

# Environmental Impact Statement Guidelines

*Bell Bay Powerfuels Pty Ltd*

*Bell Bay Powerfuels Project, Bell Bay*

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ENVIRONMENT PROTECTION AUTHORITY



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## Glossary and abbreviations

Term	Definition
Board	Board of the Environment Protection Authority
Case for assessment	Information required for environmental impact assessment, prepared according to the Board’s requirements.
Director	Means the Director, Environment Protection Authority holding office under Section 18 of <i>Environmental Management and Pollution Control Act 1994</i> and includes a delegate or person authorised in writing by the Director to exercise a power or function on the Director’s behalf.
EIS	Environmental Impact Statement
EMPCA	<i>Environmental Management and Pollution Control Act 1994</i>
EMPCS	Environmental Management and Pollution Control System. Objectives found in Schedule 1 of EMPCA.
Environmentally hazardous material	Means 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 but excludes sewage.
EPA	Environment Protection Authority. Tasmania’s independent principal environmental regulator which administers EMPCA and consists of a Board and a Director.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>
LUPAA	<i>Land Use Planning and Approvals Act 1993</i>
MNES	Matters of National Environmental Significance
NCA	<i>Nature Conservation Act 2002</i>
Noise sensitive premises	Residences and residential zones (whether occupied or not), schools, hospitals, caravan parks and similar land uses involving the presence of individual people for extended periods, except in the course of their employment or for recreation.
Planning Authority	Council for relevant local government area
RMPS	Resource Management and Planning System, Tasmania. Objectives found in Schedule 1 of EMPCA.
Suitably qualified person	Means suitably qualified person in the opinion of the Director.
TSPA	<i>Threatened Species Protection Act 1995</i>

## Part A. Introduction

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These Guidelines provide instructions for proponents on how to prepare an Environmental Impact Statement (EIS) for an activity being assessed in Tasmania by the Board of the Environment Protection Authority (the Board). The Board uses an EIS as a ‘case for assessment’, to assess the environmental impact of an activity, as required under the *Environmental Management and Pollution Control Act 1994* (EMPCA).

### The role of the EIS

An EIS is generally required for larger scale developments, classed as requiring 2B or 2C assessments under EMPCA. It is a document that provides information about a proposal, its potential impacts and proposed mitigation measures. As a publicly available document, an EIS should facilitate public consultation and informed comment and should contain sufficient information to establish the conditions of approval by authorities, if approved.

The EIS should demonstrate that the proposal is consistent with the objectives of relevant laws and policies, including the Tasmanian Resource Management and Planning System (RMPS) and the Environmental Management and Pollution Control System (EMPCS). These systems are designed to facilitate sustainable development.

Further information on the EPA Assessment Process is available on the [EPA website](#).<sup>1</sup>

Refer also to Appendix A *General principles for assessing environmental impacts*, for further information on EIS principles.

### How the Board uses the EIS

The Board uses the EIS to inform decision making as part of the environmental impact assessment process. The EIS must be prepared in accordance with guidance provided by the Board under section 74(4) of EMPCA. The staff of the EPA support the Board during the assessment process.

The EIS will be advertised publicly to allow for public consultation. The proponent may then be required to supply additional information in response to public and government agency submissions. This information is generally supplied in the form of a supplement to the EIS.

The Board considers the EIS as well as other relevant information in the context of the objectives of the RMPS and EMPCS. These objectives aim to sustain the environment and avoid or mitigate adverse effects, while considering the economic and social needs of people now and in the future. The Board will endeavour to make the decision which best furthers the objectives of the RMPS and EMPCS. It may approve the proposal with conditions, or in some cases may decide to reject the proposal if the objectives cannot be upheld.

The EIS Guidelines are adapted for each specific proposal. In general, more detailed studies and information will be required where issues are considered by the Board to involve a higher level of environmental risk.

Other significant matters may emerge while preparing the EIS, from environmental studies, public comments, or other sources. These must also be considered in the EIS. Information collected or generated during the assessment process may also change the understanding of the level of risk associated with some issues. This must also be reflected in the EIS.

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<sup>1</sup> See <https://epa.tas.gov.au/Pages/Assessment-Process.aspx>

## Planning information

The relevant Planning Authority (local Council) will assess planning information if the *Land Use Planning and Approvals Act 1993* (LUPAA) applies. 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 LUPAA where the planning application has started the environmental assessment process; or
- as a combined planning and environmental report where it is intended to submit an EIS (draft or final) with the planning application. Where this option is selected, the information required for the Board's assessment must be clearly distinguished from that supplied for the purposes of LUPAA.

## Australian Government environmental assessment

The Australian Government (Commonwealth) may have a role in the environmental assessment and approval of the proposal in addition to Tasmanian requirements. Approval under the Australian *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 (MNES).

The nine MNES are:

- world heritage properties
- national heritage places
- wetlands of international importance (often called 'Ramsar' wetlands after the international treaty under which such wetlands are listed)
- nationally threatened species and ecological communities
- migratory species
- Commonwealth marine areas
- the Great Barrier Reef Marine Park
- nuclear actions (including uranium mining)
- a water resource, in relation to coal seam gas development and large coal mining development.

Information on the EPBC Act can be obtained from the [Australian Government, Department of Climate Change, Energy, the Environment and Water \(DCCEEW\) website](#),<sup>2</sup> or by calling 1800 803 772.

The Australian and Tasmanian Governments have signed a bilateral agreement for environmental impact assessment under section 45 of the EPBC Act, which accredits the Tasmanian assessment process. This allows a proposal that has been determined to be a controlled action under the EPBC Act to be assessed by the Board on behalf of the Australian Government.

If a proponent elects to have their proposal assessed under the bilateral agreement, the EIS should specifically describe the implications of the proposal for the relevant EPBC Act controlling provisions. It must also contain a summary table showing that it addresses the matters specified in Schedule 4 of the [Commonwealth Environment Protection and Biodiversity Conservation Regulations 2000](#).<sup>3</sup>

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<sup>2</sup> See <https://www.dcceew.gov.au/environment/epbc>

<sup>3</sup> See [http://www8.austlii.edu.au/cgi-bin/viewdoc/au/legis/cth/consol\\_reg/epabcr2000697/sch4.html](http://www8.austlii.edu.au/cgi-bin/viewdoc/au/legis/cth/consol_reg/epabcr2000697/sch4.html)

## Part B. Instructions

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The EIS must present information in a way that can be easily understood. It should provide summaries in non-technical language to give readers a general understanding of the proposal. It must also provide technical detail to allow analysis and understanding of impacts and mitigation measures by technical specialists, regulatory bodies, and people with an interest in specific matters arising from the proposal.

