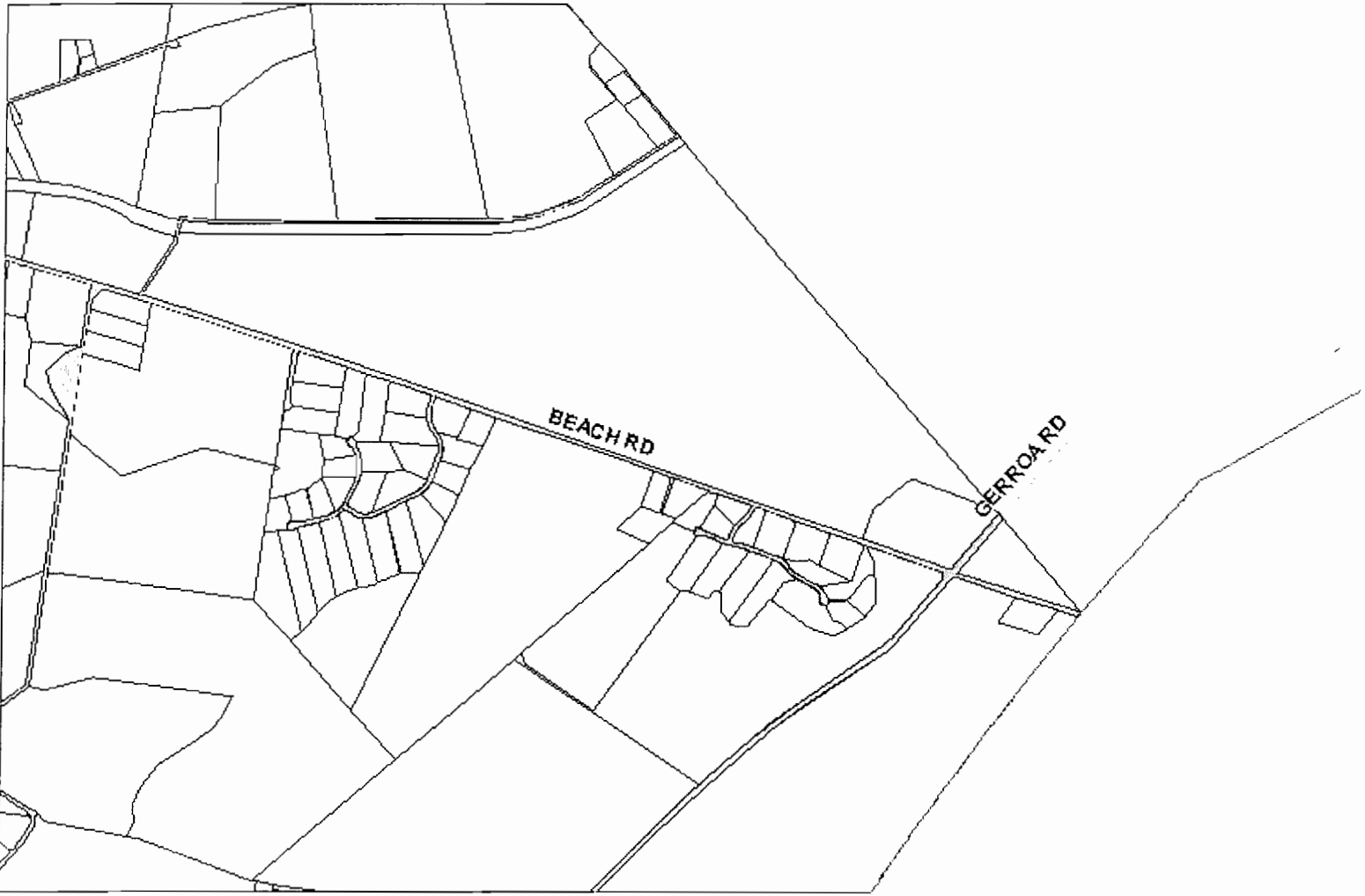
- traffic volumes and haulage routes from the site. Crooked River Rd has a load limit placed upon it within the City of Shoalhaven and consequently its use would be limited.
- Council has a Section 94 Contributions Plan that requires a contribution to maintaining Beach Rd which provides access to the site and is the required haulage route. It would be expected that Council would require this contribution to continue whilst the quarry is operational,
- I know this was covered at today's meeting but we would expect that the proposal include some assessment of noise and dust impacts on closest residential properties in the vicinity of the site.

Most of the impacts associated with the actual quarrying, including relevant drainage paths, appear to be limited to land located within the Kiama Municipality with no associated consequences for the City of Shoalhaven.

For your information, I have copied the current cadastre for Beach Rd which shows the location of recent rural residential subdivision in the vicinity of the entrance to the site, along with the northern extremity of the Shoalhaven LGA in this locality.

Regards

Stuart Dixon
Senior Development Planner



DEVELOPMENT &
IMPACT ASSESSMENT
17 JAN 2005



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

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

Dear Mr Young,

11 January 2005

**Proposed Continuation of Sand Extraction at Gerroa by Cleary Bros
(Bombo) Pty Ltd.**

I refer to the proposal to undertake an EIS for the above mentioned development proposal. Comments concerning requirements relating to agriculture are provided herein. Comments relating to mineral resources and fisheries were provided by R.G. Barnes in correspondence dated 20 December 2004.

The EIS will need to address the following issues relating to adjacent agricultural land:

Noise: The impact of noise on rural landholdings, including any production losses (livestock).

