Guidelines for the preparation of a
Development Proposal and Environmental Management Plan (DPEMP)

for

Tailings Storage Facility – D Dam
(Bluestone Mines Tasmania Joint Venture Pty Ltd)
Renison Bell, Tasmania

Board of the Environment Protection Authority
December 2012
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DPEMP Guidelines – Bluestone Mines Tailings Storage Facility D Dam - December 2012 2
GENERAL INFORMATION

Purpose of these guidelines

These guidelines provide information on preparing a Development Proposal and Environmental Management Plan (DPEMP) for the proposed Tailings Storage Facility (TSF) - D Dam at Bluestone Mines Tasmania Joint Venture Pty Ltd (‘Bluestone’)s Renison Bell Mine, which is to be assessed by the Board under the EMPC Act.

The Environmental Management and Pollution Control Act 1994 (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 DPEMP also supports the development application process undertaken by West Coast Council, and the Commonwealth process for matters of National Environmental Significance, under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

Commonwealth environmental approval – project ref. EPBC2012/6448

The project has been determined to be a “controlled action” under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (project reference EPBC2012/6448) and will require assessment and approval under the EPBC Act, in addition to Tasmanian State and Local government requirements. It was determined that the proposed action will have, or is likely to have, a significant impact on the following matters of national environmental significance, protected under Part 3 of the EPBC Act:

- Listed threatened species and communities (sections 18 and 18A).

The Commonwealth and Tasmanian Governments have signed a bilateral agreement relating to impact assessment under section 45 of the EPBC Act which effectively accredits the State assessment process. The DPEMP should specifically describe the implications of the proposal for the relevant EPBC Act controlling provisions. More details on the Commonwealth’s specific information requirements are provided in Section 5 of these Guidelines. This information should be sufficient to allow the Commonwealth Environment Minister to make an informed decision on whether or not to approve the taking of the action, under Part 9 of the EPBC Act, for the purposes of each controlling provision.
Objectives and content of the DPEMP

The objectives of the DPEMP document are that it will provide:

- A source of information from which individuals and groups may gain an understanding of the proposal, the need for the proposal, the alternatives, the environment that it could affect, the effects that may occur and the measures that will be taken to minimise any adverse effects, including specific management commitments.
- A basis for public consultation and informed comment on the proposal.
- A framework against which decision makers (the Board, local Council, and the Commonwealth Minister) can consider the proposal and determine the conditions under which any approval would be given.

The DPEMP should be structured to follow the framework of these guidelines, and include:

- An executive summary;
- An introduction (Section 1) and proposal description (Section 2), to provide a background to the project;
- A description of project alternatives considered (Section 3), including a description of the decision-making process regarding the proposed project, project design, location, and preferred technologies;
- A description of the existing environment, of the potential effects on the environment resulting from the proposed activity, and planned mitigation and management measures to avoid or reduce these impacts. Particular focus should be given to the identified key issues (outlined on page 5 of these guidelines). Appropriate management commitments should be included in each relevant sub-section (Section 4);
- Requirements of the EPBC Act (Commonwealth) to be addressed (Section 5);
- A description of the planned environmental monitoring and review program, including management commitments made in relation to the proposed program (Section 6);
- Plans for site and project decommissioning, including management commitments made in relation to decommissioning (Section 7); and
- A summary of management commitments made throughout Sections 4, 5, 6, and 7 (Section 8).

Any significant departure from the requirements and intent of the relevant sections of these guidelines must be approved by the assessing agencies.
Key issues to be addressed

While the DPEMP should evaluate all potential effects of the proposal, it should be principally focused on the key issues identified in the table below. The level of detail provided on other issues should be appropriate to the level of significance of that issue for the proposal.

<table>
<thead>
<tr>
<th>Key issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Potential for impacts on threatened flora and/or ecological communities due to vegetation clearing.</td>
</tr>
<tr>
<td>2. Potential for impacts on threatened fauna and/or their habitats due to vegetation clearing.</td>
</tr>
<tr>
<td>3. Potential for impacts on catchment surface and ground water quality during construction and operation of the TSF, and ongoing management of the TSF for seepage and AMD.</td>
</tr>
</tbody>
</table>

The minimum survey requirements and studies required in relation to these key issues are provided in the relevant sections of these guidelines, in particular in Section 4.1, 4.2, and 4.3.

It should be noted that other matters deemed to be significant or matters that emerge as significant from environmental studies, public comments or otherwise during the course of the preparation of the DPEMP, should not be excluded from consideration.

The following guidelines may be of use in preparing the DPEMP, particularly in relation to key issues:

  - Airborne Contaminants, Noise and Vibration
  - Biodiversity Management
  - Community Engagement and Development
  - Evaluating Performance: Monitoring and Auditing
  - Managing Acid and Metalliferous Drainage
  - Mine Closure and Completion
  - Mine Rehabilitation
  - Risk Management
  - Stewardship
  - Water Management
  - Tailings Management
General information for preparing the document

While it is recognised that many construction and operational details may not have been finalised at the time the DPEMP is submitted for assessment, the information presented 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. It should be noted, however, that sufficient technical detail must be provided to enable an appropriate level of assessment to be undertaken.

The following points should be considered when preparing the DPEMP:

- The main text of the DPEMP should be written in a clear and concise style that is easily understood by the general reader.
- 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. An indication should also be given of the currency of the information used and how the reliability of the information was tested. In particular, the degree of confidence attached to any predictions should be indicated.
- 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.
- It is recommended that as much information as possible be presented on maps, diagrams and site plans to enhance the level of understanding.
- Where sensitive information needs to be provided (e.g. information on production processes, or sites or areas of conservation, scientific, archaeological and cultural heritage or other special significance), this information should be provided in a separate, confidential appendix. A comment should be provided in the DPEMP to the effect that the information has been so provided.
- Where appropriate, refer to information provided in other sections to minimise duplication.
- Specific management commitments must be clearly identified in the text and included in the commitments table referred to in Section 8 of these guidelines.
- The DPEMP Executive Summary should contain a summary table showing compliance with these guidelines.
Submission of draft and final documents

Environmental aspects of the proposal will be assessed by the Board (and jointly with the Commonwealth in regards to matters of National Environmental Significance), while planning aspects of the proposal will be assessed by the relevant planning authority (Council). The Board has authorised the EPA Division to undertake the administrative tasks and establish the information base to inform its decision-making on its behalf.

Close consultation with the EPA Division during the preparation of the DPEMP is highly recommended.

It is also recommended that the proponent submit a draft DPEMP to both Council and the EPA Division for review prior to its finalisation. Please note that draft documents may be rejected without detailed review if they are incomplete, contain significant formatting or typographical errors or do not comply with these guidelines. More than one draft may be necessary before the document is considered suitable for public release.

The final DPEMP (when ready for public consultation) is to be submitted in a printed format and in electronic format for use with a word processor (such as Microsoft Word), and suitable for publishing on the internet (preferably PDF format). The Board will inform the proponent of the number of copies (and format) required.

Copies are to be made available to the public upon request at no charge or for a nominal fee, in either printed or electronic format (CD ROM). Arrangements to display the DPEMP on the internet (whether on the proponent’s or the EPA’s web site) will also need to be put place.

Documents should be able to be downloaded over slower internet connections. Images within the document should be optimised for the internet and font choices should be restricted to those most commonly used. Being judicious about the number of images and/or design elements can avoid unnecessarily adding to the file size. Large files should be broken into multiple documents.