Section C of these Guidelines sets out the structure and **minimum** content requirements of the EIS.

Proponents are advised to consult the EPA during preparation of the EIS, including in the case of any uncertainty in relation to the requirements set out in these Guidelines.

### General requirements

- Avoid technical terminology where possible in the main body of the EIS. It should be able to be read as an independent document which provides a general understanding of the proposal.
- Include any detailed technical data or supplementary reports as appendices.
- Consider document accessibility. The Australian Government Style Manual provides information about inclusion and accessibility.
- Use cross-referencing to prevent unnecessary duplication between sections.
- Reference all sources of information using a consistent style.
- Define all key terms and words used.
- Information in the EIS must be relevant.
  - Show reasoning for arguments. Support conclusions with referenced evidence.
  - Indicate how current information is, how reliability has been tested, and the degree of confidence attached to any predictions.
  - Sufficient technical detail must be provided to allow for environmental impact assessment, even when details are not final at the time of preparation.
  - If information is currently unavailable, estimates and alternative options should be provided, however the limitations of available information must be evaluated.
- Provide any sensitive commercial or corporate information in a confidential appendix. Provide a comment in the EIS if this has been done.

**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 (section 43A of EMPCA).**

### Spatial and visual information requirements

- Present information in maps, plans, diagrams, and photographs where necessary, to enhance understanding.
- Images must be high quality and reproducible in monochrome, with all text and relevant features clearly visible.
- Maps and plans should include a north arrow and scale.

- Use a consistent base plan throughout the EIS where appropriate, to allow elements to be overlaid and compared. Ensure that detailed information is clear and visible, particularly when using satellite images as background layers. This is best achieved using a geographical information system (GIS).
- Specify the coordinate reference system when providing or referring to spatial information, including maps, plans, grid coordinates and heights. Further information on coordinate reference systems used in Tasmania can be found on the [Land Tasmania website](#)<sup>4</sup>.

Recommended systems are:

- Horizontal – Geocentric Datum of Australia 1994<sup>5</sup> Map Grid of Australia Zone 55 (GDA94 MGA55)
- Vertical – Australian Height Datum (Tasmania) (AHD83).

## Independent Review

For large proposals, such as Class 2C activities, prior to submission to the EPA, the draft EIS should be independently reviewed by a suitably qualified person to confirm that it meets the requirements detailed in Guidelines issued for the proposal.

## Submission

It is strongly recommended that proponents submit a draft EIS to the EPA for review prior to formal lodgement of the EIS with the Board.

The EIS (and any drafts submitted for review) may be submitted via email to [assessments@epa.tas.gov.au](mailto:assessments@epa.tas.gov.au) and your nominated contact officer. Proponents should contact the EPA if alternative submission methods are deemed necessary.

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<sup>4</sup> See <https://nre.tas.gov.au/land-tasmania/geospatial-infrastructure-surveying/geodetic-survey/coordinate-height-and-tide-datums-tasmania>

<sup>5</sup> Geocentric Datum of Australia 2020 (GDA2020) is the new official datum for recording the horizontal location of spatial information in Australia but is not yet fully implemented in Tasmania.



## Part C. EIS structure and content

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The EIS must follow the structure set out below and must address all requirements unless otherwise agreed following consultation with the EPA. For clarity, organise content with further headings and subheadings as appropriate.

### Title page

The title page must include:

- Name of proponent (legal entity)
- Name of proposal (include “expansion” or “upgrade” where appropriate)
- Proposal address or location
- EIS version number
- Month and year of submission

### Executive summary

The executive summary must provide a clear and concise overview of the proposal, its environmental implications, and the function of the EIS in the context of the assessment process. For a larger EIS, the executive summary must be written as a stand-alone document for people who may not wish to read or acquire the full EIS.

### Table of contents

The EIS must include a table of contents and a list of figures and tables to allow the reader to easily locate information. The table of contents should include hyperlinks to allow documents to be navigated easily.

### Glossary and abbreviations

Provide a list of abbreviations and acronyms and a glossary which clearly defines any technical terms used in the EIS.

### Proponent information

#### Proponent details:

- Name of proponent (legal entity)
- Name of proponent (trading name)
- Registered address of proponent
- Postal address of proponent
- ABN
- ACN (where relevant)

#### Contact person’s details:

- Name
- Telephone
- Email address

Activity Operator details must be provided if the operator will be a different entity to the proponent.

## 1. Introduction

The introduction should provide:

- General background information on the proponent, including relevant development and operational experience.
- General background information on the proposal, including:
  - current status of the proposal;
  - an overview of the principal components of the proposal;
  - the proposal location;
  - likely markets for the product; and
  - possibilities for future expansion.
- If the proposal is associated with an existing activity, information on current permits, regulatory approvals and/or licences.
- A discussion about how the proposal relates to any other proposals that have been or are being developed in the same region as 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

The scope of the proposal must be clearly described, and must include:

- A summary table,
- A detailed description of proposal,
- Definition of the Land,
- Maps, plans and visual information,
- A summary of planning aspects,
- Socio-economic context, and
- Off-site infrastructure.

Where a proposal will require a permit application under LUPAA, the proposal description and specification of the site must be consistent with the intended or current permit application.

### 2.1 Summary table

The summary table provides an overview of the proposal and identifies the key characteristics, including:

- Location and planning context;
- Existing site information, including topography, local climate, geology, geomorphology, soils (e.g. erodibility and acid sulphate soils), vegetation, fauna, groundwater, and surface drainage (e.g. waterways, lakes, wetlands, coastal areas);
- Proposed infrastructure;
- Proposed timeline; and
- Inputs (e.g. water, materials, energy) and outputs (e.g. products, wastes and emissions).

Refer to *Appendix C* for an example of a project description summary table.

## 2.2 Definition of the Land

Provide a definition of the Land on which the activity will take place. The boundary must be consistent with any intended or current permit application under LUPAA. Information requirements will vary depending on how the Land is defined. Refer to Part B for spatial and visual information requirements for detailed mapping instructions.

### 2.2.1 Existing defined boundary

If the Land is delineated by an existing defined boundary, the definition of the Land may be indicated by:

- Cadastral boundaries (Title Reference, Property ID), e.g. Title Reference 136529/1; or
- Lease boundaries (Mining Lease, Crown Lease, Marine Farming Lease), e.g. Mining Lease 901 IP/M.

### 2.2.2 Other boundary

If the Land is not delineated by an existing defined boundary, it may be necessary to define a new boundary by reference to specific topographic features and/or surveyed grid coordinates. A boundary survey may be requested during the assessment process if required to adequately identify the Land. If this is the case:

- Provide a plan which clearly shows the boundary of the Land in relation to topographic features or surveyed grid coordinates; and
- Provide the boundary of the Land in a geospatial vector format (shapefile or DXF).

