

Environmental Impact Statement  
Project Specific Guidelines  
For  
East Arm Resources Pty Ltd  
East Arm Road Quarry  
Hillwood

*December 2020*



ENVIRONMENT PROTECTION AUTHORITY

## Contents

General Information for the Proponent .....	1
Key Issues to be addressed .....	1
Survey and Study Requirements for Key Issues .....	1
Contents of the EIS .....	3
Executive Summary .....	3
Table of Contents .....	3
List of Abbreviations .....	3
1. Introduction .....	4
2. Proposal Description .....	4
General note .....	4
2.1 General .....	5
2.2 Construction .....	5
2.3 Commissioning.....	6
2.4 General location map .....	6
2.5 Site plan .....	6
2.6 Off-site infrastructure.....	7
3. Project Alternatives .....	7
4. Public Consultation.....	8
5. The Existing Environment.....	8
5.1 Planning aspects.....	8
5.2 Environmental aspects .....	9
5.3 Socio-economic aspects.....	11
6. Potential Impacts and their Management .....	12
6.1 Air Quality .....	14
6.2 Water – surface flow and quality.....	15
6.3 Groundwater .....	16
6.4 Noise emissions .....	16
6.5 Biodiversity and Natural Values.....	17
6.6 Waste Management .....	18
6.7 Dangerous goods and environmentally hazardous materials.....	19
6.8 Greenhouse gases and ozone depleting substances .....	19
6.9 Socio-economic issues.....	20
6.10 Hazard analysis and risk assessment.....	20
6.11 Fire risk .....	21
6.12 Infrastructure and off-site ancillary facilities .....	21
6.13 Environmental Management Systems .....	21
6.14 Cumulative and interactive impacts .....	21
6.15 Environmental Impacts of Traffic .....	22

7. Monitoring and Review .....	23
8. Decommissioning and Rehabilitation .....	23
9. Management Measures .....	23
10. Conclusion .....	24
11. References .....	24
12. Appendices .....	24
13. Glossary .....	24
Appendix A: Other issues and agency contacts .....	25

## General Information for the Proponent

### Purpose

The *Environmental Management and Pollution Control Act 1994* (the EMPC Act) requires the Board of the Environment Protection Authority (the Board) to provide guidance to the proponent about what should be included in the case for assessment.

The Board will assess environmental aspects of the proposal. The relevant Planning Authority (Council) will assess planning aspects if the *Land Use Planning and Approvals Act 1993* applies. The Board has authorised EPA Tasmania to undertake administrative tasks and establish the information base to inform decision making on its behalf.

These project specific guidelines have been prepared based on a planning permit application lodged with George Town Council for the proposed East Arm Road Quarry by East Arm Resources Pty Ltd.

Information solely for the purpose of assessment under the relevant Planning Scheme should be supplied to the Planning Authority either:

- as required under section 54 of the *Land Use Planning and Approvals Act 1993* (LUPAA), where the planning application has commenced the environmental assessment process; or
- where it is intended to submit an EIS (draft or final) with the planning application, a combined planning and environmental report can be prepared. However, the information required for the Board's assessment must be distinguished from that supplied for the purposes of LUPAA.

### **Risk Based Assessment**

*The EIS should be prepared using a risk based approach. Not all issues nominated in these guidelines will have the same degree of relevance to all proposed activities. Depending on the nature of the proposed activity and its location, some of the issues may be more relevant than others, and some may not be applicable at all. The level of detail provided on each issue should be appropriate to the level of significance of that environmental issue to the proposal.*

*As well as these general guidelines, the Board will also provide Project Specific Guidelines. Project Specific Guidelines focus on the key issues for the proposal, as they are understood at the time they are issued, as well as any known information gaps relevant to the particular proposal.*

*As well as the issues identified in the guidelines, other significant matters may emerge during preparation of the EIS from environmental studies, public comments or other sources, which will need to be factored into the EIS. The assessment process may also change the understanding of the level of risk associated with some of the issues. This may in turn change the level of detail needed in the EIS to reflect the level of significance of that environmental issue to the proposal.*

After the public consultation phase, additional information may be requested from the proponent in response to public and government agency submissions. This generally takes the form of a supplement to the EIS.

## Objectives of the EIS

The EIS should provide:

- Information for individuals and groups to gain an understanding of the proposal, the need for the proposal, the alternatives, the environment that it could affect, the positive and negative environmental impacts that may occur and the measures that will be taken to maximise positive outcomes, and minimise any adverse environmental impacts, including specific management measures.
- A basis for public consultation and informed comment on the proposal.
- A framework against which decision makers, particularly the Board, and sometimes the relevant Planning Authority, can consider the proposal and determine the conditions under which any approval might be given.
- A demonstration that the proposal is consistent with the objectives of the relevant laws and policies, including the Tasmanian Resource Management and Planning System (RMPS) and the Environmental Management and Pollution Control System (EMPCS).

## How the Board uses the EIS

The EIS is the basis on which the Board makes its assessment. The Board considers the EIS, as well as other relevant information, against the objectives of the RMPS and EMPCS objectives. These objectives focus on the concept of sustainable development, which requires consideration of the economic and social needs of people now and in the future, while sustaining the environment and avoiding or mitigating adverse effects. The Board will consider the objectives and endeavour to make the decision which best furthers them, when considered together. That decision may be to approve the proposal with conditions, or in some cases, the Board may decide the objectives cannot be upheld and the proposal is rejected.

## Structure and Formatting of the EIS

The following points should be considered when writing the EIS:

- The title page should include the proponent's name, the activity name (include "expansion" or "upgrade" where appropriate), the proposal address or location, the EIS version number (where relevant) and the month and year of publication.
- The main text of the EIS should be written in a clear and concise style that is easily understood by the general reader.
- Assertions and assumptions should be supported by adequate argument and/or evidence, and evidence relied upon should be referenced.
- Technical terminology should be avoided as far as possible. The detailed technical data and supplementary reports necessary to support the main text should be included in appendices.
- All sources of information should be referenced and the style of referencing should be consistent throughout. An indication should also be given about how current the information is and how its reliability was tested. In particular, the degree of confidence attached to any predictions should be indicated.
- Information should be presented in maps, diagrams and site plans to enhance the level of understanding. All images must be of high quality, with all text readily readable, and should be capable of being readily copied and pasted into other documents such as a permit (e.g. all objects in images should be 'grouped'). All colour images must, when printed or photocopied in monochrome, reproduce such that all important features are readily visible. An exception may be made to the above where historical documents or photographs need to be reproduced in the document. For ease of comparison, all maps, plans and aerial

photographs should be oriented in the same direction as far as practicable and a north direction arrow and scale should be included.

- When providing maps or referring to spatial databases, the coordinate reference system being used should be specified (i.e. Australian Geodetic Datum (AGD) or Geocentric Datum of Australia (GDA)).
- Any sensitive information should be provided in a separate, confidential appendix. A comment should be made in the EIS that the information has been provided in this way.
- Specific management measures must be clearly identified in the text and included in the summary table referred to in Section 9 of these guidelines.
- Where appropriate, information provided in other sections should be referenced to minimise duplication.
- The EIS should contain a summary table showing compliance with the project specific guidelines and the relevant sections of these general guidelines.