Following the public consultation phase, the DPEMP may require amendment as a result of consideration of public and government agency submissions. This generally takes the form of a supplement to the DPEMP.
CONTENTS OF THE DPEMP

The following sections of the guidelines provide a basis for the recommended structure and proposed content for the DPEMP.

EXECUTIVE SUMMARY

An executive summary of the DPEMP is to be provided to give a clear and concise overview of the proposal and its environmental implications. It should briefly outline the assessment and approvals process and explain the function of the DPEMP in this process. It should also contain a summary table demonstrating compliance of the DPEMP document with these guidelines.

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The DPEMP should contain a table of the contents of the report with reference to the relevant page numbers.

It should also contain a list of figures, tables, and appendices.

1. INTRODUCTION

This section should provide information on the following:

a) Title of the proposal.

b) Name and address of the proponent and general background, such as relevant development or operational experience. Where the proponent is a registered company, its Australian Company Number and Registered Office address should be included.

c) Relevant background information on the proposal, including the current status of the proposal, a general overview of the principal components of the proposal and the proposal location, the rationale and need for the proposal including the consequences of not proceeding, anticipated establishment costs, and the possibilities for future expansion.

d) 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.

e) Environmental legislation, standards and guidelines that will be applicable (such as policies, regulations and industry codes of practice).

f) Other relevant Commonwealth, State and Local Government policies, strategies and management plans with which the proposal would be expected to comply.

g) Details of any proceedings against the proponent under a Commonwealth, State or Territory law for the protection of the environment or the conservation or sustainable use of natural resources.

h) Details of the nature and results of public consultation undertaken by the proponent during project planning and preparation of the DPEMP, as well as any proposals for further public consultation during and beyond project implementation. The EPA recommends that proponents undertake public and stakeholder consultation before and during preparation of the DPEMP so that any public concerns can be identified and addressed in the DPEMP.
2. PROPOSAL DESCRIPTION

This section should provide a full description of the proposal, including the construction, commissioning, operational, decommissioning, and closure/rehabilitation phases, as well as any infrastructure and off-site ancillary facilities required for the proposal.

2.1 Proposal outline

This section should provide a detailed description of key physical components of the proposal, including their function, composition, size, capacity, operational life, technical and performance requirements, inter-relationships and methods of construction, operation and maintenance.

The following information should be provided in relation to the proposed tailings storage facility (TSF):

2.1.1 General project information

a) The major items of equipment (including pollution control equipment) and on-site facilities should be described. Detailed technical information on major items of equipment may be included in appendices.

b) The raw materials for the proposal, including water, should be specified. Specific details of quantities, characteristics and options for alternative materials should be included.

c) Energy requirements for the proposal should be outlined and means of meeting this demand described.

d) All sources of waste (liquid, atmospheric, solid) including by-products from various stages of the process should be identified and the wastes characterised and quantified. Any foreseeable variations in waste generated during the start-up and operations phases should be identified and any temporary storage requirements specified.

e) Facilities to collect and treat wastes should be described together with the resultant concentrations and mass loads of pollutants to be emitted after treatment. The dynamic performance of waste treatment systems is acknowledged and estimates of performance ranges are required. Maintenance requirements should be included.

f) Any proposed new point source wastewater discharge points must be identified.

g) Any proposed new point source atmospheric discharge points must be identified.

h) All major sources of noise must be identified.

i) Details of production capacity and production rates for relevant processes including both peak rates and daily average rates. Include proposed annual production rates.

j) Information on proposed hours of operation (hours per day and specified days per week), including any seasonal variations.

k) Information on the volume, composition, origin, destination and route for vehicle movements (including road, rail, shipping and air) likely to be generated during the development/construction and operational phases, including a breakdown for over-dimensional and heavy road vehicles.

l) Details on procedures for receiving and responding to environmental complaints and incidents throughout all phases of the proposed project.

This section should also provide a description of the project in the context of the Renison Bell mine operations as a whole, including providing information on the existing tailings storage facilities, works currently or recently undertaken on the existing TSF dams, and details of the proposed Rentails project. Any potential changes to the mine plan for the Renison Bell operations which may occur over time and may impact on the TSF should also be described.
2.1.2 Pre-construction and construction phases

a) Details on any pre-construction works, including site preparation works, design and erection of pollution control structures, and any temporary or permanent removal of vegetation.

b) A step-by-step description and timetable for significant activities during the construction phase of the proposal. Indicative timeframes for the completion of major steps, and the likely sequencing of steps.

c) Details of any surveys and sampling planned for the pre-construction and construction phases.

d) Estimates of the quantities of major raw materials required for construction activities (e.g. sand, aggregate, fill etc) and their likely sources (on- or off-site). Discussions of water use and the available options for sourcing of clay for dam wall construction should be specifically discussed.

e) Dam wall design and construction information.

f) Details of the nature, capacity and location of temporary construction equipment required on site (such as cranes, concrete batch plants, rock crushers, construction camps etc).

g) Information on the number of construction workers required in the various stages of construction, sources of labour, transport of workers to and from the site, accommodation, and support servicing requirements.

h) The proposed hours per day and days per week of construction activities.

2.1.3 Commissioning phase

A step-by-step description of major commissioning activities (if any) following construction and installation of equipment should be provided, including defined points at which commissioning of key items will be considered completed.

2.1.4 Operation and maintenance

a) Description of the operational and maintenance requirements (e.g. frequency of monitoring/inspection and maintenance activities, equipment access, pipeline maintenance, safety management, vegetation clearance, etc) and how these requirements will be documented (e.g. in a tailings operational manual).

b) Details on the design life for major project components and the expected life of the TSF.

2.1.5 Closure, decommissioning and rehabilitation

A brief summary of closure, decommissioning and rehabilitation plans for the TSF, and how this might relate to overall mine operations, should be provided including a step-by-step description of major decommissioning activities. More detail should be provided in Section 7.
2.2 Site information

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

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

2.2.1 General location map

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

a) The location of the proposal site.
b) Mining lease boundaries.
c) Topographical features, including aspect and direction of drainage.
d) Road access to and from the site.
e) Location of waterways and drains (including ephemeral).
f) The distance(s) to any nearby sensitive uses (such as residences). Include all sensitive uses (if any) within 2 kilometres of the site.
g) Electricity transmission lines.
h) Boundaries of the properties on which the proposal is located.
i) Surrounding land tenure.
j) Surrounding land use (identify areas of conservation or recreational significance).

2.2.2 Site plan

Site plans are required which identify the proposal site and which include the following\(^1\) (where relevant):

a) The boundary of the proposal site.
b) The position of buildings and significant structures on the site (existing and proposed).
c) The relative position of the proposed new TSF in relation to the mine, process plant, existing TSFs, wetlands, and local streams and rivers.
d) Discharge points (spillways, decant tower etc).
e) The route of any tailings or water recovery pipelines.
f) The route of any access tracks, conveyors or similar means of transporting on-site materials.
g) The location of construction material sources (e.g. borrow pits).
h) The location of raw materials storage areas.
i) The location of temporary and permanent storage areas for fuels, oils, and other dangerous goods or chemicals.
j) The location of stormwater collection systems and details of drainage control measures such as cut-off drains and sediment settling ponds.
k) Details of any screening vegetation or bund walls.
l) The location of loading or unloading areas.

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\(^1\) When providing maps or referring to spatial databases, the coordinate reference system being used should be specified (ie. Australian Geodetic Datum (AGD) or GDA (Geocentric Datum of Australia))
m) The location of monitoring sites and groundwater bores.

n) Detailed plans of any proposed stream diversions.