## 2.3 Detailed description of proposal

This section should include information that has not been included in the summary table, or that requires further explanation. Provide detail on the proposed construction, commissioning and operation of the activity, including any ancillary works that are for the purpose of the proposal (e.g. access works).

Describe key physical components of the proposal in detail, including their function, composition, size, capacity, operational life, performance requirements, requirements for construction, operation and maintenance, and inter-relationships with other physical components.

Where it is planned for production capacity to increase in stages over time, include details for each planned stage where relevant.

### 2.3.1 Project Components

- Describe the key components and facilities that make up the plant, including but not limited to the:
  - Methanol production facility, including:
    - biomass storage shed;
    - electrolyser unit for generation of hydrogen and oxygen from water and electricity;
    - hydrogen and oxygen storage tanks;
    - nitrogen generation unit and storage tanks/air separation unit;
    - biomass gasification unit for generation of syngas from wood waste;
    - gas treatment unit to remove impurities from syngas;
    - direct air capture facility to capture atmospheric carbon dioxide for use in the methanol synthesis unit;
    - methanol synthesis unit and storage tanks;
    - steam, condensate and boiler feed water systems;
    - cooling systems;
    - gas flaring;
    - water storage (demineralised, raw and firefighting).
  - Export of methanol from the wharf by vessel on kanamaluka/River Tamar.
  - Water supply infrastructure.
  - Discharge of wastewater.
  - Electricity supply infrastructure.
  - Onsite parking and administration.

- Access road(s).
- Land reclamation.

Describe the major items of equipment (including pollution control equipment) that make up each of these components and facilities. Detailed technical information on major items of equipment may be supplied as appendices. In this case, clear references to the appendices must be provided in the text.

- Detail the total footprint of the proposal (both construction and operational).

### 2.3.2 Construction

- Provide a step-by-step description of significant activities that will occur during the construction phase of the proposal.
- Provide an indicative timetable for completing major stages of construction. Detail any pre-construction works, including site preparation works, and any temporary or permanent removal of vegetation. Describe any planned stockpiling of vegetation. Describe erosion control measures, and discuss the potential for pollutants (e.g., suspended solids) to escape from areas of disturbance during construction.
- Detail any pre-clearance surveys to be carried out prior to commencement of construction, including flora and fauna, geotechnical studies, and land contamination surveys.
- Estimate the quantities of major raw materials required for construction (e.g., gravel, sand/aggregate, and water), state whether these will be sourced on-site and/or off-site and provide any further details on sourcing that may be relevant to the EIS.
- Describe any demolition of existing building, equipment or amenities that will occur prior to and during construction.
- For the construction phase:
  - Estimate the source, nature and quantities of wastes that will be generated.
  - Details of construction methods to manage landslip risks.
  - Detail any measures proposed to monitor and manage any contaminated and/or acid sulfate soils Generated.
  - Detail any measures proposed to monitor and manage any groundwater generated, including contaminated groundwater.
- Describe the construction of any intake or outfall pipelines, including the method of anchorage and whether any blasting, drilling or digging is required to remove rubble or bedrock. Detail measures that will be implemented to mitigate potential impacts to shores and surface waters, including sediment and erosion control from any shoreline works and works in and around the proposed pipeline corridor.
- Define the proposed hours within which construction activities will take place (hours per day and specific days per week).
- Describe the volume, composition, origin, destination, and route for vehicle movements (road, rail, shipping, and air) during construction. Specify what proportion of road usage and vehicle movements will involve over-dimension and heavy road vehicles. Compare the proposed vehicle movements with existing usage of relevant routes.

### 2.3.3 Commissioning

- Provide a step-by-step description of significant commissioning activities that will occur following installation of equipment.
- Provide an indicative timetable for completing major stages of commissioning. Describe the point at which commissioning will be considered complete.

### 2.3.4 Operation

- Describe the process(es) of operation in a step-by-step manner, using explanatory diagrams and flow charts where appropriate.

- Outline all raw materials (including water) required for operation. Detail sources, quantities, and characteristics.
  - Specify the volume of water required for hydrogen production as opposed to other uses on site.
  - Provide a detailed description of the existing plantation estate and forestry wood waste and forestry residue available recently, and into the future, and the capacity of plantations in Tasmania to meet the required demands for the facility.
  - Where characteristics of raw materials may vary according to source, outline potential variations, and indicate the proportion of material to be obtained from each source.
  - Outline significant foreseeable changes in raw material usage (including water) over the lifetime of the project.
- Provide a process water balance, indicating how water will flow around the site, where it will be recycled, and where wastewater streams will be generated (including wastewater streams that will flow to the wastewater treatment plant as well as the effluent from the wastewater treatment plant).
- Identify and quantify all products, emissions and/or wastes produced.
- Outline all energy requirements for operation. Describe how energy demands will be met.
- Define the production capacity and rate for relevant processes. Include peak rates, daily average rates and annual production rates where applicable.
- Define the proposed hours of operation (hours per day and specific days per week). Specify any seasonal variations.
- Describe plant operation during start-up, significant maintenance, and shut-down activities (e.g., annual planned shutdowns). Where applicable, include details on these aspects as they relate to the key components and facilities that make up the plant.
- Describe the volume, composition, origin, destination, and route for vehicle movements (road, rail, shipping, and air) likely to occur during operation, including timing of traffic flows. Specify what proportion of road usage and vehicle movements will involve over-dimension and heavy road vehicles. Compare the proposed vehicle movements with existing usage of relevant routes.
  - Detail any upgrades required to the existing wharf, together with expected export volumes and vessel movements.
- Describe the proposal in the context of its association with current approvals or regulatory conditions related to the existing activities (Bell Bay Power Station, Tamar Valley Power Station).

## 2.4 Maps, plans and figures

Provide maps and plans that detail the location of the proposal in relation to the local and wider region. Refer to Part B for spatial and visual information requirements.

### 2.4.1 General location maps

Provide general location maps of the existing environment and surrounding area (1:25,000 scale or better, as appropriate) which identify:

- The location of the proposal site;
- Boundaries of the property on which the proposal is located;
- Road access to and from the site;
- The distance(s) to any nearby sensitive uses<sup>6</sup>;
- Topographical features, aspect, and direction of drainage;

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<sup>6</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.'

- Location of waterways and drains (including ephemeral waterbodies and water courses);
- Electricity transmission lines;
- Surrounding land tenure;
- Surrounding land use (including areas of conservation or recreational significance); and
- Surrounding land zoning in the local government planning scheme.