### Submission of draft and final document

Close consultation with EPA Tasmania while preparing the EIS is recommended. It is advisable for the proponent to submit a draft EIS to EPA Tasmania for review before it is finalised. Please note that a draft document may be rejected without detailed review if it is incomplete, contains significant formatting or typographical errors, or does not comply with the Project Specific Guidelines and relevant sections of these general guidelines. More than one draft may be necessary before the document is considered suitable for public release.

The EIS is to be submitted in electronic format for use with a word processor (such as Microsoft Word), and suitable for publishing on the internet (PDF format). Printed copies may also be required at public consultation stage. The proponent will be advised of the number of copies and format required.

Once the proposal is advertised for public comment, copies of the EIS must be made available to the public on request, in either printed or electronic format. The EIS will also be available on the EPA website.

### Commonwealth environmental assessment

In addition to Tasmanian requirements, the Commonwealth Government may also have a role in the environmental assessment and approval of the proposal.

Approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is required for an action which has, will have, or is likely to have, a significant impact on a matter of national environmental significance or on Commonwealth land. The matters of national environmental significance are:

- World Heritage properties;
- National Heritage Places;
- wetlands of international importance (RAMSAR wetlands);
- nationally listed threatened species and communities;
- nationally listed migratory species;
- Commonwealth marine areas;
- nuclear actions; and
- large coal mines with water quality impacts.

Information on the EPBC Act can be obtained from the Commonwealth Department of Environment and Energy's website at [www.environment.gov.au/epbc/](http://www.environment.gov.au/epbc/) or by calling 1800 803 772.

The Commonwealth and Tasmanian Governments have signed a bilateral agreement relating to environmental impact assessment under section 45 of the EPBC Act, which effectively accredits

the State assessment process. Where the proposal has been determined to be a controlled action under the EPBC Act and is being assessed in accordance with the bilateral agreement, the EIS should specifically describe the implications of the proposal for the relevant EPBC Act controlling provisions.

If the proposal is being assessed under the bilateral agreement, the EIS should contain a summary table showing that it addresses the matters specified in Schedule 4 of the Commonwealth [Environment Protection and Biodiversity Conservation Regulations 2000](#).

**False or misleading statements**

*Under section 43A of the EMPC Act, the EIS must not include information that is known to be false or misleading; and nothing should be omitted if it is known that without it the EIS would be false or misleading.*

## Key Issues to be addressed

While the EIS should evaluate all potential effects of the proposal, it should be principally focused on the key issues identified in the table below. See the relevant sections of the Guidelines for more detail. The level of detail provided on other issues should be appropriate to the level of significance of that issue for the proposal. Variables or assumptions made in the assessment must be clearly stated and discussed. The extent to which the limitations, if any, of available information may influence the conclusions of the environmental assessment should be discussed.

The key issues identified for this proposal, which should be the focus of the EIS, are:

Key Issues	
1.	Emissions to air from quarrying activities, particularly dust.
2.	Emissions to water from quarrying activities, particularly sediment.
3.	Noise emissions from quarrying activities, including blasting, excavation, materials handling and vehicle movements.
4.	Potential impact on flora, fauna and vegetation communities from clearing and quarrying activities.
5.	Decommissioning and rehabilitation of the site.

## Survey and Study Requirements for Key Issues

The following surveys and studies will be required as part of the EIS:

Key Issue	Surveys or Studies Required	Relevant sections of Guidelines
1. Air emissions	<ul style="list-style-type: none"> <li>Dispersion modelling for dust (including at least PM10 and Total Suspended Particles (TSP)) and determining concentration and deposition of dust that would occur off site.</li> </ul>	6.1
2. Noise emissions	<ul style="list-style-type: none"> <li>Measurement of pre-existing noise levels at nearby residences (day, evening, night)</li> <li>Modelling to predict noise level contours (30, 35, 40 and 45 dB(A))</li> <li>Ground vibration modelling to predict peak particle velocity contours out to 2 mm/s</li> <li>Air blast overpressure modelling to predict dB(lin) level contours out to 100 dB(lin).</li> </ul>	6.4
3. Natural values	<ul style="list-style-type: none"> <li>Survey for natural values of any native vegetation to be cleared or disturbed.</li> <li>Survey for evidence of devil activity in all areas to be cleared or disturbed.</li> </ul>	5.2 and 6.7

<ul style="list-style-type: none"><li>• Survey of mature trees for nesting habitat.</li><li>• Survey for raptor nests within 1 kilometre of the proposal.</li></ul>	
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## Contents of the EIS

### Executive Summary

An executive summary of the EIS should be included to provide a clear and concise overview of the proposal, its environmental implications, the approvals process and the function of the EIS in the context of the approvals process.

For larger EISs, it is recommended that the executive summary be written as a stand-alone document, able to be provided on request to interested parties who may not wish to read or acquire the full EIS.

### Table of Contents

A table of the contents of the report with reference to the relevant page numbers. It should also contain a list of figures and tables.

### List of Abbreviations

A list of the abbreviations, acronyms and, if relevant, a glossary of terms used in the EIS.

## **I. Introduction**

Provide information on the following:

- Title of the proposal.
- Proponent details:
  - Name of proponent (legal entity)
  - Name of proponent (trading name)
  - Registered address of proponent
  - Postal address of proponent
  - ABN number
  - ACN number (where relevant)
- Contact person's details:
  - Name
  - Telephone
  - Email address
- Activity operator details (if the operator will be a different entity to the proponent).
- General background information on the proponent, such as relevant development and operational experience.
- General background information on the proposal, including the current status of the proposal, an overview of the principal components of the proposal, the proposal location, anticipated establishment costs, likely markets for the product, and the possibilities for future expansion.
- An examination of how the proposal relates to any other proposals that have been or are being developed, or that have been approved in the region affected by the proposal.
- Environmental legislation, standards and guidelines that will be applicable (such as policies, regulations and industry codes of practice).
- Other relevant Commonwealth, State and Local Government policies, strategies and management plans with which the proposal would be expected to comply.

## **2. Proposal Description**

### **General note**

Where the proposal is to be subject to a permit application under the LUPA Act, the proposal description and specification of the site must be consistent with the intended or current permit application. Any works or activity that are for the purpose of the proposal (e.g. access works) must be included.

Provide a full description of the proposal, including construction, commissioning, operational and decommissioning phases, as well as any infrastructure and off-site ancillary facilities required for the proposal.

A detailed description should be provided of key physical components of the proposal, including their function, composition, size, capacity, operational life, technical and performance requirements, inter-relationships and method of construction, operation and maintenance.

The information listed below should be provided.