2.2.3 Land use planning information

The following information should be provided in relation to planning issues:

a) Information on land tenure and property boundaries of the proposal site, with title details.

b) Land zonings for the proposal site and surrounding areas, and any by-laws or special planning controls that may apply to the site and surrounding areas.

c) Any rights of way, easements and covenants affecting the proposal site.

d) Land use and planning history of the proposal site, including the potential for site contamination\(^2\), and the present uses of the site.

e) Description of existing aesthetic values of the site.

f) A description of land use and ownership in the vicinity of the proposal site (within 5 kilometres) and those areas which may be affected by the proposal. This may include:

- The location and nature of industrial facilities;
- the location of individual residences, schools, hospitals, caravan parks and similar sensitive uses;
- the location of any tourist or recreation facilities or routes (such as camping areas, picnic areas, fishing spots, walking tracks, historic routes, etc); and
- any proposed or potential sensitive users 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. This should include consideration of any imminent planning scheme changes and should also include all noise sensitive uses within 2 kilometres.

Under the West Coast Planning Scheme, an application for planning approval is required. The application will need to demonstrate that it will perform in accordance with all relevant planning scheme standards, which are contained in:

- Part C, Section 9 (Natural Resources Zone 9.6 – Planning scheme standards applicable to use or development in the Natural Resources Zone, Issues 1.0, 2.0, 5.0, 6.0, 7.0, 11.0, and 13.0);
- Section 11 (Schedule 1 – Environmental Weeds); and
- Section 12 - Codes to the Planning Scheme:
  - 17 – Standard attenuation distances code (17.1, 17.2 and 17.3)
  - 22 – Wetlands and waterways code (22.1, 22.2, 22.3, and 22.4).

The DPEMP should provide a summary of how the project will meet planning scheme standards.

\(^2\) Information on potentially contaminating activities and contaminated site assessment can be found online at http://epa.tas.gov.au/epa under ‘Land Contamination’.
2.2.4 Environmental information

The following information should be provided in relation to environmental issues:

a) A description of the general physical characteristics of the proposal site and surrounding area, including climate, topography, geology, geomorphology, soils (including erodibility), vegetation, fauna, groundwater and surface drainage (including waterways, lakes, wetlands, coastal areas etc.). This information should be displayed on maps and/or charts where appropriate.

b) Should the proposal include discharge of wastewaters to inland waterways, results of ambient water surveys undertaken, including mass loadings, across a range of key water quality parameters across a range of flow conditions, should be provided.

c) Information regarding any sites of significant Aboriginal and/or European cultural heritage (please note that specific locational details regarding sensitive sites should be kept confidential).

d) A description of natural processes of particular importance for the maintenance of the existing environment (e.g. fire, flooding, etc).

e) Any existing conservation reserves located on or within 5 kilometres of the proposal site.

f) Any high quality wilderness areas identified in the *Tasmanian Regional Forest Agreement* located on or within twenty kilometres of the proposal site.


h) An assessment of the vulnerability of the site to natural hazards (e.g. flooding, seismic activity, fire, landslips or strong winds).

2.3 Off-site infrastructure

Any new infrastructure or off-site ancillary facilities, or realignments to existing infrastructure, required to allow the proposal to proceed should be described (for example water supply, electricity supply, roads or other transport infrastructure).

2.4 Socio-economic background

This section should describe the existing social and economic environment that may be affected by the proposal, including information on the following:

a) A summary of the social/demographic characteristics of the population living in the vicinity of the proposal site, identifying any special characteristics which may make people more sensitive to effects from the proposal than might otherwise be expected.

b) A summary of the characteristics of the local and regional economy (e.g. existing employment trends, land values, industries and their resource or amenity dependencies).
2.5 Community and stakeholder consultation

It is strongly recommended that the local community and other stakeholders be consulted with in regards to the proposed project.

The following information should be provided in the DPEMP:

a) Details on community and stakeholder consultation already undertaken (in early planning stages), any input provided by stakeholders, and the outcomes of this consultation;

b) A description of community and stakeholder attitudes in relation to the planned project; and

c) Details of plans for ongoing engagement with the community and stakeholders throughout the assessment process and throughout and beyond the life of the project.
3. PROJECT ALTERNATIVES

This section should describe the alternatives considered by the proponent during the planning of the proposed TSF, with particular focus on describing decision-making processes according to clearly defined environmental, social and economic, and technical criteria. This might include discussion on:

a) Justification of the need for the TSF.

b) Selection of the TSF dam location. This section should 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 criteria, and provide a justification for the preferred site. Any community consultation undertaken and the effect it had on the selection process should also be detailed.

c) Construction methodologies and alternative dam designs, and justification for selection of dam design, type of liner proposed, etc.

For any part of the proposal where alternative technologies, 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.

It should be demonstrated by comparative analysis of national and international experiences and trends that the project will use a combination of technology and management practices that will ensure that the environmental performance of the project is consistent with the use of best practice environmental management.
4. EXISTING CONDITIONS, IMPACTS & PROPOSED MITIGATION

Guidance for preparation of this section

This section should refer to baseline conditions, evaluate the potential environmental effects related to the proposal, and describe measures to avoid or mitigate adverse effects. For each sub-section relating to a particular environmental issue, the evaluation should be presented in the following format:

A. Existing conditions

Provide an outline of the existing conditions relevant to that effect. The level of detail provided should be appropriate to the level of significance of that issue for the proposal. It is essential that the DPEMP remains focused on the key issues identified on Page 5 of these guidelines.

B. Potential effects

Provide an outline of all potential environmental effects (positive and negative) of the proposal, in the absence of any special control measures, throughout all stages of the project – from construction, through to closure/decommissioning.

C. Assessment of effects

Provide an evaluation of the significance of effects for the environment. The evaluation of potential effects should identify plausible worst-case consequences, the vulnerability of the affected environment to the potential effects, and the reversibility of the effects. Potential cumulative effects also need to be addressed. Interactions between biophysical, socio-economic and cultural effects should be identified. Any net benefits likely to result from the proposal should also be identified. The representation of the above information on maps, diagrams, site plans and photographs is recommended.

Predictions and evaluations of effects should be based on scientifically supportable data. 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 effects are not quantifiable, they should be adequately described.

D. Performance requirements

Performance requirements should be identified for each environmental effect and evidence provided 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.

In particular, attention should be paid to demonstrating that the proposal is consistent with sustainable development objectives as required by the relevant Commonwealth and Tasmanian statutes and policies, including the National Strategy for Ecologically Sustainable Development, the Tasmanian Resource Management and Planning System, and the Environmental Management and Pollution Control System.

Unsupported assertions that performance requirements will be achieved will not be considered adequate.
E. Avoidance, mitigation and compensation (offset) measures

Provide a description and list of the measures proposed to avoid or mitigate potential adverse effects in order to achieve environmental performance requirements (such as through pollution control technology or management practices). Any compensatory actions proposed for unavoidable residual adverse effects should be identified. Where there are clear, alternative avoidance or mitigation measures for a particular adverse environmental effect, the alternatives should be reviewed and the preferred option justified.

Where adverse environmental effects are unavoidable, the proposed measures to reduce the effects (e.g. pollution control equipment, treatment processes, management practices) should be described in detail. The extent to which they will overcome the anticipated effects should be specified.

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 effects 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.

If adverse residual environmental effects from the proposal are considered unavoidable despite the adoption of best practice environmental management avoidance and mitigation measures, then proposals to offset such effects 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.