### 2.4.2 Site Plan

Provide a site plan that includes existing and proposed conditions and features of the site. This may include:

- Elevation contours and levels;
- The position of topographic features including roads, tracks, waterways, and drains;
- The position of facilities, buildings, structures, major items of equipment, storage areas and loading or unloading areas; and/or
- A construction layout plan.

Geospatial data included on the plan(s) should also be provided to the Board in a geospatial vector format (shapefile or DXF). If the site plan is not based on a feature and level survey and the Board determines that this information is needed to adequately assess the proposal, such a survey may be requested during the assessment process.

### 2.4.3 Figures and flowcharts

Present figures such as process flowcharts and images where they are likely to improve readers' understanding of the site and proposal. Any images and photos used must be high-quality, with an accurate description and date.

## 2.5 Planning aspects

The planning aspects description should include any additional planning information and data not included in the summary table.

- If a permit is required under LUPAA provide Use Class and Permissibility of the proposed activity under the applicable Planning Scheme.
- Detail land tenure and property boundaries of the proposed site, with certificate of title details.
- Detail land zonings for the proposed site and surrounding areas.
- Describe any rights of way, easements and covenants affecting the site.
- Discuss land use and planning history of the site, including the potential for site contamination<sup>7</sup>, present use and any existing buildings and significant structures.
- Describe land use and ownership in the vicinity of the site and those areas which may be affected by the proposal.
- Provide the location and nature of industrial facilities.
- Detail sensitive uses<sup>8</sup> and residential zones within applicable attenuation distances including the location of individual residences, schools, hospitals, caravan parks and similar sensitive uses, and the location of any tourist or recreation facilities or routes (such as camping areas, picnic areas, walking tracks, historic routes).
- Consider any proposed or potentially sensitive uses within applicable attenuation distances from the proposal site, which have been or are likely to be granted approval under the local planning scheme.

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<sup>7</sup> Information on potentially contaminating activities and contaminated site assessment can be found online at <https://epa.tas.gov.au/Pages/Land.aspx>

<sup>8</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.'

## 2.6 Socio-economic context

Briefly describe the existing social and economic environment that may be affected by the proposal. This may include:

- 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.

## 2.7 Offsite infrastructure

Describe any new infrastructure or offsite ancillary facilities required to enable the proposal to proceed, such as water supply, sewer connection, electricity supply, roads or other infrastructure.

The supply of electricity required for the proposed activity should be described and the capability of the existing network to supply electricity or describe how newly proposed electricity generation projects may be expected to contribute to the proposed activity. A description of the expected supply of wood waste as a feedstock should also be included.

Summarise approvals required in relation to such infrastructure or facilities. Outline any anticipated impacts associated with the timing of off-site developments on the timeframes associated with the proposal.

## 3. Project Alternatives

Proponents should provide the rationale for the proposal. Alternatives should consider best practice environmental management, including measures listed under section 4(2) of [EMPCA](#).<sup>9</sup> The rationale should:

- Describe the site selection process and criteria.
- Evaluate any alternative sites considered. Justify the choice of the proposed site in terms of clearly defined environmental, social, economic, and technical considerations.
- Describe the effect of any community consultation on the selection process.
- Identify and provide an assessment of other available technologies, materials, design options or management practices, where relevant. Evaluate the environmental performance of identified alternatives and provide justification for the preferred option.
- Describe any existing similar facilities which have been constructed and operated elsewhere, either in Australia or internationally, and the purpose of methanol as part of policies in relation to broader transport and alternative fuel options.

## 4. Public Consultation

Describe any public consultation that has taken place during project planning and preparation of the EIS, and summarise the results of this consultation. Describe any proposed future public consultation that will take place during project implementation and operation. The Board encourages early community engagement, as it often leads to better outcomes for all parties. Guidance on effective community engagement is available on the [EPA website](#).<sup>10</sup>

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<sup>9</sup> See: <https://www.legislation.tas.gov.au/view/html/inforce/current/act-1994-044#GS4@EN>

<sup>10</sup> See [https://epa.tas.gov.au/Documents/Guidance on Community Engagement.pdf](https://epa.tas.gov.au/Documents/Guidance%20on%20Community%20Engagement.pdf)

## 5. Potential Impacts and Management

Identify all potential environmental impacts and describe the proposed measures to avoid, mitigate or offset adverse consequences. The detail provided on each issue should reflect its significance. While key issues are identified for the proposal, other issues that emerge as significant while preparing the EIS, through environmental studies, public comments or otherwise, must be considered and addressed.

Address each discrete issue separately, using headings and subheadings where necessary to organise and separate discussions.

Use scientific data to support predictions and evaluate impacts and provide references to the data used. Where specialist reports have been required for key issues, summarise them within the body of the EIS where relevant, and attach the reports as appendices. Detail the qualifications of the authors of any specialist reports. Make sure that the information in the body of the EIS is consistent with the information in the appendices.

General information requirements for each potential impact are described below and are in addition to any specific information requirements detailed later in this section.

### Existing Environment

- Describe the existing environment in relation to the impact, including the vulnerability of the potentially affected environment.
- Analyse the issue in relation to the existing environment.

### Methodology

- Describe how the assessment of the impact has been undertaken, such as by survey or desktop study.
- Identify any relevant guidelines and standards used.
- Discuss any choice of methodology over alternatives where relevant.

### Assessment

- Clearly articulate potential impacts, using tables and figures to aid communication where possible.
- Support assertions and assumptions with adequate argument and/or evidence.
- Identify plausible worst-case scenarios and the reversibility of the impact.
- Summarise the proposal's contribution to any cumulative impacts, where appropriate.

### Avoidance and Mitigation Measures

- Describe the measures proposed to avoid, mitigate or offset potential adverse impacts.
- Detail any specialist recommendations which have been/will be implemented. Where specialist recommendations are not to be implemented, justify why. All recommendations made in specialist reports should be addressed.
- Analyse the effectiveness of the mitigation measures. Describe how and to what degree the impacts will have been avoided, minimised or offset.
- Discuss any residual impacts, referring to relevant guidelines or standards.
- Discuss any contingency measures related to pollution control equipment.

Refer to *Appendix A: General principles for assessing environmental impacts*.



## Key issues

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

1. Potential impacts on air quality associated with the proposal.
2. Potential impacts on water quality associated with the proposal.
3. Management of contaminated land associated with the proposal.
4. Potential noise impacts on sensitive receptors associated with the proposal.
5. Management of dangerous goods and environmentally hazardous materials.