## 2.1 General

- Identify ‘the land’ on which the proposal will take place, with associated mining leases, CTs and PIDs.
- A description of the resource to be extracted, as currently understood.
- Types and quantities of material(s) to be extracted and processed on a monthly / annual basis (expressed in cubic metres and loose bulk tonnes), tied into the staged quarrying plans. Include maximum proposed production rates, daily average rates and annual production rates.
- An estimate of the projected life of the operation, and expected long-term prospects based on the results of exploration work.
- Specify:
  - Maximum area of the site proposed to be disturbed (un-rehabilitated) at any given time (hectares).
  - Total area of land to be cleared or disturbed over the life of the proposal (hectares).
- Staged quarrying plans with approximate dates/timeframes for proposed works and areas of disturbance, with a specified outer boundary of disturbance for which approval is being sought in this proposal.
- A step-by-step description of proposed extraction and materials handling methods, direction of works, bench heights, ramping and haulage. Extraction plans should demonstrate the resource will be extracted in a systematic manner that will minimise the area of disturbance and allow for progressive rehabilitation of the site as appropriate.
- The hours of operation for the proposal (hours per day and specific days per week) including any seasonal variations.
- A description of the major items of equipment (including pollution control equipment) and on-site facilities. Detailed technical information on major items of equipment may be included in appendices.
- Raw materials required for the proposal (including water) should be specified. Quantities and characteristics should be detailed.
- Energy requirements for the proposal should be outlined and the means of meeting this demand described.
- The volume, composition, origin, destination and route for vehicle movements (including road, rail, shipping and air) likely to be generated during each phase of the proposal, including a break-down for over-dimension and heavy road vehicles.
- If the proposal is associated with an existing activity, describe any current approvals or regulatory conditions.
- Planned land use of the site when quarrying is complete.

## 2.2 Construction

- A step-by-step description and timetable for significant activities during the site set-up phase of the proposal.

- Indicative timeframes for the completion of major steps, and the likely sequencing of steps (there may be some overlap with section 2.1 above).
- An outline of measures to prevent or mitigate impacts from erosion and transport of sediment during construction and site preparation works, including resulting from creek diversion, removal of vegetation and other works.
- An outline of measures designed to prevent the introduction or spread of introduced plant species, weeds, pests and diseases (such as *Phytophthora cinnamomi*) during construction works.
- Details of any forest harvesting management arrangements to recover timber or other foreseen activities associated with the site, and whether approval for these activities is being sought as part of this proposal.

### 2.3 Commissioning

- A step-by-step description of major commissioning activities (if any) following installation of equipment.
- Indicative timeframes for the completion of major steps, and the likely sequencing of steps. The point at which commissioning will be considered completed should be described.

### 2.4 General location map

A general location map (e.g. 1:25,000 scale or better as appropriate) which identifies the following is required:

- The location of the proposal site;
- Topographical features, aspect and direction of drainage;
- Road access to and from the site, including primary proposed heavy vehicle movements;
- Location of waterways and drains (including ephemeral);
- The distance(s) to any nearby sensitive uses (such as residences), including development which has been approved but not yet constructed (refer to Council);
- Electricity transmission lines;
- Boundaries of the property on which the proposal is located;
- Surrounding land tenure;
- Surrounding land use (identify areas of conservation or recreational significance);
- Surrounding land zoning in the local government planning scheme.

### 2.5 Site plan

Site plans are required which identify the proposal site and which include the following (where relevant) for each key stage of quarry development:

- The location of the site, land title boundaries and mining lease boundaries in relation to one another;

- Definition of the land on which the activity will take place, and its boundary, by means of land title information, map coordinates or other means. This must be consistent with any intended or current permit application under the LUPA Act. Coordinates of the land should be provided;
- Watercourses on and adjacent to the site;
- Key natural values;
- The position of buildings and significant structures on the site (existing and proposed);
- The location of all major items of equipment and facilities and their position relative to property boundaries;
- The route of any pipelines, tracks, roads, conveyors or similar means of transporting on-site materials;
- The location of raw materials storage, loading and unloading areas;
- Details of any screening vegetation or bund walls;
- Site water management (drains, settling ponds, bunding etc. (see also Part 6.2)); and
- Monitoring points (as relevant).

## 2.6 Off-site infrastructure

Describe and map any new infrastructure or off-site ancillary facilities required to allow the proposal to proceed (for example water supply, electricity supply, roads or other transport infrastructure).

## 3. Project Alternatives

The rationale for the particular project proposed should be described.

Describe the site selection process, including site selection criteria, alternative sites considered and an assessment of those alternatives. The assessment should compare alternatives according to clearly defined environmental, social, economic and technical considerations, and provide a justification for the preferred site. The effect that any community consultation undertaken had on the selection process should be detailed.

A critique of other available technologies (where they exist) and the reason for the selection of the preferred technology, including from an environmental perspective, should be included where relevant. Transparency around alternatives and the criteria on which decisions have been based is encouraged as it can lead to better outcomes.

For any part of the proposal where alternative sites, technologies, materials, design options or management practices with different environmental consequences may exist, the alternatives should be identified, their environmental performance evaluated and the reason for the proposed choice justified. This needs to include discussion of:

- Proposed patterns of excavation over the life of the quarry – starting points, directions of excavation etc. (further discussion may be required in regard to specific environmental issues under Section 6);
- Proposed bench designs with consideration of stability and capacity for long term rehabilitation.

Alternatives should have regard to best practice environmental management, including those measures listed under section 4(2) of the EMPC Act.

#### 4. Public Consultation

Details of the nature and results of public consultation undertaken (if any) by the proponent during project planning and preparation of the EIS, as well as any proposals for further public consultation during and beyond project implementation.

Early community engagement often leads to better outcomes for all and is strongly encouraged. The Board has produced a guide to community engagement which is available on the EPA website at: <http://epa.tas.gov.au/assessment/assessment-process/guidance-documents>

#### 5. The Existing Environment

Describe the proposed site location and provide an overview of the existing environment, which may be affected by construction, and operation of the proposal, including areas associated with any ancillary activities.

Include details of salient features of the existing environment and, where appropriate, include maps, plans, photographs, diagrams or other descriptive detail.

The following details should be included.

##### 5.1 Planning aspects

- If a permit is required for the proposal under the LUPA Act provide:
  - Use Class of the proposed activity under the applicable Planning Scheme.
  - Permissibility of the activity under the applicable Planning Scheme.
- Information on land tenure and property boundaries of the proposed site, with certificate of title details.
- Land zonings for the proposed site and surrounding areas.
- Any rights of way, easements and covenants affecting the site.
- Land use and planning history of the site, including the potential for site contamination<sup>1</sup>, present use and any existing buildings and significant structures.
- A description of land use and ownership in the vicinity of the site and those areas which may be affected by the proposal, including:
  - The location and nature of industrial facilities.
  - Any sensitive uses<sup>2</sup> or residential zones within applicable attenuation distances including the location of individual residences, schools, hospitals, caravan parks and

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<sup>1</sup> Information on potentially contaminating activities and contaminated site assessment can be found online at <http://epa.tas.gov.au/regulation/contaminated-sites>.

<sup>2</sup> Defined in the State Planning Provisions as 'a residential use or a use involving the presence of people for extended periods except in the course of their employment such as a caravan park, childcare centre, dwelling, hospital or school.'

similar sensitive uses, and the location of any tourist or recreation facilities or routes (such as camping areas, picnic areas, walking tracks, historic routes).

- Any proposed or potentially sensitive uses within this distance of the proposal site, which have been or are likely to be granted approval under the local planning scheme, should also be considered.