Any proposed offsets for matters of national environmental significance listed as controlling provisions for the project should comply with the EPBC Act Environmental Offsets Policy (October 2012) and the accompanying Offsets assessment guide (www.environment.gov.au/epbc/publications/environmental-offsets-policy.html).

Each sub-section describing an environmental aspect should also contain the following information, where relevant:

Management commitments

Commitments must be unambiguous statements of intent for avoiding, minimising and managing the potential environmental impacts of the proposal, and should be listed in the appropriate sub-sections of the DPEMP.

Each commitment should be numbered sequentially and then consolidated in a table in Section 8 of the DPEMP.

The commitments will provide a basis for the preparation of conditions of approval, should approval be granted.

Monitoring, review, and adaptive management

An outline of the proposed monitoring to be undertaken in regards to specific issues should also be included in the appropriate sub-sections of the DPEMP. A monitoring, review, and reporting program should also be designed and included in Section 6 of the DPEMP.
4.1 Key issue 1: Threatened flora

4.1.1 Key legislative and policy requirements

Regard should be given to Australia’s Biodiversity Conservation Strategy 2010-2030 (2010), the draft Tasmania’s Nature Conservation Strategy and the Threatened Species Strategy for Tasmania. Consideration of each species must have regard to any recovery plan prepared by the Commonwealth, Tasmanian or other state government, in relation to the species, and any publicly available policy statement or conservation advice prepared by the Commonwealth in relation to the species or community. All relevant EPBC Act Policy statements must be complied with unless adequate justification is provided.

4.1.2 General biodiversity and natural values information

The following issues should be considered in relation to the proposed TSF and the associated borrow pit areas when addressing this section (where relevant):

a) Effects 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.

b) Identify any freshwater ecosystems of high conservation management priority using the Conservation of Freshwater Ecosystem Values (CFEV) database (accessible on the internet under water.dpiw.tas.gov.au/wist/). 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 DPEMPs should be Conservation Management Priority_Potential which is appropriate for Development Proposals.

c) Effects 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 (see Section 4.4 for more information regarding information requirements for Geoconservation).

d) Effects on existing formal or informal 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).

e) Effects on any high quality wilderness areas identified in the Tasmanian Regional Forest Agreement (Tasmanian RFA) which may be affected by the proposal.

f) Effects on other species, sites or areas of landscape, aesthetic, wilderness, scientific, geodiversity or otherwise special conservation significance.

g) Clearing of native vegetation and habitat associated with the construction and maintenance of the proposal (TSF footprint and borrow pits) 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, on wildlife habitat strips under the Tasmanian Forest Practices Code 1995 and on non-forest bioregional forest communities.

h) Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse effects on biodiversity and nature conservation values should be presented.

i) The potential for migration and/or introduction of pests, weeds and plant and animal diseases as a result of the proposal.

j) Rehabilitation of disturbed areas following the completion of construction activities and cessation of the activity, including any proposed seed collection and progressive rehabilitation program.
4.1.3 Threatened flora survey requirements

Results of all surveys for rare, threatened, endangered and locally endemic flora species undertaken on site to date should be provided.

The DPEMP must clearly describe the potential effects of the proposal on the existing conditions in respect to threatened flora and ecological communities, and outline measures to mitigate impacts of the proposal on any listed species identified on site. Please note that in the event that impacts to listed threatened flora species are unavoidable during any phase of the project, the proponent must apply for a permit under the Tasmanian Threatened Species Protection Act 1995 (TSPA) and the Commonwealth EPBC Act as necessary.

Any flora 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), as well as all relevant EPBC Act policy statements. The methodology for surveys should be developed in consultation with DPIPWE and the Commonwealth.

4.1.4 Weeds and hygiene management

A Weed Management and Hygiene Plan should be developed and included in the DPEMP.

The Weed Management Plan should cover all relevant aspects of the control and management of declared weeds and weeds that are considered to have significant impacts on agriculture and natural values. The Plan should include, but not be limited to:

a) An overarching set of objectives and the context in which they are to be achieved;

b) An accurate assessment of the distribution of declared weeds and significant environmental weeds;

c) Declared weeds and significant weed distributions should be clearly and accurately mapped;

d) Priorities developed for management and control of weeds, both in the short term as well as long term;

e) An assessment of the potential impact of those weeds, including immediate and adjacent areas which are free of particular declared weeds;

f) Strategies for managing weeds within the development and associated works areas, including their eradication;

g) Strategies for ongoing monitoring and control of weeds within the development and associated works areas; and

h) Identification of appropriate herbicides for control and how they are to be used.

A Hygiene Plan should be developed to ensure the development and associated works areas do not result in the introduction of new declared weed species into the area, translocation of weeds within the development footprint or the export of existing declared weeds out of the area. The Hygiene Plan should cover, but not be limited to:

a) Vehicle, machinery and equipment hygiene including the washdown protocols when travelling between clean and contaminated areas within the development footprint and also vehicles entering or leaving the site;

b) The location and management of washdown areas and facilities, including management of effluent;

c) Maintaining logbooks detailing adherence to hygiene protocols; and

d) Material hygiene (soils, gravel, plant material etc) – ensuring that no materials contaminated with weeds propagules (seed, propagative vegetative material) are either imported into the development footprint or exported out of those areas.
The Weed Management and Hygiene Plan should also include details of how the requirements of the Plan will be communicated with staff and contractors, training, information access, and a schedule for review and update of the document and procedures.

4.2 Key issue 2: Fauna and habitats

4.2.1 Key legislative and policy requirements

Regard should be given to Australia's Biodiversity Conservation Strategy 2010-2030 (2010), the draft Tasmania's Nature Conservation Strategy and the Threatened Species Strategy for Tasmania. Consideration of each species must have regard to any recovery plan prepared by the Commonwealth, Tasmanian or other state government, in relation to the species, and any publicly available policy statement or conservation advice prepared by the Commonwealth in relation to the species. All relevant EPBC Act Policy statements must be complied with unless adequate justification is provided.

Note: particular information is required to satisfy the provisions of the EPBC Act. Details are provided in Section 5 of these Guidelines.

4.2.2 General information

The following issues should be addressed in relation to the proposal:

a) Effects on fauna, including effects 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 TSPA.

b) Effects on identified areas or habitats of conservation significance, including designated conservation areas, areas relating to the requirements of international treaties (e.g. Japan-Australia, China-Australia, and Republic of Korea-Australia Migratory Bird Agreements (JAMBA/CAMBA/ROKAMBA) and Ramsar (wetlands) Convention), or wetlands listed in A Directory of Important Wetlands in Australia.

c) Reference should be made to potential effects of vehicle movements on wildlife as a result of the proposal, and to proposed mitigation measures for any wildlife priority areas.

d) Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse effects on biodiversity and nature conservation values should be presented. Include a statement on whether any impacts are likely to be unknown, unpredictable, or irreversible.