### 5.1 Key issue 1: Air quality

The air quality assessment should detail potential impacts of the proposal on the local and regional air environment during construction and operation stages. Additionally, it should provide evidence to demonstrate that the activity will not cause environmental nuisance or harm. Given that the proposed facility will be the first of its kind in Australia, a comprehensive description of each stage of this project and its corresponding impact on air quality should be provided. Examples from existing facilities should be used as supporting evidence.

#### 5.1.1 Existing Environment

- Provide a site map including the land boundary and the location of nearest receptors.
- Describe the existing environment including climatic/meteorological conditions, terrain, land use and air quality in the vicinity of the proposal.

#### 5.1.2 Assessment

- Provide an assessment of the potential atmospheric emissions from the potential land reclamation activity and construction stage of the facility.
- Provide detailed description of each phase of the proposed renewable methanol production, including:
  - Transport, storage, and preparation for the use of all raw materials, including biomass and water, as well as dolomite and kaolin. Particular consideration should be given to providing details of the water purification process, which should include but is not limited to demineralisation and desalination processes.
  - The process of generation of nitrogen and its storage.
  - The process of biomass gasification, including generation of syngas, removal of impurities from the syngas, their treatment and handling, and storage of the purified syngas.
  - The process of water electrolysis and storage of the generated gases.
  - The process of methanol synthesis and distillation, storage and transport of the product from the site, as well as handling the by-products/waste from the distillation process.
  - Handling of waste and wastewater.
  - The process of direct capture and storage of CO<sub>2</sub>.
- All equipment used in each phase of the production should be comprehensively described.
- For each described phase of the methanol production, identify and characterise all potential sources (point and fugitive) of atmospheric emissions and the composition of the emissions, that may arise from the proposed activity.
- Provide a figure showing the locations and names of all potential sources of atmospheric emissions from the proposed activity.

- For each identified potential emission source characterise the emissions in terms of quantities, emission frequencies and approximate emission rates. Consider average and worst-case scenarios.
- Provide results of atmospheric dispersion modelling and an assessment of impacts of air emissions from all potential atmospheric emission sources associated with the proposed activity (including these outside of the boundary of the land, if applicable) against the requirements of the *Environment Protection Policy (Air Quality) 2004*. Modelling by a suitably qualified specialist must be conducted in accordance with EPA's [Atmospheric Dispersion Modelling Guidelines](#). The modelling should use conservative emission rates and should consider various possible scenarios of operation of the proposed facility. It is recommended that the scope and method of atmospheric dispersion modelling be discussed with the EPA's Air Modelling Officer prior to the commencement of any modelling work.
- Describe and assess the potential impacts of the atmospheric emissions from the proposed activity on the environment in a context of the existing environment (local meteorology, terrain) and land use (particularly proximity of sensitive receptors).
- Using publicly available information, describe how the future climate is projected to change in the facility's local government area. Outline how factors affecting generation and dispersion of air emissions may impact the local air quality at and beyond the site boundary.
- Demonstrate that the assessment is consistent with the requirements of the [Tasmanian Environment Protection Policy \(Air Quality\) 2004](#)<sup>11</sup> and any supplementary documents (including the [Board Statement Jan 2022](#))<sup>12</sup>.

### 5.1.3 Avoidance and Mitigation Measures

- Describe measures to be implemented to mitigate all atmospheric emissions from the site that may cause environmental nuisance or harm at or beyond the site boundary. Include consideration of normal operations as well as maintenance conditions and/or other periods when control and safety systems may not be fully functional.

## 5.2 Key issue 2: Water quality

Discuss potential impacts of the proposal on surface water during construction and operation, including methodology where appropriate. Discuss the potential for impacts to water quality in kanamaluka/River Tamar and downstream coastal areas from proposed land reclamation.

### 5.2.1 Existing Environment

- Provide a description and map of the activity site with respect to topography and preferential surface water flow, existing surface water and stormwater drainage. Identify nearby water bodies and watercourses likely to be impacted by the proposal.
- Provide an overview of the receiving environment. Identify all relevant Protected Environmental Values (PEVs)<sup>13</sup>, including:
  - Sensitive uses and associated water quality considerations;
  - Seasonal water quality, hydrological characteristics and biological condition of the receiving environment;
  - Reference to published or determined (site-specific) water quality guideline values for receiving environments. For information about the water quality management framework and evaluation

<sup>11</sup> See [https://epa.tas.gov.au/Documents/EPP\\_Air\\_Quality\\_2004.pdf](https://epa.tas.gov.au/Documents/EPP_Air_Quality_2004.pdf)

<sup>12</sup> See <https://epa.tas.gov.au/Documents/Board%20Statement%20-%20Update%20to%20Air%20Pollutant%20Design%20Criteria%20used%20in%20the%20EIA%20Process%20-%20January%202022.pdf>

<sup>13</sup> See <https://epa.tas.gov.au/environment/water/pevs-for-tasmanian-surface-waters>

criteria in Tasmania, refer to [Technical Guidance for Water Quality Objectives \(WQOs\) Setting for Tasmania, August 2020](#).<sup>14</sup>

- Describe baseline water quality, biological and sediment monitoring undertaken. Detail any other information relevant to assessing potential impacts, such as ecotoxicological data or potential hydrological changes.
- Include the results of monitoring in the report and provide separately as data. Provide metadata and monitoring data to the EPA following the instructions and using the Excel workbook templates or file formats provided on the [Water Quality Data Elements | EPA Tasmania](#)<sup>15</sup> website.

### 5.2.2 Assessment

- Provide a stormwater and sediment control plan for the construction phase. The plan must:
  - Detail any measures proposed to manage stormwater and sediment erosion, including any relevant performance specifications relating to these matters;
  - Provide site plans for each phase of construction requiring of stormwater and sediment erosion controls, showing the controls on the plan;
  - Detail any monitoring, maintenance and decommissioning requirements relating to stormwater and sediment erosion controls; and
  - Include contingency measures for high rainfall events.
- Identify and characterise all liquid emissions that could arise from the proposal, including from industrial processes, waste treatment processes, fuelling, domestic/office facilities, stormwater or other sources.
- Describe any existing wastewater and/or stormwater treatment on the site. Where available, provide an analysis of wastewater and/or stormwater quality as discharged from the existing activity.
- Describe any proposed changes to wastewater and/or stormwater treatment for the development. Describe the selected treatment technology, the likely volume and quality of effluent/water that will be produced and its fate in the environment.
- Provide details of any agreement with the operator of the municipal sewerage system, if discharge of trade waste or sewage to the system is anticipated.
- Describe proposed stormwater management, including during reasonably foreseeable flood events. Include an assessment of the potential for pollutants to become entrained in stormwater and details of drainage control measures such as cut-off drains and sediment settling ponds.
- Provide details of any proposed point source discharge to the environment, including:
  - A description of the discharge pathway, including details of the length, depth and diffuser details of any proposed outfall infrastructure, as relevant.
  - A description of the proposed discharge regime, including consideration of frequency, continuity and rate of discharge. Where flow rate varies relevant patterns and statistics should be provided.
  - Describe the proposed management for the separation of clean water excess to requirements and that discharged as wastewater via the outlet pipe and diffuser.
- Provide details of, and a map depicting:
  - Proposed wastewater discharge locations.
  - Preferential flow of stormwater arising from rainfall on the proposal site.
  - Location of stormwater collection system.
- Evaluate the water quality impacts associated with effluent discharge. Consider effluent quality, volume(s) and discharge regime in conjunction with receiving environment conditions. The evaluation