## 5.2 Environmental aspects

- A description of the general physical characteristics of the site and surrounding area, including topography, local climate, geology, geomorphology, soils (including erodibility and acid sulphate soils), vegetation, groundwater and surface drainage (including waterways, lakes, wetlands, coastal areas etc).
- Information on vegetation communities, species, sites or areas of landscape, aesthetic, wilderness, scientific or otherwise special conservation significance which may be affected by the proposal, both terrestrial and aquatic, including the results of any surveys. For this proposal, surveys are required for threatened flora, threatened fauna and raptor nests. Relevant information resources include the LIST ([www.thelist.tas.gov.au](http://www.thelist.tas.gov.au)) and the Natural Values Atlas (<https://www.naturalvaluesatlas.tas.gov.au>). The Conservation Assessments Section of DPIPWE (CAS) has provided the following specific advice:

- There is a record for *Veronica plebeia* (training speedwell), listed as Rare under the *Threatened Species Protection Act 1995* (TSPA), within 500 m of the proposed development area, and there are records of a further 14 listed fauna species within 5,000 m of the area.
- There are records within 500 m of the property for threatened fauna (see table below).

Species name	Common name	TSPA	EPBCA
<i>Dasyurus maculatus</i>	Spotted-tail quoll	r	VU
<i>Dasyurus viverrinus</i>	Eastern quoll		EN
Eagle sp.		e	EN
<i>Litoria raniformis</i>	Green and gold frog	v	VU
<i>Sarcophilus harrisii</i>	Tasmanian devil	e	EN
<i>Perameles gunnii</i>	Eastern-barred bandicoot		VU

- A further 11 threatened fauna species are likely to occur in the area based on Range Boundaries, including the Masked owl (*Tyto novaehollandiae subsp. castanops*), listed as Endangered under the TSPA and Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*, (EPBCA) and the Swift parrot (*Lathamus discolor*), listed as Endangered under the TSPA and Critically Endangered under the EPBCA. According to the NVA, there is suitable habitat for the Australian Grayling (*Prototroctes maraena*) and Eastern dwarf galaxias (*Galaxiella pusilla*), both listed as Vulnerable under the TSPA and EPBCA, within 500 m of the proposed development area. Juvenile Australian Grayling live in marine waters, then move upstream into freshwater as adults to spawn.

- The lack of records within the proposed development area for threatened flora and fauna is likely due to a lack of surveying in the area. It is recommended that the property be surveyed by a suitably qualified person in accordance with the Guidelines for Natural Values Assessments. The guidelines can be found at: <http://dipwwe.tas.gov.au/conservation/development-planning-conservation-assessment/survey-guidelines-for-development-assessments> The survey should determine if any potential habitat for the above-mentioned species is present on the property and should include a check of mature trees for hollows that may provide potential nests for Masked owls or Swift parrots, or nesting habitat for the Tasmanian Devil.
  - If surveying identifies the presence of any threatened fauna or nests/dens on or near the property, then further information should be sought from CAS before any development works commence. If any potential dens sites for the Tasmanian devil are found to exist within the site and are likely to be impacted by the proposal, these should be managed in accordance with the Tasmanian Devil Survey Guidelines and Management Advice for Development Proposals (the Devil Guidelines) available at <http://dipwwe.tas.gov.au/conservation/development-planning-conservation-assessment/survey-guidelines-for-development-assessments> . Any dens that cannot be avoided will require a permit to take under the Nature Conservation Act 2002.
  - If surveying identifies any threatened fauna species listed under the EPBCA to be present on the property and likely to be impacted upon by the proposed development, then the proponent should make themselves aware of their obligations under the EPBCA.
  - A raptor nest has been identified within 500 m of the proposed development area and, based on assessment of Range Boundaries, there is potential habitat for nests of Tasmanian wedge-tailed eagle (*Aquila audax subsp. fleayi*), Grey goshawk (*Accipiter novahollandiae*) and White-bellied sea-eagle (*Haliaeetus leucogaster*) within 500 m of the area. CAS recommends that a survey be undertaken by a suitably qualified and experienced person to determine whether other, unknown, nests (or potential habitat) exist within 1 km of the proposal. Searches for the presence of nests should be undertaken outside of the breeding season (July to January inclusive). Once surveys have been completed, CAS can provide further advice. It is generally recommended that activity within 500 m or 1 km line-of-sight of an active nest is avoided during the breeding season, July to January inclusive.
  - There are three threatened vegetation communities (*Eucalyptus viminalis* wet forest, *Melaleuca ericifolia* swamp forest, and Riparian scrub) within 500 m of the proposed development area. The above-mentioned recommended surveys should identify whether any threatened vegetation communities occur within the proposed development area.
- Identification of all Protected Environmental Values (PEVs) of waterways on and near the proposed activity site(s).
  - Identify any freshwater ecosystems of high conservation management priority using the Conservation of Freshwater Ecosystem Values (CFEV) database (accessible on the internet under <https://wrt.tas.gov.au/cfev>). The scope of investigation should encompass the vicinity of the proposed development where there is likelihood of alteration to the existing environment. The specific CFEV information used for EISs should be Conservation Management Priority Potential which is appropriate for development proposals.

- Impacts on sites of geoconservation significance or natural processes (such as fluvial or coastal features), including sites of geoconservation significance listed on the Tasmanian Geoconservation Database.
- Any existing conservation reserves located in the vicinity of the site.
- Any high quality wilderness areas identified in the *Tasmanian Regional Forest Agreement* in the vicinity of the site.
- A description of natural processes of particular importance for the maintenance of the existing environment (e.g. fire, flooding, etc).
- An assessment of the vulnerability of the site to natural hazards (e.g. flooding, seismic activity, fire, landslips or strong winds).
- Any available ambient monitoring results for the vicinity of the proposed development (in tabular or graphical form). The results may be summarised (e.g. as annual averages) if the summary will provide adequate information.
- If the proposal is associated with an existing activity, information on current regulatory approvals and licences should be provided.

### **5.3 Socio-economic aspects**

Briefly describe the existing social and economic environment that may be affected by the proposal, which may include information on the following:

- A summary of the social or demographic characteristics of the population living in the vicinity of the proposal site, identifying any special characteristics which may make people more sensitive to impacts from the proposal than might otherwise be expected.
- A summary of the characteristics of the local and regional economy.

## 6. Potential Impacts and their Management

### Guide to preparing this section

While some details of the proposal may not be finalised at the time the EIS is submitted, the information in the document should be as up to date as possible. Where information is unavailable or details have not yet been finalised, estimates and the range of alternative options should be provided. However, sufficient technical detail must be provided to enable an appropriate level of assessment. For each potential impact the following should be discussed.

#### Existing conditions

Outline the existing conditions relevant to the impact. In the case of a proposal which involves expansion or redevelopment of an existing activity, a summary of public complaints received in recent years and a discussion of the operator's response and how this may affect the current proposal.

#### Performance requirements

Identify the environmental performance requirements to be achieved for each environmental impact and provide evidence to demonstrate that these can be complied with. These may be standards or requirements specified in legislation, codes of practice, state policies, national guidelines or as determined by agreement with the assessing agencies. Industry best practice standards should be referred to where appropriate. **Unsupported assertions that performance requirements will be achieved will not be considered adequate.**

#### Potential impacts

Outline the potential environmental, social and economic impacts of the proposal (positive and negative) through all stages, including construction, operation and closure, in the absence of special control measures. Any foreseeable variations in impacts during the start-up and operational phases should be identified.

**The level of detail provided on each issue should be appropriate to the level of significance of that environmental issue to the proposal.**

The evaluation of potential impacts should identify **plausible worst case consequences**, the vulnerability of the affected environment to the potential impacts, and the reversibility of the impacts. Potential cumulative impacts of this proposal in light of other activities underway or approved also need to be addressed. Interactions between biophysical, socio-economic and cultural impacts should be identified.