Any 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), as well as all relevant EPBC Act policy statements. The methodology for surveys should be developed in consultation with DPIPWE and the Commonwealth.
4.2.3 Tasmanian devil and Spotted-tailed quoll

Initial surveying undertaken onsite has shown that the proposed TSF footprint potentially contains a significant number of devil and/or spotted tailed quoll dens. The removal (or ‘decommissioning’) of any den requires a permit to be issued by DPIPWE’s Policy and Conservation Assessment Branch (PCAB) under the Nature Conservation Act 2002 (NCA). To issue a permit of this nature, PCAB require the following information, to be provided in the DPEMP:

a) The impact to devils/quolls in the general area from the loss of the number of potential dens onsite.

b) An assessment of the density of denning habitat and its condition outside of the development footprint (such as extending to the boundaries of the adjacent Lake Pieman and Argent River), in order to inform the Department of the relative importance of the dens occurring within the development footprint.

c) Details of the mitigation or offset measures that will be applied to reduce the level of risk to devils/quolls (with appropriate measures depending on the overall level of risk determined).

d) A Devil and Quoll Den Decommissioning Plan should be provided, that outlines how the decommissioning will be managed, and addresses key issues including:
   - Time of year for decommissioning;
   - Survey techniques to demonstrate that dens are not occupied prior to removal;
   - Actions to be undertaken if a maternal den is detected; and
   - Whether any animals will need to be handled.

Given the large number of potential dens a strategic coordinated approach to mitigating impact should be proposed.

Existing documentation for den management on the site has recommended the use of one-way cat flaps and sand pads. Whilst these methods were considered appropriate by the Department in 2008 when the project was originally proposed, the recent widespread emergence of remote camera technology has provided a less invasive and more accurate method for survey potential den sites. It should be noted also that den use is likely to vary from year to year and season to season and survey design should take this into account.

It is recommended that the efficacy of these original proposed mitigation strategies for evicting and excluding devils and quolls from impacted areas be assessed and updated if necessary.

An assessment of the potential impacts of the proposal on the spread of the Devil Facial Tumour Disease should also be included.

4.2.4 Avian fauna

In relation to existing and new studies undertaken on site, the following points should be noted and addressed in the DPEMP:

a) PCAB has noted the intention to undertake updated aerial eagle nest searches across the site. Aerial searches should be extended to include areas adjacent to the TSF footprint of around 500 metres (or 1 km when there is line-of-site to TSF footprint).

b) The area has been identified as containing Grey Goshawk nesting and foraging habitat. Prior to vegetation clearance, a ground-based nest search must be undertaken by a suitably qualified expert within the proposed impact footprint. In the event that nest(s) are detected, then the proposed measure to leave a 300 metre buffer around the nest(s) during the breeding period (November – January inclusive) is supported. Alternatively, clearing could take place outside the breeding season.
c) The area is considered habitat for the Masked Owl, which is contrary to the conclusions of the existing studies that have taken place on site. Old growth trees within the footprint should be surveyed to determine the possible presence of the masked owl.

d) Consideration should also be given of impacts of borrow pits on avifauna, in particular in relation to the Azure Kingfisher.

The results of all surveys done to date in relation to the project should be included in the DPEMP and discussion provided. Full survey reports should be included as appendices to the DPEMP.

4.3 Key issue 3: Impacts on water quality

This section should identify existing conditions, detail the performance requirements to be achieved, identify potential effects of the proposal on the receiving environment (including surface water, groundwater and soil), identify measures to avoid and mitigate potential adverse effects and assess the overall effects on the receiving environment following the implementation of the proposed avoidance and mitigation measures.

This section should demonstrate that all reasonable and practicable measures have been taken (having regard to best practice environmental management as defined in the EMPC Act) to avoid producing liquid waste, or to reduce the amount of liquid waste to be discharged consistent with the waste management hierarchy, arranged in decreasing order of desirability:

i) waste avoidance;

ii) waste recycling/reclamation;

iii) waste re-use;

iv) waste treatment to reduce potentially adverse effects; and

v) waste disposal.

4.3.1 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*, *State Policy on Water Quality Management 1997* (Water Policy), and the *Inland Fisheries Act 1995*. It should be noted that a referral to the Assessment Committee for Dam Construction in accordance with Section 165F of the *Water Management Act 1999* will be required, as the proposal includes a “dam” within the meaning of Part 8A of the Act.

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* (see [http://epa.tas.gov.au/policy/water-quality-policy](http://epa.tas.gov.au/policy/water-quality-policy)). Where water quality objectives have not yet been set, the EPA Division should be consulted to identify the baseline water quality data required to enable the water quality objectives to be determined.

4.3.2 Discharge of wastewater to the environment

If the proposal includes any discharge of wastewater to the environment, then a detailed consideration of the nature of the discharge and of the receiving environment must be presented. Any proposed treatment processes should be described and the potential impacts upon the receiving environment must be assessed under typical and plausible worst case conditions.

**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 (see Section 4.3.6).

For proposals with the potential to impact upon groundwater, this section should identify existing conditions, identify performance requirements to be achieved, identify any potential effects of the proposal on groundwater quality or quantity, identify measures to avoid and mitigate any possible
adverse effects, and assess the overall effects on groundwater following implementation of the proposed avoidance and mitigation measures.

The following specific information should be provided:

a) Ambient surface and ground water quality survey results of the pre-existing receiving environment (including evaluation of historical sources of pollution including mass loadings at various flows).

b) Identification of principle discharge points from the TSF to the receiving environment.

c) Expected water quality of emitted water and expected annual mass loadings discharged should be reviewed in comparison to ambient water quality. Proposed discharges must satisfy the State Policy on Water Quality Management 1997.

d) Measures to ensure protection of the quality and quantity of the region's surface and groundwater resources including maintenance of any existing beneficial use of groundwater such as ecosystem maintenance and extraction for irrigation or consumption.

e) Details of an appropriate surface and groundwater monitoring and reporting program, developed by a suitably qualified and experienced person, in order to facilitate protection and maintenance of the quality and quantity of the catchment’s water resources.

4.3.3 Public health impacts

The Public and Environmental Health Service (Department of Health and Human Services) have requested that the DPEMP address the following issues in relation to water quality downstream of the proposed TSF, given the close proximity to recreational areas:

a) Effects of downstream discharges on recreational water quality; and

b) Levels of metals or other residues in fish and other downstream resident aquatic species, which may affect safe human consumption.

4.3.4 Construction phase

Provide details of management practices for areas disturbed during the construction phase to prevent sediment movement into watercourses. This should include contingencies for failure of control measures, such as during heavy rainfall or flooding.

Details of the location and proposed management of the borrow pits should also be provided, particularly in relation to impacts associated with vegetation clearance and sedimentation near waterways.

4.3.5 Ongoing tailings management and AMD

The DPEMP must describe the following:

a) Details of how the TSF dam will be lined should be provided, justification for this choice of liner/construction technology, and the capacity of the construction technology to ensure seepage of contaminated water to ground and/or surface water is minimised.

b) Description of how seepage of AMD waters from all existing TSFs on site will be assimilated and captured by the proposed new TSF, or justification for only partial capture of AMD from existing TSF(s).

c) Through geochemical test work and predictive modelling, details should be provided of the nature and distribution of potentially acid forming minerals to be placed in the TSF.

d) Details of monitoring of aqueous emissions for oxidation products which may be precursor indicators of AMD.

e) Best Practice Environmental Management measures to prevent or mitigate the formation of AMD (e.g. disposal under permanent water cover) in the TSF.
f) Best Practice Environmental Management measures for ongoing collection and treatment of AMD which cannot be prevented from occurring, to remove pollutants prior to discharge.

### 4.3.6 Other issues

The following issues should be also addressed (where relevant):

a) Details of stormwater management (including reasonably foreseeable flood events) on the proposal site should be provided. The potential for pollutants to become entrained in stormwater should be assessed. Estimation of runoff volumes and available detention capacity/times should be included.

b) 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.

c) Details of any additional liquid wastes should be included.