<sup>14</sup> See [https://epa.tas.gov.au/Documents/Technical%20Guidance%20for%20Water%20Quality%20Objectives%20\(WQOs\)%20Setting%20for%20Tasmania.pdf](https://epa.tas.gov.au/Documents/Technical%20Guidance%20for%20Water%20Quality%20Objectives%20(WQOs)%20Setting%20for%20Tasmania.pdf)

<sup>15</sup> See <https://epa.tas.gov.au/environment/water/water-quality-data-elements>

should include consideration of variations in effluent and receiving environment water quality and quantity.

- Include dilution/dispersion modelling. This may include:
  - Initial/near-field mixing, including consideration of physico-chemical parameters such as temperature, salinity, and suspended solids, and toxicant parameters.
  - Secondary mixing and potential far-field impacts, such as nutrient enrichment or bio-accumulation of toxicants.
- Describe the effects of any reclamation work on marine and coastal processes, including wave patterns, sediment dynamics, currents and tidal flows, including any potential for sediment remobilisation.
  - Hydrodynamic modelling may be required to clearly demonstrate that reclamation work will not have a significant impact on estuarine processes.

### 5.2.3 Avoidance and mitigation measures

- Describe available options for effluent/process water reuse, according to the hierarchy set out in the [State Policy on Water Quality Management 1997](#),<sup>16</sup> Division 2: 'Management of Point Sources of Pollution'.<sup>17</sup>
- Provide justification for any proposed emission of contaminants to surface water in accordance with the principles outlined in the [State Policy on Water Quality Management 1997](#).
- Describe the proposed construction method and management actions for any reclamation work and outfall infrastructure, detailing any likely disturbance to the seabed or intertidal region in the kanamaluka/Tamar River and appropriate management methods to minimise ecological damage.
- Provide details of an ambient monitoring plan to assess the impact of the discharge following commissioning of the new outfall. This ambient monitoring plan must consider and complement previous ambient monitoring by generating information that can be used to identify any change in the environment that may come about as a result of the proposal.

## 5.3 Key issue 3: Contaminated land and potential acid sulfate soils

Discuss identification and management of contaminated land, material or acid sulfate soils which may be present within and adjacent to the proposal site.

### 5.4.1 Existing Environment

- Provide a description of land contamination in the areas identified for the proposal including identification and quantification of the contaminants of concern.

### 5.4.2 Assessment

- Include a contaminated site assessment to define the risks to human health and the environment, under current conditions and the proposed development. Describe the proposed construction methodology, footprint, extent of disturbance and how this may interact with contaminated material.
- Impacts relating to specific past and present activities such as former industrial facility, Bell Bay Power Station, and historical landfill need to be assessed.

<sup>16</sup> See <https://epa.tas.gov.au/about-the-epa/policy-legislation-cooperative-arrangements/statutory-policies/state-policies-and-environment-protection-policies/state-policy-on-water-quality-management-1997>

<sup>17</sup> See <https://epa.tas.gov.au/about-the-epa/policy-legislation-cooperative-arrangements/statutory-policies/state-policies-and-environment-protection-policies/state-policy-on-water-quality-management-1997>

- The person undertaking the assessment must be a Certified Environmental Practitioners (Site Contamination) or CEnvP (Site Contamination), as detailed on the EPA web page [Engaging a Contaminated Site Assessment Consultant | EPA Tasmania](#).<sup>18</sup>
- The framework for undertaking the contaminated site assessment is outlined on the EPA web page [Contaminated Land Assessment | EPA Tasmania](#).<sup>19</sup>
- The marine and intertidal sediments in the vicinity of the proposal are considered high risk for potential ASS. The [Tasmanian Acid Sulfate Soil Management Guidelines](#)<sup>20</sup> require a management plan to be developed if more than 100 m<sup>3</sup> ASS material is likely to be disturbed during the construction phase.
  - This management plan should clearly describe and detail construction techniques, include a risk assessment, and also list and describe management and monitoring activities.
  - Specialised ASS Dredging Guidance is available at: <https://www.waterquality.gov.au/issues/acid-sulfate-soils/dredge-spoil-management>.

### 5.3.1 Avoidance and mitigation measures

- Describe proposed contaminated material risk control measures, and the expected impact of these control measures in reducing risk to an acceptable level during construction and long-term use/operation, including disturbance, storage, monitoring, transport, and disposal as relevant.

## 5.4 Key issue 4: Noise emissions

### 5.4.1 Existing Environment

- Provide a map showing the location of all major sources of noise and the closest noise sensitive premises in the vicinity of the boundary of the activity.
- Provide a list of nearby identified residences and other noise-sensitive premises in the vicinity of the boundary of the activity.

### 5.4.2 Assessment

- Describe all major sources of noise, including associated
  - Sizes and power ratings;
  - 1/3 octave source noise data (linear/C-weighted and A-weighted) to assess for low frequency and tonal noise;
  - Noise attenuation features; and
  - Hours of operation, daily duration/frequency of emissions.
- Analyse the potential for noise emissions (during both construction and operational phases) to cause nuisance for nearby land users, particularly at noise sensitive premises<sup>21</sup>. When assessing nuisance at noise-sensitive premises, discuss the [Environment Protection Policy \(Noise\) 2009](#)<sup>22</sup> and the existing acoustic environment.
- Conduct a minimum of 7-days of noise monitoring to evaluate the existing background noise levels at the subject sites and noise-sensitive premises.
- Provide results of a noise model for the proposal undertaken by a suitably qualified person to predict the 30, 35, 40, 45, 50 and 55 dB(A) noise contours under typical and plausible worst-case operating conditions. Modelling must include the generation of noise contour maps. The noise model must

<sup>18</sup> See <https://epa.tas.gov.au/environment/land/identification-and-assessment-of-contaminated-land/engaging-a-contaminated-site-assessment-consultant>

<sup>19</sup> See <https://epa.tas.gov.au/environment/land/identification-and-assessment-of-contaminated-land/contaminated-land-assessment>

<sup>20</sup> See <https://nre.tas.gov.au/Documents/ASS-Guidelines-FINAL.pdf>

<sup>21</sup> Noise-sensitive premises are defined as 'residences and residential zones (whether occupied or not), schools, hospitals, caravan parks and similar land uses involving the presence of individual people for extended periods, except in the course of their employment or for recreation.'