Predictions and evaluations of impacts should be based on scientifically supportable data (for existing operations this should include the results of monitoring of current emissions). The methodologies used or relied on should be referenced, together with the relevant research and investigations supporting them. Assumptions, simplifications and scientific judgements should be stated clearly, and the nature and magnitude of uncertainties should be clearly defined. Where relevant, the choice of a particular methodology over alternative methodologies should be explained. Where impacts are not quantifiable, they should be adequately described.

Where positive benefits are claimed it will generally be appropriate to explain what measures are to be taken to ensure that those positive outcomes are realised and sustained.

#### Avoidance and mitigation measures

Describe the measures proposed to avoid or mitigate potential adverse impacts (having regard to best practice environmental management as defined in EMPCA) in order to achieve the environmental performance requirements (such as through pollution control technology or management practices). The extent to which they will overcome the anticipated impacts should be specified. Where there are clear, alternative avoidance or mitigation measures for a particular adverse environmental impact, the alternatives should be reviewed and the preferred option justified.

Where pollution control equipment and/or treatment processes are key factors in achieving satisfactory environmental performance, contingencies in the event of breakdown or malfunction of the equipment or processes should be discussed. It should be demonstrated that the maintenance of pollution control equipment can be provided for without causing performance requirements to be exceeded.

Where measures to control environmental impacts are necessary, but will not be undertaken by the proponent, the means by which the proponent will ensure that the necessary measures are implemented should be identified (e.g. lease conditions, trade waste agreement, contractual arrangement or other binding third party commitment). **Mitigation measures over which the proponent has no control will generally not be considered adequate.**

### **Assessment of net impacts**

An assessment of the overall impacts of the development on the environment after allowing for the implementation of proposed avoidance and mitigation measures. This should include an evaluation of the significance of impacts, the potential for emissions to cause environmental and health impacts and comparison with current environmental conditions (for existing activities) and with state, national and international regulations and standards. Any net benefits likely to result from the proposal should be identified.

Discuss the impacts of the proposal in terms of the constraints or benefits it may place on the current or future use of land within the proposal site and surrounding area as a result of environmental impacts or emissions, including impacts on other uses, particularly sensitive uses.

### **Offsetting unavoidable adverse impacts**

If adverse residual environmental impacts from the proposal are considered unavoidable despite the adoption of best practice environmental management avoidance and mitigation measures, then proposals to offset such impacts should be detailed. For example, if the loss of conservation values, community assets or amenities is considered unavoidable, measures to compensate for those losses should be proposed in proportion to the loss. Any offset actions proposed must be demonstrated to be 'real' actions. That is, **the offset actions must have a measurable and relevant benefit which would otherwise not have occurred.**

## 6.1 Air Quality

Discuss potential impacts of the proposal on the local and regional air environment, for each key stage of quarry development, including:

- Identify, describe and mark the locations (on a site map) of all possible sources of dust emissions from the proposed quarry. This should include emissions generated during general activities (i.e. blasting, drilling, grading of unpaved roads) as well as rock production (crushing, screening, loading, hauling) and activities associated with overburden materials (e.g. excavation, hauling, dumping of waste rock). Wind erosion from open pit, stockpiles and overburden materials should also be included.
- Provide information about activity rates/frequency and composition of emitted material (Total Suspended Particles (TSP), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and deposited dust) in order to establish suitable emission rates.
- Provide information about the extent of stripped or unprotected areas for each progressive stage of quarrying activities for the first 20 years of operation as proposed in the planning application.
- For each progressive stage of quarrying activities for the first 20 years of operation as proposed in the DA provide a detailed emission inventory. These inventories should include for each emission source, the activity rate (number of hours per annum), the average emission rate per year calculated for the situation where emission controls are applied (where possible) as well as the information about the type of control measures to be used for these sources and the level of emission reduction expected. Emission rates should be calculated using the relevant emission factors published by the NPI (National Pollutant Inventory) or by the USEPA (United States Environmental Protection Agency).
- For each progressive stage of the quarrying activities proposed, undertake atmospheric dispersion modelling to assess the impacts of air emissions from the proposed quarry. Modelling should be conducted by a suitably experienced and qualified specialist in accordance with the EPA's *Atmospheric Dispersion Modelling Guidelines* available from <https://epa.tas.gov.au/Documents/Atmospheric%20Dispersion%20Modelling%20Guidelines.pdf> . It is strongly recommended that the scope and method of atmospheric dispersion modelling is discussed with the EPA's Air Modelling Officer prior to commencement of modelling.
- Given that the *Environmental Protection Policy (Air Quality) 2004* does not include criteria for dust deposition, TSP and PM<sub>2.5</sub>, and that the criterion for PM<sub>10</sub> is not in accord with the current national air quality standards, it is required that the predicted impact of dust emissions from the expanding quarry is assessed with respect to the criteria provided in *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA NSW), revision November 2016, Table 7.1 page 26 (available from <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/air/approved-methods-for-modelling-and-assessment-of-air-pollutants-in-nsw-160666.pdf> ).
- Discuss potential environmental impact of fugitive dust emissions from the proposed activity (at all stages) on the nearest residence(s), especially during unfavourable meteorological conditions.
- Provide details of management practices which will be used to reduce dust movement and to minimise dust emissions from the site. Discussion of the ongoing provision of an adequate water supply should also be included.

## Legislative and policy requirements

Consideration should be given to the requirements of the Tasmanian *Environment Protection Policy (Air Quality)* (see <http://epa.tas.gov.au/policy-site/Pages/Air-Quality-EPP.aspx>).

### 6.2 Water – surface flow and quality

Discuss potential impacts of the proposal on surface water, for each key stage of quarry development, including:

- Whether any works are proposed within the riparian areas of waterways, the nature of those works, and the width of any proposed buffers between works and waterways, including ephemeral channels.
- How the spatial relationship between the quarry and waterways on the site, including Fourteen Mile Creek and the other two un-named waterways, change as the quarry develops over time, including both horizontally and vertically, with maps/diagrams.
- Identification and map of any proposed new point source liquid emissions (wastewater and stormwater). Note: wastewater means water used or contaminated during carrying out the activity, and does not include clean stormwater arising from rainfall on the proposal site.
- The potential for pollutants to enter waterways as a result of the activity, including as a result of works within waterway areas and of stormwater encountering disturbed areas.
- A map and detailed information of the locations and sizes of proposed stormwater diversion and collection systems, such as cut-off drains and sediment settling ponds.
- Consideration of the adequacy of proposed stormwater management (including during reasonably foreseeable flood events).
- The potential impact of pollutants entering waterways, including on identified PEVs.
- Some portions of the area are mapped as having potential acid sulfate soils. Discuss the potential for encountering such soils, the potential impact if disturbed, and proposed management measures. Specific advice has been provided by the Conservations Assessments Section of DPIPWE as follows:
  - As excavation of natural soils is required under the proposed works, CAS recommends that the contractor be made aware of all relevant information concerning acid sulfate soils (ASS). In particular, CAS recommends that excavator operators be trained in the identification of ASS (<http://dPIPWE.tas.gov.au/Documents/ASS-Operational-FINAL.pdf>), and that, if they are observed, appropriate action be taken in accordance with the DPIPWE guidelines *Tasmanian Acid Sulfate Soil Management Guidelines* (<https://dPIPWE.tas.gov.au/Documents/ASS-Guidelines-FINAL.pdf>).
- If the proposal anticipates a discharge to a municipal sewerage system (including tankered waste) then a suitably detailed agreement with the operator of the municipal sewerage system should be negotiated.