### 4.4 Geoconservation

Two Tasmanian Geoconservation Database listed sites are mapped as occurring at the proposed dam site. The Western Tasmanian Blanket Bog and Central Highland Cainozoic Glacial Area are both large landscape sites. The Western Tasmanian Blanket Bog is unlikely to be significantly by the proposed dam. The Central Highland Cainozoic Glacial Area comprises a suite of landforms and no specific geoconservation information is available for the dam site location.

A geoconservation survey should be undertaken to identify and determine the significance of any glacial features within the dam footprint.

### 4.5 Noise

This section should identify existing conditions, identify performance requirements to be achieved, identify any potential effects of the proposal on ambient (surrounding) noise levels (during both the construction and operational phases), identify measures to avoid and mitigate any possible adverse effects, and assess the overall effects on ambient noise levels following implementation of the proposed avoidance and mitigation measures.

The following issues should be addressed:

a) All major sources of noise must be identified and described.

b) The potential for noise emissions (during both the construction and operational phases) to cause nuisance for nearby land users should be considered and any proposed measures to mitigate noise impacts should be described.

c) The potential for noise emissions to affect terrestrial, marine and freshwater wildlife and livestock.
4.6 Air emissions

This section should identify existing conditions, identify performance requirements to be achieved, identify any potential effects of the proposal on the local, regional and global air environment, identify measures to avoid and mitigate any possible adverse effects and assess the overall effects on the air environment following implementation of the proposed avoidance and mitigation measures.

4.6.1 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/air-quality-epp).

4.6.2 Other issues

The following issues should be addressed (where relevant):

a) The location of all emission points should be specified and mapped.

b) Potential sources of fugitive emissions (including odour and dust that may arise from loading, unloading and transport) should be described.

c) The potential for emissions to cause environmental and health effects should be evaluated and proposed mitigation measures should be described.

4.7 Solid and controlled waste management

This section should demonstrate that all reasonable and practicable measures have been taken to avoid producing each type of solid waste or controlled waste (other than mine waste/tailings already discussed in previous sections) and in particular to reduce the amount of waste requiring disposal, having regard to best practice environmental management. The measures must be in accordance with the hierarchy of waste management, arranged in decreasing order of desirability:

i) waste avoidance;

ii) waste recycling/reclamation;

iii) waste re-use;

iv) waste treatment to reduce potentially adverse effects; and

v) waste disposal.


The following issues should be addressed:

a) The source, nature and quantities of all solid wastes, including general refuse, likely to be generated should be identified.

b) Methods proposed to collect, store, reuse, treat or dispose of each solid waste stream should be identified.

c) Any controlled waste that will be generated should be identified. The source, nature, quantity, and method of treatment, storage and disposal for each controlled waste should be described.
4.8 Dangerous goods and environmentally hazardous materials

This section should identify any potential effects from the transport, storage and usage of dangerous goods and environmentally hazardous materials associated with the proposal (other than mine waste/tailings already discussed in previous sections), identify measures to avoid and mitigate any possible adverse effects and assess the overall effects following implementation of the proposed avoidance and mitigation measures.

The following issues should be addressed (where relevant).

a) The nature, quantity and storage location of all environmentally hazardous materials including fuels, oils and chemical reagents and 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.

b) The measures (such as storage of such materials within bunded areas or spill trays) to be adopted to prevent or control any accidental releases of dangerous goods and environmentally hazardous materials.

c) 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.

d) Identify any safety management requirements for the protection of human health and safety affecting the community.

e) Particular reference should be made to the management of fuels and lubricants required for equipment during construction, operational and maintenance activities.

4.9 Greenhouse gases and ozone depleting substances

This section should identify the main sources of greenhouse gas emissions associated with the proposal and provide a brief discussion regarding the overall greenhouse gas implications of the proposal.

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

4.9.1 Implementing greenhouse best practice

It should be demonstrated that the development will implement cost-effective greenhouse best practice measures to achieve ongoing minimisation of greenhouse gas emissions.

Details of any feasible alternative ways of providing energy for the proposal, transporting materials to and from the proposal, design and construction of components or otherwise implementing the proposal so as to have a lesser carbon footprint should be provided. Where less greenhouse gas intensive alternatives are not adopted, justification should be provided and/or mechanisms to offset greenhouse gas emissions should be put forward.

4.9.2 Ozone depleting substances

Any generation or use of ozone depleting substances in the proposal (such as in refrigeration or firefighting) must be identified and justified.
4.10 Heritage

This section should identify potential effects of the proposal, including the development of infrastructure directly related to the proposal, on Aboriginal and non-Aboriginal cultural heritage sites and areas. It should identify recommended measures to avoid or mitigate any potential adverse effects on cultural heritage sites and assess the overall effects of the proposal on cultural heritage sites following implementation of the proposed avoidance and mitigation measures.

4.10.1 General

Potential effects on the following should be addressed (where relevant):

a) Declared World Heritage Area properties and values.

b) Any places listed on the National Heritage List and values.

c) Any places listed or interim listed on the Register of the National Estate and values.

d) Any places listed on the Tasmanian Heritage Register (maintained by the Tasmanian Heritage Council), including consideration of cultural landscapes.

e) Any places on the Tasmanian Historic Places Inventory (maintained by Heritage Tasmania).

f) Any places on the Tasmanian Aboriginal Site Index (maintained by Heritage Tasmania), including consideration of cultural landscapes.

4.10.2 Aboriginal heritage

Aboriginal Heritage Tasmania have advised that a Tasmanian Aboriginal Site Index (TASI) search has been undertaken for the proposal site and that no Aboriginal heritage sites are recorded within or close to the proposed TSF dam. Due to the high level of disturbance of the area, it is believed that there is a low probability of Aboriginal heritage being present.

As such, there is no requirement for an Aboriginal heritage investigation.

It should be noted that Aboriginal heritage is protected under the Aboriginal Relics Act 1975. The DPEMP should address the possibility of unanticipated discoveries during works. If at any time during works Aboriginal heritage is suspected, works must cease immediately and Aboriginal Heritage Tasmania must be contacted for advice. The Unanticipated Discovery Plan (which can be found in Attachment 1 of these Guidelines) will assist in planning procedures for meeting the requirements under the Aboriginal Relics Act 1975.

Consultation with the Tasmanian Aboriginal Lands Council, Tasmanian Office of Aboriginal Affairs, Aboriginal Heritage Tasmania, as well as with Aboriginal communities, should occur prior to any survey of potential sites to establish regulatory requirements for heritage values, places and landscapes.

Note: Information about the precise location of Aboriginal sites may be confidential. Confidentiality requirements should be discussed with Aboriginal Heritage Tasmania and confidential information should not be included in the DPEMP.

4.10.3 Historic heritage

Heritage Tasmania note that a survey of European cultural heritage was undertaken in 2000 by archaeologist Parry Kostaglou, which identified a number of sites in the general area worthy of conservation, however none of these sites are located within the footprint of the proposed TSF dam or in the immediate vicinity.

Given the period of time elapsed since this survey was undertaken, it would be desirable to review and update the report and provide a copy of the report in the DPEMP, at least in respect to
the borrow pits. If a review was to occur, it should take into account the revisions to the scope of the project and the additional areas which may be impacted upon. Such a revision would also allow the inclusion of any recently discovered information relating to heritage in the vicinity of the proposed development.

The DPEMP should also include an agreed approach that responds to unanticipated discoveries. The methodology outlined in Heritage Tasmania’s Predevelopment Assessment Guidelines should be followed. These are available from www.heritage.tas.gov.au/guidelines.html.