<sup>22</sup> See [https://epa.tas.gov.au/Documents/EPP\\_Noise\\_2009.pdf](https://epa.tas.gov.au/Documents/EPP_Noise_2009.pdf)

include consideration of the potential impacts of noise emitted by the activity on noise-sensitive premises, including under average and worst-case meteorological conditions.

- Discuss noise-related environmental impacts associated with current and altered traffic flows on other road users and on residences adjacent to roads. Provide details of all assumptions and noise attenuation factors adopted for this assessment.
- Discuss the potential for noise emissions to affect terrestrial, marine and freshwater wildlife and livestock.
- Investigate and list best environmental management practice to be employed in every noise generating component of the proposal so that noise emissions are contained within the site boundary and that noise emissions from the proposal do not affect the existing acoustic environment of the noise-sensitive premises.
- Describe the potential nuisance, sleep disturbance and health impacts from noise at sensitive receptors taking into account the predicted levels and changes in noise characteristics such as tonal components, low frequency and impulsive noise.
- All methods of measurement should be in accordance with the [Tasmanian Noise Measurement Procedures Manual](#).<sup>23</sup>
- Provide a construction noise management plan to minimise underwater noise impact. A stop-work zone must be calculated based on anticipated sound pressure and exposure level.

#### 5.4.3 Avoidance and mitigation measures

- Describe attenuation measures that will be implemented to avoid or mitigate impacts of noise emitted by the proposal (as relevant).
  - This should include the enclosure of major noise-generating equipment within an acoustically treated area or major noise-generating equipment should be acoustically screened from noise-sensitive premises.
- Detail any measures proposed to mitigate potential disturbance to cetaceans during construction in the intertidal zone. More information on marine mammals and sound can be found in [Underwater Piling Noise Guidelines](#).<sup>24</sup>
- Demonstrate that the proposal is consistent with environmental performance requirements, including any identified in the [Environment Protection Policy \(Noise\) 2009](#),<sup>22</sup> specifically Part 5 which is about commercial and industrial activities.

### 5.5 Key issue 5: Dangerous goods and environmentally hazardous materials

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.

Discuss the storage, conveyance and use of dangerous goods and environmentally hazardous materials, and potential associated impacts on the environment. Consider any substance or mixture of substances of a nature or held in quantities that present a reasonably foreseeable risk of causing serious or material

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<sup>23</sup> See [https://epa.tas.gov.au/Documents/Noise\\_Measurement\\_Procedures\\_Manual\\_2008.pdf](https://epa.tas.gov.au/Documents/Noise_Measurement_Procedures_Manual_2008.pdf)

<sup>24</sup> See [DOCS AND FILES-#7139711-v2-Environment - Noise - DPTI Final word editing version Underwater Piling Noise Guide](#)

environmental harm if released to the environment, including hydrogen, syngas, methanol, electrolytes, catalysts, fuels, oils, waste, and other chemicals.

Describe 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.

- Provide a map showing:
  - The location of temporary and permanent storage areas for hydrogen, syngas, methanol, electrolytes, catalysts, fuels, oils, and other dangerous goods or chemicals.
  - The location of pipelines used to convey these materials within the proposal site.
- Detail the measures (such as leak detection mechanisms, online monitoring, venting procedures, bunded areas, spill trays, or other) to be adopted to prevent or control any accidental releases of dangerous goods and environmentally hazardous materials, including from locations where they are stored, conveyed in pipelines, or used in production.
- Provide contingency plans for when control measures fail, equipment breaks down or accidental releases to the environment otherwise occur. Include detail on proposed emergency and clean-up measures and notification procedures. Identify any safety management requirements for the protection of human health and safety where incidents may affect the community.
- Identify any safety management measures required to protect human health and safety beyond the boundary of the land.

## 5.6 Groundwater

Discuss potential impacts of the proposal on groundwater (quality and quantity). Consider construction and operation phases and include methodology details where appropriate.

### 5.6.1 Existing Environment

- Where potential groundwater contamination could arise as a result of the activity or where groundwater extraction is proposed, provide a conceptual groundwater model for regional and local aquifer flows.
- Provide a map showing the location of existing groundwater extraction bores nearest to the area impacted by the activity. Refer to [NRE's Groundwater Information Access Portal where relevant](#).<sup>25</sup>
- Identify any surface water and groundwater dependent ecosystems that may receive groundwater from areas impacted by the proposal.
- Provide details of any baseline groundwater quality monitoring undertaken.
- Include the results of monitoring in the report and provide separately as data. Provide metadata and monitoring data to the EPA following the instructions and using the Excel workbook templates or file formats provided on the [Water Quality Data Elements](#)<sup>26</sup> website.

### 5.6.2 Assessment

- Discuss the potential impact of the proposal on groundwater (quality and quantity) with reference to groundwater assessments undertaken where appropriate.

### 5.6.3 Avoidance and mitigation measures

- Describe the measures proposed to avoid or mitigate potential adverse impacts to groundwater.
- Include a map showing the locations of any proposed groundwater bores.
- Provide details of a groundwater monitoring plan to monitor the impact from the activity.

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<sup>25</sup> See <https://wrt.tas.gov.au/groundwater-info/>

<sup>26</sup> See <https://epa.tas.gov.au/environment/water/water-quality-data-elements>

- Justify any potential impact to groundwater in accordance with the principles outlined in the [State Policy on Water Quality Management 1997](#)<sup>27</sup> and with reference to likely groundwater community values, associated guideline values and guideline values for receiving surface waters.

## 5.7 Waste management

Discuss the impacts of waste generated by the proposal, during construction and operation.

### 5.7.1 Existing Environment

- Describe the existing environment in relation to the impact of waste generated by the activity.

### 5.7.2 Assessment

- Describe the source, nature and quantities of all general wastes likely to be generated by the proposal (liquid, gaseous, solid or other), including general refuse and by-products from the various stages of the process.
- Describe the methods and facilities proposed to collect, store, reuse, treat or dispose of each general waste stream. Describe collection or other maintenance requirements where relevant.
- Describe the source, nature, quantity, and method of treatment, storage and disposal for each controlled waste arising from the proposal.<sup>28</sup> Describe collection or other maintenance requirements where relevant.