## Legislative and policy requirements

It must be demonstrated that the proposal is consistent with the objectives and requirements of relevant water management policies and legislation including the *Water Management Act 1999*, the *State Policy on Water Quality Management 1997*, and the *Tasmanian State Coastal Policy 1996*.

In particular, it must be demonstrated that the proposal will not prejudice the achievement of any water quality objectives set for water bodies under the *State Policy on Water Quality Management*

1997 (see <http://epa.tas.gov.au/policy-site/Pages/Water-Quality-Policy.aspx>). Where water quality objectives have not yet been set, EPA Tasmania should be consulted to identify the baseline water quality data required to enable the water quality objectives to be determined.

In areas where excavation, track building, or construction activities are planned around wetlands and waterways, the proponent should adhere to the legislation, policies and guidelines set out in the DPIPWE Wetlands and Waterways Works Manual (<http://dPIPWE.tas.gov.au/conservation/flora-of-tasmania/tasmanias-wetlands/wetlands-waterways-works-manual>).

### 6.3 Groundwater

Discuss potential impacts of the proposal on groundwater (quality and quantity), including:

- A map showing the location of any groundwater bores (if present).
- An outline of a conceptual groundwater model for the mining lease and immediately adjacent land.

Information on groundwater in Tasmania is available at: <http://wrt.tas.gov.au/groundwater-info>

#### *Legislative and policy requirements*

It must be demonstrated that the proposal is consistent with the objectives and requirements of all relevant water management policies and legislation, including the *Water Management Act 1999* and the *State Policy on Water Quality Management 1997*.

### 6.4 Noise emissions

Discuss impacts of the proposal on ambient (surrounding) noise levels (during both the construction and operational phases), including:

Discuss potential impacts of noise emissions from the proposal on sensitive receivers, including:

- Description of the pre-existing noise in the area including the results of measured levels as experienced at the nearest residences for day, evening and night time periods.
- Consideration of each of the following during each of the main proposed quarrying stages:
  - Topography (including modifications due to extraction of rock);
  - Sound power output levels for all major sources of noise (including both fixed and mobile equipment);
  - Results of noise modelling to predict the 30, 35, 40 and 45 dB(A) noise level contours under typical and plausible worst case operating conditions. Noise modelling must incorporate noise likely to arise from periodic drilling campaigns and must take into account the likely location(s) of drilling and equipment (e.g. top of quarry face). Consideration is to be given to worst case weather conditions.
  - An assessment of potential noise nuisance taking into account the predicted levels and changes in noise characteristics such as tonal components, increases in noise level, the time varying nature of emissions (e.g. modulation, impulsive or intermittent noise) and the temporal span of the noise emissions.
  - A description of noise attenuation measures that will be implemented (as relevant).
  - Comparison of current and future traffic flow and the associated change in noise levels at potentially influenced/impacted residences – for both day and night times.

- Provide details of the need for blasting, the expected number of blasts per year and the notional blast plan, including:
  - Results of ground vibration modelling to predict peak particle velocity contours out to 2mm/s;
  - Results of airblast overpressure modelling to predict dB(lin) level contours out to 100 dB(lin).

### *Legislative and policy requirements*

Consideration should be given to the requirements of the Tasmanian *Environment Protection Policy (Noise) 2009* (see <https://epa.tas.gov.au/policy/statutory-policies/state-policies-and-environment-protection-policies/environment-protection-policy-%28noise%29-2009>).

## **6.5 Biodiversity and Natural Values**

Discuss impacts of the proposal on biodiversity and nature conservation values (terrestrial and aquatic) including:

- A map of existing vegetation communities, threatened species records, and potential habitat.
- Potential impacts on flora, vegetation communities and habitat, with particular reference to rare and threatened species, communities and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian *Threatened Species Protection Act 1995*.
- Potential impacts on fauna, including impacts on species, communities and habitats, with particular reference to rare and threatened species, migratory species, communities and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian *Threatened Species Protection Act 1995*.
  - Assessment of impacts should not be limited to clearing or disturbance and may include noise, lights, vehicle movements etc. If the proposal will generate an increase of night-time traffic on nearby roads (East Arm Rd and East Tamar Highway) of more than 10%; this is considered significant in regard to likely impacts on the Tasmanian devil. It is recommended that roadkill mitigation measures be implemented in accordance with the Devil Guidelines. The new Quarry Road to be built as part of the proposed development should also be part of this assessment.
- Potential impacts on identified areas or habitats of conservation significance, including designated conservation areas, areas relating to the requirements of international treaties (e.g. Japan-Australia and China-Australia Migratory Bird Agreements (JAMBA/CAMBA) and Ramsar (wetlands) Convention), or wetlands listed in *A Directory of Important Wetlands in Australia*.
- Potential impacts on any freshwater ecosystems of high conservation management priority.
- Potential impacts on sites of geoconservation significance or natural processes (such as fluvial or coastal features), including sites of geoconservation significance listed on the Tasmanian Geoconservation Database.
- Potential impacts on existing conservation reserves which may be affected by the proposal, with reference to the management objectives of the reserve(s) and the reserve management plan(s) (if any).

- Potential impacts on any high quality wilderness areas identified in the *Tasmanian Regional Forest Agreement* (Tasmanian RFA) which may be affected by the proposal.
- Potential impacts on other species, sites or areas of special conservation significance, including areas of wilderness, scientific, or geodiversity value.
- Clearing of native vegetation and habitat associated with the construction and maintenance of the proposal and the impact of any clearing on sites, species or ecological communities of special conservation significance, including any impact on the:
  - comprehensive, adequate and representative reserve system identified as part of the Tasmanian RFA;
  - maintenance of forest communities under the [Permanent Native Forest Estate Policy](#);
  - wildlife habitat strips under the *Tasmanian Forest Practices Code 2015* (<http://www.fpa.tas.gov.au>); and
  - non-forest communities.
- The potential for migration and/or introduction of pests, weeds and plant and animal diseases as a result of the proposal. CAS has provided the following specific advice:
  - There are several plant species that are declared weeds under the Weed Management Act 1999 recorded within 500 m of the proposed development area, including Spanish heath (*Erica lusitanica*) and blackberry (*Rubus fruticosus*). It is recommended that strict hygiene procedures be implemented as part of the day to day operations of the quarry in order to minimise the transportation of weed propagules in quarry material or attached to vehicles or machinery. Information about practical hygiene measures to implement can be found in Appendix I of the DPIPWE (2015) Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania.
- The potential for avoidance of impact through quarry design and operation.
- Where impacts cannot be avoided, proposed measures to mitigate and/or offset adverse impacts on biodiversity and nature conservation values.
- Rehabilitation of disturbed areas following the completion of construction activities and cessation of the activity, including any proposed seed collection and progressive rehabilitation programme.