4.10.4 Commonwealth Government requirements

The requirements of the Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984 should also be considered where there is a threat of injury or desecration to an area which is significant as part of Aboriginal tradition, and potential impacts identified, assessed and managed in consultation with the traditional owners, Native Title claimants and any other indigenous people with rights and interests in the area.

The Commonwealth Department of Sustainability, Environment, Water, Population and Communities can provide advice on places listed in the National Heritage List and Register of the National Estate.

4.11 Land use and development

This section should identify any potential effects of the proposal in terms of constraints or benefits it may place on the current or future use of land within the proposal site and surrounding area. It should identify measures to avoid, mitigate and compensate for any possible adverse effects.

The following issues should be addressed (where relevant):

a) Effects on existing or proposed tourist or recreation activities, such as camping areas, picnic areas, walking tracks, horse riding tracks, heritage trails etc.

b) Effects on residential activities.

c) Effects on industrial activities.


e) Effects on local and regional tourism.

f) Effects on other commercial activities.

For its assessment, Council will take into account the requirements of the West Coast Planning Scheme (or any new or revised planning scheme, as appropriate), as well as specific issues raised by the community. Section 2.2.3 outlines the appropriate sections of the planning scheme that the DPEMP should address.
4.12 Visual effects

This section should outline the existing visual setting within which the proposal infrastructure will be located and assess the capacity of the landscape to absorb any visual changes to the landscape as a result of the proposal. The assessment should also take account of the appearance of the proposal from significant vantage points. These should include points both inside and outside the site and should include viewpoints likely to be visited by tourists or recreational users. Presentation of ‘artists impressions’, photomontages or visual modelling is recommended. The methodology used and assumptions made in the assessment should be clearly identified.

Measures to avoid and mitigate potential adverse visual effects should be identified, such as minimising vegetation clearance, facility height, size, design, colour, separation and post-construction revegetation.

4.13 Socio-economic issues

This section should contain information on the social and economic effects of the proposal during the construction, operation and decommissioning phases.

The following issues should be addressed (where relevant):

a) An estimate of total capital investment for the proposal.

b) The effects on local and State labour markets for both the construction and operational phases of the proposal. Skills and training opportunities should also be discussed.

c) The effects on upstream/downstream industries, both locally and for the State.

d) The extent to which raw materials and services will be sourced locally.

e) A qualitative assessment of community infrastructure effects, including recreational, cultural, health and sporting facilities and services. Any proposals to enhance or provide additional community services or facilities should be described.

f) Community demographic effects (changes to cultural background, occupation, incomes).

g) Effects on land values, and demand for land and housing.

h) Effects on the local, regional, state and national economies.

4.14 Health and safety issues

This section should review any health and safety issues relating to employees, site visitors and the public which have not been addressed in other sections.

It must be demonstrated that occupational health and safety issues have been taken into account during the planning of the proposal, including an analysis of alternatives. It should be demonstrated that compliance with the Workplace Health and Safety Act 1995 and the Workplace Health and Safety Regulations 1998 will be achieved. Safety management systems to be used during construction and operational phases should be described.

The following issues should be addressed.

a) Construction phase safety issues, including traffic movement and volume, access to the site, and operational hours of construction workers. These should be addressed in the context of health and safety for both workers, and nearby residents.

b) Security arrangements to prevent unauthorised access to the proposal site during construction.

c) Operations, maintenance and inspection safety issues.
4.15 Hazard analysis and risk assessment

A risk assessment incorporating the requirements of Australian/New Zealand Standard AS/NZS 4360:1995 Risk Management, or equivalent, should be conducted, to identify all credible risks associated with specific major hazard events identified through hazard analysis. The risk assessment should identify measures to avoid and mitigate potential adverse effects. A quantified risk assessment should be conducted if the preliminary risk assessment indicates that risks above the acceptable criteria determined by legislation and community expectation may extend beyond the proposal site boundary.

The following issues should be addressed by the risk assessment (where relevant):

a) Identify hazard events with the potential to cause a major accident or significant impact on people or the environment. This should include consideration of the risks associated with malfunctions, accidents or fires, in addition to those posed by natural disasters such as such as storms, bushfires, seismic activity and floods. For each hazard event, estimate the frequency and consequence of such an event occurring.

b) Identify high risk locations and facilities.

c) Describe technical and management safeguards to be employed to assess and minimise the likelihood of occurrence and the consequences of identified hazard events.

d) Define the objectives and management principles to be adopted for the preparation of a detailed emergency plan (including emergency response, recovery/cleanup procedures and consultation with relevant emergency services).

In relation to dam safety, the following should be included:

a) A hazard analysis and risk assessment in accordance with ANCOLD guideline requirements.

b) Identify high risk locations and facilities, including potential influence of underground workings in relation to the proposed TSF location.

c) Describe technical and management safeguards, including pipeline inspections, telemetry monitoring systems and annual dam safety surveys and reporting to be employed to assess and minimise the likelihood of occurrence and the consequences of identified hazard events.

4.16 Fire risk

This section should identify the potential fire risk associated with the proposal. This should include consideration of fire within the site, fire escaping from the site and the effect of wildfire originating outside the development. Measures to avoid and mitigate potential adverse effects should be outlined, including the objectives and management principles to be adopted for the preparation of a fire response plan. The proponent should demonstrate compliance with the relevant requirements of the Fire Services Act 1979 and the Workplace Health and Safety Act 1995. Where relevant, the fire response plan should be fully integrated with other relevant documents, such as a Tasmania Fire Service Local Area Fire Management Plan, a Forestry Tasmania Fire Management Plan and a Parks and Wildlife Service Fire Action Plan for relevant districts.
4.17 Infrastructure and off-site ancillary facilities

This section should identify potential effects 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 effects and assess the overall effects following implementation of the proposed avoidance and mitigation measures. For example, upgrading or re-routing of roads, rail or other services required as a result of the proposal, should be detailed.

This section should also 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.

4.18 Traffic impacts

This section should identify roads to be used by vehicles associated with 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. Impacts associated with altered traffic flows should be discussed (such as impacts on other roads users and residences adjacent to roads).

4.19 Environmental management systems

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

a) Environmental management systems or environmental policies implemented or proposed by the proponent, which are relevant to the environmental management of the proposal.

b) Organisational structure and environmental responsibility within that structure for the proposal.

c) Procedures and instructions to employees (including contractors) on minimising adverse environmental effects 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.

4.20 Cumulative and interactive effects

Where relevant, this section should contain an assessment of the potential cumulative effects of the proposal, based on existing and other formally proposed developments in the region, which have not been addressed in previous sections. Interactions between biophysical, socio-economic and cultural effects of the proposal should be discussed.
5. EPBC ACT (COMMONWEALTH) REQUIREMENTS

The proposal was referred to the Commonwealth Minister (project reference EPBC2012/6448) who determined that EPBC Act approval is required as the action has the potential to have a significant impact on matters of national environmental significance (NES) that are protected under Part 3 of the EPBC Act. This section of the DPEMP should contain information relevant to the EPBC Act requirements.