Dust:

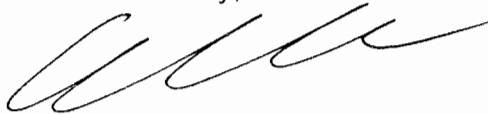
- The impact of dust generated from the quarry itself, truck movements or other operations. In particular, the impact of dust on rural residences and pastures (production) in a range of weather and atmospheric conditions.
- Proposed dust mitigation measures, including timing of construction of those measures.
- Impact of the loss of any leased agricultural land.

Site Rehabilitation: Plans for site rehabilitation including the indicative nature, scale and value of the rehabilitation works.

Buffer zones between landholdings and the sand quarry operations should be considered to manage impacts outlined above.

Should you have any queries in relation to the above requirements please contact myself on 48286635 or by email on wendy.goodburn@agric.nsw.gov.au.

Yours sincerely,

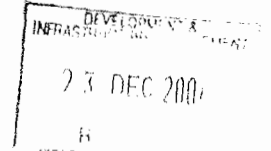
A handwritten signature in black ink, appearing to read 'Wendy Goodburn', with a stylized, cursive script.

Wendy Goodburn
Agricultural Environment Officer
South East Region



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

Now incorporating Department of Mineral Resources
ABN 51 734 124 190-003



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

Our Ref: L88/0445
Your Ref: W92/00173

Dear Sir

**Proposed Continuation of Sand Extraction at Gerroa
by Cleary Bros (Bombo) Pty Ltd**

I refer to the planning focus meeting on 8th December 2004 regarding the abovementioned proposal. Comments concerning requirements relating to mineral resources and fisheries are provided herein. Comments regarding any requirements pertaining to agricultural issues will be forwarded separately.

Construction sand 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 Gerroa Sand Pit is identified in the Illawarra Regional Environmental Plan No. 1 as a regionally significant extractive resource. It is also the subject of a Section 117(2) Direction No. G28 – Coal, other Minerals, Petroleum and Extractive Resources notification provided to Kiama Council by the (former) Department of Mineral Resources on 6th March 1996.

Standard requirements of the Mineral Resources Division of the Department of Primary Industries for an environmental impact statement (EIS) for extractive industry proposals are provided in the accompanying attachment.

In particular, it is considered essential that the proponent undertakes a detailed resource assessment through a drilling and testing program to enable

determination of the physical extent and quality of the construction sand resource. The results of resource assessment should be appended to the EIS as a supporting document. The Mineral Resources Division also requires that the proponent provide a detailed record of annual construction sand production (by financial year) for the last 10 years and an estimate of the proportions of construction sand from Gerroa used in the Shoalhaven, Kiama, Shellharbour and Wollongong local government areas.

Please note that the Mineral Resources Division of the Department of Primary Industries routinely collects production data for all mines and quarries in the State. In order to assist in the collection of this data, it is requested that, should development consent is granted, the consent include 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, in the form required.

As the proposal involves the deviation of a "drainage channel" which becomes Blue Angle Creek (Section 4.3 of the briefing notes) the EIS will also need to address the following matters relevant to aquatic habitats and fisheries;

1. describe and evaluate the importance of the aquatic and riparian habitats along the length of the proposed deviation of the drainage channel. This should include a description and assessment of both aquatic and riparian vegetation communities, and a description of the morphology (width, depth, pools/riffles, snags etc) and hydrology (fresh, saline, tidal, water quality, rate of flow, flooding characteristics etc) of the channel. The assessment of importance should take account of its potential as a migration route/corridor for fish species moving between the estuary and other aquatic habitats further upstream.
2. describe the methodology for deviating the channel and describe how it will be stabilised to minimise the risk of erosion and conveyance of sediment to downstream habitats.
3. predictions as to the potential impacts of the expanded operations upon water quality in the channel and downstream in the Crooked River estuary under a range of flow scenarios, including floods.
4. include an assessment of the risks to downstream aquatic habitats posed by potential exposure of acid sulfate soils.
5. describe proposals for the long term (post extraction) management of the ponds.

If you have any queries concerning issues relating to mineral and extractive resources, please contact Greg MacRae, Senior Geologist, DPI Minerals Division,

on 4275 9310 or by email to greg.macrae@minerals.nsw.gov.au. Any queries relating to fisheries issues may be directed to Allan Lugg, Senior Conservation Manager (South) DPI Fisheries Division, on 4441 8969 or Allan.Lugg@fisheries.nsw.gov.au. Please contact Wendy Goodburn, Agricultural Environment Officer, 4828 6635 or wendy.goodburn@agric.nsw.gov.au if you have any queries concerning agricultural issues.

Yours faithfully,

 20-12-2009

R.G. Barnes
Acting Team Leader Land Use

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

The Department of Primary Industries considers that it is in the best interests of the proponent to fully assess the resources that 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 (eg, 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:
 - a) For clay/shale extraction proposals, ceramic properties such as plasticity, drying characteristics (eg, dry green strength, linear drying shrinkage), and firing characteristics (eg, shrinkage, water absorption, fired colour) should be addressed.
 - b) 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.
 - c) 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.
 - d) For other proposals, properties relevant to the range of uses proposed for the particular material should be indicated.

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.
4. An assessment of the quality of the material and its suitability for the anticipated range of applications should be given.
5. 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.
6. 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.
7. 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.
8. 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.
9. Information on the location and size of markets to be supplied from the site

10. Transport routes for the material to the market.
11. Disposal of waste products and the location and size of stockpiles.
12. Assessment of noise, vibration, dust and visual impacts, and proposed measures to minimise these impacts.
13. Proposed rehabilitation procedures during and after completion of extraction operations, and proposed final use of site.
14. Assessment of the environmental sustainability of the proposal.

Safety Issues

In relation to 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 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.