### **Requirements for surveys**

Any flora and fauna surveys must, as a minimum, comply with the requirements of the document [Guidelines for Natural Values Assessments](#) published by the Department of Primary Industries, Parks, Water and Environment (DPIPWE). The methodology for surveys should be developed in consultation with the Department.

## **6.6 Waste Management**

Discuss the impacts of waste generated by the proposal, including:

- Identify the source, nature and quantities of all wastes, (liquid, atmospheric or solid) including general refuse and by-products from the various stages of the process likely to be generated.
- Methods and facilities proposed to collect, store, reuse, treat or dispose of each waste stream should be identified. Maintenance requirements should be included.

- The source, nature, quantity, and method of treatment, storage and disposal for each controlled waste should be described. Note: controlled waste is defined in the EMPC Act and associated regulations. A non-exhaustive listing of categories of controlled waste can be found on the internet at <http://epa.tas.gov.au/regulation/waste-management/controlled-waste>.

### **Legislative and policy requirements**

Waste management measures must be in accordance with the following hierarchy of waste management, arranged in decreasing order of desirability:

- avoidance
- recycling/reclamation
- re-use
- treatment to reduce potentially adverse impacts
- disposal

## **6.7 Dangerous goods and environmentally hazardous materials**

Discuss impacts of the proposal in relation to dangerous goods and environmentally hazardous materials (any substance or mixture of substances of a nature or held in quantities which present a reasonably foreseeable risk of causing serious or material environmental harm if released to the environment and includes fuels, oils, waste and chemicals), including:

- The nature, quantity and storage location of all environmentally hazardous materials including Dangerous Goods (as defined in the *Australian Code for the Transport of Dangerous Goods by Road and Rail*) that will be used during the construction and operation of the proposal.
- A map showing the location of temporary and permanent storage areas for fuels, oils, and other dangerous goods or chemicals.
- The measures (such as bunded areas or spill trays) to be adopted to prevent or control any accidental releases of dangerous goods and environmentally hazardous materials.
- Contingency plans for when control measures, equipment breakdowns or accidental releases to the environment occur, including proposed emergency and clean-up measures and notification procedures.
- Identify any safety management requirements for the protection of human health and safety affecting the community.

## **6.8 Greenhouse gases and ozone depleting substances**

Discuss impacts of the proposal in relation to greenhouse gases and ozone depleting substances including:

- A description of the direct and indirect effects of the proposal on greenhouse gas production and ozone depleting substances and any greenhouse benefits of the proposal discussed.
- Demonstration that the development will implement cost-effective greenhouse best practice measures to achieve on going minimisation of greenhouse gas emissions.

### **Legislative and policy requirements**

Discuss impacts of the proposal in terms of the evolving national response to climate change and greenhouse gas emissions and the targets set in the Climate Change Action Plan 2017 – 2021.

Proponents will need to determine whether they are required to report to the Commonwealth under the *National Greenhouse and Energy Reporting Act 2007*.

## 6.9 Socio-economic issues

Discuss the social and economic impacts of the proposal. Details may include the following:

- An estimate of total capital investment for the proposal and where that capital will be expended (particularly in relation to the source of large capital items of processing equipment).
- Operational expenditures and revenues.
- The impacts on local and State labour markets for both the construction and operational phases of the proposal. The number and nature of direct and indirect jobs arising from the proposal must be detailed. Skills and training opportunities should also be discussed.
- The impacts on upstream/downstream industries, both locally and for the State.
- The extent to which raw materials, equipment, goods and services will be sourced locally.
- A qualitative assessment of impacts on local social amenity and community infrastructure, including recreational, cultural, health and sporting facilities and services. Any proposals to enhance or provide additional community services or facilities should be described.
- Community demographic impacts (changes to cultural background, occupation, incomes).
- Impacts on land values, and demand for land and housing.
- Impacts on the local, regional, state and national economies.
- Any publicly funded subsidies or services to be relied upon for the construction or operation of the proposal.
- Any impacts on Local, State and Federal Government rate, taxation and royalty revenues.

***The extent to which socio-economic considerations need to be described depends on the nature and extent of any negative impacts or risks to the environment from the proposal.***

Modest proposals with relatively low level and localised environmental impacts or risks may only need details of intended capital expenditure, operational expenditures, revenues and employment (distinguishing between direct and indirect employment) and a qualitative discussion of other socio-economic aspects of particular relevance.

Proposals with higher level or broader scale environmental impacts will need a more comprehensive analysis of economic and social benefits to allow the Board to assess the benefits and adverse impacts of the proposal. This may include an explanation of the methods used to model impacts and describe the manner and results of engagement with the local community to determine their needs and aspirations in relation to the proposal.

## 6.10 Hazard analysis and risk assessment

If applicable, provide a preliminary analysis (appropriate to the scale of the project) of the potential for a major hazard event (such as an explosion) that may cause impacts to the environment to occur and proposed safeguards to prevent such an occurrence. The preliminary analysis should systematically identify all potential major environmental hazards (internal and external) to people

and the environment associated with the construction, operation, maintenance and decommissioning of the proposal.

### **6.11 Fire risk**

Discuss the potential fire risk associated with the proposal, including:

- Consideration of the potential for fire to escape from the site and the environmental impacts that could result from such an event.
- The objectives and management principles and measures to be adopted to prevent and respond to potential fire events, including avoidance of pollution from substances which may ignite or which may be used to combat fire.

### **6.12 Infrastructure and off-site ancillary facilities**

Discuss potential environmental impacts of the proposal on any significant off-site or infrastructure facilities (including increased use of existing infrastructure, such as roads, ports and quarries), identify measures to avoid and mitigate any possible adverse impacts and assess the overall impacts following implementation of the proposed avoidance and mitigation measures.

Identify roads and other infrastructure to be used by vehicles for the proposal (during both construction and operation). Potential environmental impacts associated with construction and use of such infrastructure should be assessed.

### **6.13 Environmental Management Systems**

This section should provide information on strategic matters relating to environmental management of the proposal, including a description of the following:

- Any environmental management systems or environmental policies implemented or proposed by the proponent, which are relevant to the environmental management of the proposal.
- Organisational structure and environmental responsibility within that structure for the proposal.
- Procedures and instructions to employees (including contractors) on minimising adverse environmental impacts of activities, as well as employee induction and education programs to ensure an appropriate response to operational environmental concerns should be included in relevant sections.

### **6.14 Cumulative and interactive impacts**

Where relevant, this section should contain an assessment of the potential cumulative impacts of the proposal in the context of existing and approved developments in the region, if such impacts have not been addressed in previous sections.

Other proposals which have been formally proposed, and for which there is sufficient information available to the proponent to allow a meaningful assessment of their impacts, should also be considered in that assessment. Uncertainties about potential impacts in such cases should be identified.

Interactions between biophysical, socio-economic and cultural impacts of the proposal should be discussed.

### **6.15 Environmental Impacts of Traffic**

This section should identify the traffic routes for the proposal (both during construction and operation) and the likely volume and nature of traffic and timing of traffic flows, including details of the current usage of these roads. Where not already addressed in other sections above, environmental impacts associated with current and altered traffic flows and usage should be discussed (such as noise and dust impacts on other roads users and residences adjacent to roads). The assessment should focus on roads within the land defined by the proposal but also indirect impacts on public roads.