5.1 Matters of National Environmental Significance

To ensure the Minister has sufficient information to make an informed decision on whether or not to approve the proposal under Part 9 of the EPBC Act, this section must include a consideration of the impacts of the proposal on at least the following EPBC listed threatened species:

- Tasmanian devil - *Sarcophilus harrisii* (endangered);
- Spotted-tail quoll - *Dasyurus maculatus* subsp. *maculatus* (vulnerable);
- Wedge-tailed eagle (Tasmanian) - *Aquila audax* subsp. *fleayi* (endangered);
- Masked owl - *Tyto novaehollandiae castanops* (vulnerable);
- Australian grayling - *Prototroctes maraena* (vulnerable); and

This section of the DPEMP must provide enough information about the project and its relevant impacts (including the quantification of impacts and consideration of direct and indirect impacts) to allow the Commonwealth Minister to make an informed decision whether to approve the project. The information provided on these matters should be consistent with any relevant publicly available policy guidance or listing advice provided by the Department of Sustainability, Environment, Water, Population and Communities. The consideration of indirect impacts must have regard to definitions of indirect impacts provided in *Significant Impact Guidelines 1.1: Matters of National Environmental Significance (2009)*.

Any surveys required to assess potential impacts must be consistent with relevant Commonwealth’s survey guidelines (for nationally threatened mammals and birds) found at www.environment.gov.au/epbc/guidelines-policies.html#threatened. The DPEMP must demonstrate how all surveys are consistent with these Commonwealth survey guidelines.

5.2 Cumulative impacts

The DPEMP should consider the cumulative impacts of the proposal with precursor, current or planned development at the project site and beyond the site boundary to the extent that it may affect protected matters (including but not limited to Tasmanian devils, spotted-tail quolls, wedge-tailed eagles, and other EPBC listed species). Such impacts may include the accumulated loss of habitat and habitat connectivity, any increased likelihood in threatening processes (such as the spread of Devil Facial Tumour Disease) and the potential impacts that the cumulative increases in traffic will have on nationally protected matters.

5.3 Mitigation measures and management

Information must be provided on the extent to which mitigation measures are effective in reducing significant impacts and the residual impact that may remain once mitigation measures have been implemented. Information must also be provided on whether the mitigation measures have any statutory or policy basis, and an indication of how much they will cost.

An outline of an environmental plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts during all phases of the action, including any provisions for independent environmental auditing must be provided.
5.4 Environmental record

In addition to consideration of the matters of environmental significance, the following information must be provided:

a) Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:
   - The person proposing to take the action; and
   - For an action for which a person has applied for a permit, the person making the application; and

b) Details of the corporation’s environmental policy and planning framework if the person proposing to take the action is a corporation.

5.5 Schedule 4 of the EPBC Regulations

A specific requirement of the Commonwealth is that each matter listed in Schedule 4 of the Environment Protection and Biodiversity Conservation Regulations 2000 (EPBC Regulations) is addressed in the DPEMP. It is recommended that a summary table be provided in the DPEMP which demonstrates how and where each matter in Schedule 4 has been addressed in the DPEMP.

6. MONITORING, REVIEW, AND ADAPTIVE MANAGEMENT

This section should provide an outline of a monitoring to take place, as proposed in the relevant sub-sections of the DPEMP in relation to particular issues. It should also provide information on a review and reporting program for each sector of the proposal. The program should be designed to meet the following objectives:

- Monitoring of compliance with emission standards and other performance requirements identified in the DPEMP.
- Details of monitoring of aqueous emissions for oxidation products which may be precursor indicators of AMD.
- Assessing the effectiveness of the performance requirements and environmental safeguards in achieving environmental quality objectives.
- Assessing the extent to which the predictions of environmental effects in the DPEMP have eventuated.
- Assessing compliance with commitments made in the DPEMP.

The monitoring program should include details such as:

a) Any pre-commissioning monitoring/studies to be undertaken.

b) Details of sites to be sampled.

c) A site plan showing surface water sampling locations and location of groundwater monitoring bores.

d) Sampling procedures.

e) Parameters to be analysed.

f) Frequency of sampling.

g) The format and frequency of reporting. The reporting program should include discussion of results and adaptive management options.

h) A post-commissioning review of the DPEMP (a 12 month review of the operations and associated management plans is typically undertaken, with subsequent reviews at three yearly intervals thereafter).

i) A monitoring programme summary table.

It is recommended that the Leading Practice Sustainable Development Program for the Mining Industry handbook Evaluating Performance: Monitoring and Auditing be referred to when developing the Monitoring, Review and Adaptive Management Plan.
7. CLOSURE, DECOMMISSIONING AND REHABILITATION

A preliminary Closure, Decommissioning and Rehabilitation Plan should be provided in the DPEMP.

It should describe an on-going, staged approach to closure, decommissioning and rehabilitation throughout and beyond the life of the proposal. Due to the finite nature of mining operations and their susceptibility to external economic influences, closure and rehabilitation planning should commence before the TSF is constructed.

The preliminary Closure, Decommissioning and Rehabilitation Plan should include, but not be limited to, the following information:

a) Design of post-closure land use and final land form;

b) Consideration of long term stability of the TSF and associated infrastructure;

c) Details regarding containment/encapsulation of tailings to prevent escape to the environment;

d) Details of how long term seepage from the dam will be minimised;

e) Information on how the surface of the TSF dam will be stabilised to prevent erosion;

f) Cost estimations and financial assurances/capacity of the proponent to cover all expected costs associated with closure, rehabilitation and long term monitoring, and contingencies for dealing with unexpected issues or early mine closure;

g) A post-closure monitoring and maintenance plan; and

h) Stakeholder consultation planned to take place in relation to the final closure, decommissioning and rehabilitation of the site.

The Leading Practice Sustainable Development Program for the Mining Industry handbooks relating to Tailings Management, Mine Closure and Completion, and Mine Rehabilitation should be referred to when preparing Closure, Decommissioning and Rehabilitation plans.

8. SUMMARY OF MANAGEMENT COMMITMENTS

Provide a summary table of all management commitments proposed in the previous sub-sections of the DPEMP. The commitments should be sequentially numbered and should specify when each commitment is to be implemented, who is responsible for implementing the action, and should cross-reference the appropriate section of the DPEMP.

9. CONCLUSION

This section should briefly describe the proposal and draw together the critical environmental effects of the proposal, both positive and negative. It should present a balanced overview of the net environmental effects of the proposal, and the extent to which any adverse effects on the environment can be satisfactorily avoided, mitigated, remediated or compensated. The conclusion should also describe how the proposal meets the objectives of relevant Commonwealth and State assessment and planning policies and legislation.
10. REFERENCES
This section should provide details of authorities consulted, reference documents etc.

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

AMD – Acid and Metalliferous Drainage
Bluestone – Bluestone Mines Tasmania Joint Venture Pty Ltd
DPEMP – Development Proposal and Environmental Management Plan
DPIPWE - Department of Primary Industries, Parks, Water and the Environment
EMPC Act – Environmental Management and Pollution Control Act 1994
EPA – Environment Protection Authority
EPBC Act - Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EPBC Regulations - Environment Protection and Biodiversity Conservation Regulations 2000 (Cth)
JAMBA/CAMBA/ROKAMBA - Japan-Australia, China-Australia, and Republic of Korea-Australia Migratory Bird Agreements
NCA – Nature Conservation Act 2002
NOI – Notice of Intent
PCAB – Policy and Conservation Assessment Branch (DPIPWE)
Tasmanian RFA - Tasmanian Regional Forest Agreement
TSF – Tailings Storage Facility
TSPA – Tasmanian Threatened Species Protection Act 1995
ATTACHMENT 1 – UNANTICIPATED DISCOVERY PLAN

Unanticipated Discovery Plan for proponents and consultants dealing with Aboriginal Heritage in Tasmania
 Provided by Aboriginal Heritage Tasmania (see Section 4.10.2 of these DPEMP Guidelines)