## **7. Monitoring and Review**

This section should provide an outline of any proposed monitoring, review and reporting programmes for the proposal. The programme should be designed to meet the following objectives:

- Monitoring of compliance with emission standards and other performance requirements identified in the EIS.
- Assessing the effectiveness of the performance requirements and environmental safeguards in achieving environmental quality objectives.
- Assessing the extent to which the predictions of environmental impacts in the EIS have eventuated.
- Assessing compliance with management measures defined in the EIS.

A proposed monitoring programme for surface water should contain the following:

- Details of any pre-commissioning monitoring/studies.
- A list of sites to be sampled.
- A site plan showing proposed sampling locations and/or monitoring sites.
- Site establishment and sampling procedures/methods.
- Parameters to be analysed.
- Frequency of sampling.
- Format and frequency of reporting.
- A monitoring program summary table.

## **8. Decommissioning and Rehabilitation**

Due to the finite nature of quarrying operations, the complexity of site management and the susceptibility of quarries to external economic influences, progressive rehabilitation and closure planning should commence before the operation commences. The EIS must contain sufficient detail to enable a bond to be established to protect the Crown from future liabilities in the event of unforeseen quarry closure or company failure.

The EIS should describe an on-going, staged approach to site decommissioning and rehabilitation throughout the proposal life.

A preliminary Decommissioning and Rehabilitation Plan must be provided, and should include:

- Information relevant to each key stage of the proposed quarry;
- A proposed maximum open area at any one time across the quarry site;
- Consideration of storage and use of topsoil, cleared vegetation and other seed sources;
- Consideration of any intended progressive rehabilitation to be conducted as the quarry evolves over time, and how this relates to operation of the quarry;
- Consideration of long term stability of batters and benches.

## **9. Management Measures**

This section should contain a consolidated management measures table listing all of the management measures made throughout the EIS. Measures must be sequentially numbered, unambiguous statements of intent. For each measure, the table must specify when it is to be implemented, and refer to the section of the EIS where the measure is detailed.

## 10. Conclusion

Describe the proposal and draw together the critical environmental, social and economic impacts of the proposal, both positive and negative; present a balanced overview of the net impacts of the proposal, and the extent to which any adverse impacts can be satisfactorily avoided, mitigated, remediated or compensated and positive impacts promoted and sustained. The conclusion should also describe how the proposal meets and furthers the objectives of relevant Commonwealth and State legislation, policies, plans and strategies. This should be done by itemising the RMPS and EMPCS objectives and providing a commentary about how the proposal addresses each of the objectives.

## 11. References

This section should provide details of authorities consulted, reference documents etc.

## 12. Appendices

As a means of improving readability of the EIS document, detailed technical information which supports the EIS should be included in appendices. The salient features of the appendices should be included in the main body of the EIS. Care should be taken to avoid inconsistencies between technical content of Appendices and the EIS itself, unless carefully explained.

## 13. Glossary

EIS	Environmental Impact Statement
EMPC	<i>Environmental Management and Pollution Control Act 1994</i>
EMPCS	Environmental Management and Pollution Control System objectives to be found in Schedule I of EMPCA
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> JAMBA/CAMBA - Japan-Australia and China-Australia Migratory Bird Agreements
RMPS	Resource Management and Planning System of Tasmania objectives to be found in Schedule I of EMPCA
Tasmanian RFA	Tasmanian Regional Forest Agreement

## Appendix A: Other issues and agency contacts

In addition to a permit under the LUPA Act and the EMPC Act, there may be other legal requirements to allow your proposal to proceed. These may include other permits, licences or landowner consent. You may also need to contact other Government agencies to obtain information for the purpose of assessment under the LUPA Act or the EMPC Act. The following list identifies some of the key agencies you may need to contact:

Note: your proposal may be referred to other agencies in the process of preparing guidelines. Should assessments or approval outside of the Board's responsibilities be required, the respective agency will engage with you to progress them.

*Natural values including flora, fauna, and geoconservation values, or permits to deal with threatened species:*

Conservation Assessment and Wildlife Management Section

Policy, Advice and Regulatory Services Branch, DPIPWE

Telephone: (03) 6165 4416

Email: [conservationassessments@dpiipwe.tas.gov.au](mailto:conservationassessments@dpiipwe.tas.gov.au)

Website: [www.dpipwe.tas.gov.au](http://www.dpipwe.tas.gov.au)

*Historic cultural heritage, including State-level site listings, impacts and permits as required under the Historic Cultural Heritage Act 1995:*

Heritage Tasmania

Telephone: (03) 6165 3700

Email: [enquiries@heritage.tas.gov.au](mailto:enquiries@heritage.tas.gov.au)

Website: [www.heritage.tas.gov.au](http://www.heritage.tas.gov.au)

Note: Where works are proposed in or in close proximity to a heritage place entered on the Tasmanian Heritage Register or likely to be of heritage significance to the whole of Tasmania, and a permit is required under the *Land Use Planning and Approvals Act 1993*, the proposal will be referred to Heritage Tasmania by the planning authority. There may also be additional sites listed under local planning schemes, impacts on which are assessed by the relevant planning authority.

*Aboriginal heritage, including desktop assessment, artefact survey requirements, permits:*

Aboriginal Heritage Tasmania

Telephone: (03) 6165 3152

Email: [aboriginal@heritage.tas.gov.au](mailto:aboriginal@heritage.tas.gov.au)

Website: <http://www.aboriginalheritage.tas.gov.au>

Note: your proposal will be referred to Aboriginal Heritage Tasmania (AHT) on submission or referral to the Board. If Aboriginal Heritage matters are identified, AHT will engage directly with the proponent regarding relevant assessments and approvals.

*Parks and reserves, including where any proposal may impact on land managed by Parks & Wildlife:*

Parks and Wildlife Service

Telephone: 1300 827 727

Website: [www.parks.tas.gov.au](http://www.parks.tas.gov.au) and [www.thelist.tas.gov.au](http://www.thelist.tas.gov.au)

*Crown land, including where any proposal may impact on land owned by the Crown:*

Crown Land Services

Telephone: (03) 6233 6413

Email: [cls.enquiries@dpipwe.tas.gov.au](mailto:cls.enquiries@dpipwe.tas.gov.au)

Website: [www.parks.tas.gov.au](http://www.parks.tas.gov.au)

*State roads, including where any proposal requires works on or access from a State-managed road asset:*

State Roads

Telephone: (03) 6166 3369

Email: [permits@stategrowth.tas.gov.au](mailto:permits@stategrowth.tas.gov.au)

Website: [www.transport.tas.gov.au](http://www.transport.tas.gov.au)

*Mining leases:*

Mineral Resources Tasmania

Telephone: 03 6165 4800

Email: [info@mrt.tas.gov.au](mailto:info@mrt.tas.gov.au)

Website: [www.mrt.tas.gov.au](http://www.mrt.tas.gov.au)

*Works impacting natural waterway flow, e.g. dams or fords:*

Water Management and Assessment Branch

Telephone: (03) 6165 3222

Email: [Water.Enquiries@dpipwe.tas.gov.au](mailto:Water.Enquiries@dpipwe.tas.gov.au)

Website: [www.dpipwe.tas.gov.au/water](http://www.dpipwe.tas.gov.au/water)



ENVIRONMENT PROTECTION AUTHORITY