### 5.7.3 Avoidance and mitigation measures

- Demonstrate that any waste management measures follow the following hierarchy of waste management, arranged in decreasing order of desirability:
  - Avoidance;
  - Reuse;
  - Treatment/stabilisation for reuse;
  - Recycling;
  - Energy recovery;
  - Repository storage (for future treatment/recovery);
  - Treatment/stabilisation for disposal; and
  - Disposal/permanent containment.

## 5.8 Biodiversity and natural values

Discuss impacts of the proposal on biodiversity and nature conservation values (terrestrial and aquatic). Include details on how information has been collected or generated where applicable.

### 5.8.1 Existing Environment

- Specify and map known records of flora, vegetation communities and habitat, with particular reference to threatened species, communities and habitats, including those listed under the relevant Schedules of the Australian Government EPBC Act and the Tasmanian [Threatened Species Protection Act 1995](#) (TSPA)<sup>29</sup> and Tasmanian [Nature Conservation Act 2002](#) (NCA).<sup>30</sup>

<sup>27</sup> See <https://epa.tas.gov.au/about-the-epa/policy-legislation-cooperative-arrangements/statutory-policies/state-policies-and-environment-protection-policies/state-policy-on-water-quality-management-1997>

<sup>28</sup> Controlled waste is defined in EMPCA and associated regulations. A non-exhaustive listing of categories of controlled waste can be found at <https://epa.tas.gov.au/business-industry/regulation/waste-management/controlled-waste>

<sup>29</sup> See <https://www.legislation.tas.gov.au/view/html/inforce/current/act-1995-083>

<sup>30</sup> See <https://www.legislation.tas.gov.au/view/html/inforce/current/act-2002-063>



- Provide the results of a natural values assessment undertaken by a suitably qualified person, in accordance with the [Guidelines for Natural Values Assessments – Terrestrial Development Proposals: Survey Guidelines for Development Assessments](#).<sup>31</sup>
  - Surveys should be undertaken at a suitable time to capture flora species listed under the TSPA that have been recorded within the property or that may have potential habitat within the development footprint during their flowering season to aid identification. Information on optimal survey times is available for many species on the Threatened Species Link website: <http://www.threatenedspecieslink.tas.gov.au/>.
  - The property contains *Eucalyptus ovata* forest and woodland (DOV) which is considered foraging habitat for the swift parrot. Please note that any tree in this area which in 70 cm diameter at breast height (DBH) or more has the capacity to bear hollows large enough to be suitable for nesting habitat for swift parrots. Additionally, not all tree hollows can be identified during ground surveys. Any nesting habitat within 10 km of foraging habitat may be used for breeding.
  - An additional threat to swift parrots is colliding with man-made objects such as windows and chain-link fences. It is recommended that infrastructure is designed to minimise collision risks to swift parrots. For general information and advice on building structures which minimise risk of collisions (e.g., wire-mesh fences or windows) - see [Guidelines and recommendations for parrot-safe building design](#) and [Bird-Friendly Building Design](#). For comprehensive advice on avoiding collisions with glass – see [An end to birds dying at windows](#).
- Specify and map known records of aquatic or marine species of conservation significance, threatened aquatic fauna or flora species or potential habitat in the vicinity of the proposed development footprint, including those listed under the relevant Schedules of the Australian Government EPBC Act and the TSPA. Where there is potential for relevant aquatic or marine species or habitat to be present, a detailed survey may be required in accordance with the [Guidelines for Natural Values Assessments – Estuarine and marine Development Proposals: Survey Guidelines for Development Assessments](#).<sup>32</sup>
- Provide the results of the proposed underwater noise assessment to support the implementation of a marine mammal monitoring procedure. Identify 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 Directory of Important Wetlands in Australia.<sup>33</sup>
- Identify any freshwater ecosystems of high conservation management priority using the [Conservation of Freshwater Ecosystem Values \(CFEV\) database](#),<sup>34</sup> including values in the vicinity of the proposal. The specific CFEV information should be Conservation Management Priority Potential.
- Specify and map known sites of geoconservation significance or natural processes (such as fluvial or coastal features), including sites of geoconservation significance listed on the Tasmanian Geoconservation Database.
- Describe natural processes of particular importance for the maintenance of the existing environment (e.g. fire, flooding, etc).

### 5.8.2 Assessment

- Describe potential impacts on flora, vegetation communities and habitat, with particular reference to threatened species, communities and habitats, including those listed under the relevant Schedules of the EPBC Act, TSPA and NCA.

<sup>31</sup> See <https://nre.tas.gov.au/Documents/Guidelines%20for%20Natural%20Values%20Surveys%20related%20to%20Development%20Proposals.pdf>

<sup>32</sup> See <https://nre.tas.gov.au/Documents/Guidelines%20for%20Marine%20and%20Estuarine%20Natural%20Values%20Surveys%20related%20to%20Development%20Proposals.pdf>

<sup>33</sup> See <https://www.environment.gov.au/water/wetlands/australian-wetlands-database/directory-important-wetlands>.

<sup>34</sup> See <https://nre.tas.gov.au/water/water-monitoring-and-assessment/cfev-program>

- Describe potential impacts on fauna, including impacts on species, communities and habitats. Provide details of impacts to threatened species, migratory species, communities and habitats, including those listed under the relevant Schedules of the EPBC Act, TSPA and NCA.
- Impact assessment may also include impacts of noise and light on fauna.
- Discuss environmental impacts associated with vehicle movements during construction and operation on fauna. An increase in night-time (between one hour before sunset and one hour after sunrise as defined by the Bureau of Meteorology) traffic on internal and nearby roads of more than 10% combined with a high abundance of Tasmanian Devils and/or Tasmanian Devil roadkill records in the Natural Values Atlas is considered significant regarding likely impacts on the Tasmanian Devil. See the [Survey Guidelines and Management Advice for Development Proposals that may impact on the Tasmanian Devil \(\*Sarcophilus harrisii\*\)](#)<sup>35</sup> for more information.
- Discuss impacts on existing conservation reserves that may be affected by the proposal, with reference to the management objectives of the reserve(s) and the reserve management plan(s) (if any).
- Discuss impacts on any high-quality wilderness areas identified in the Tasmanian Regional Forest Agreement (Tasmanian RFA) that may be affected by the proposal.
- Discuss impacts on other species, sites or areas of special conservation significance, including areas of wilderness or scientific value.
- Discuss potential impacts on:
  - The reserve system identified as part of the Tasmanian RFA;
  - Maintenance of forest communities under the [Permanent Native Forest Estate Policy](#);<sup>36</sup>
  - Wildlife habitat strips under the Tasmanian Forest Practices Code 2015;<sup>37</sup> and
  - Non-forest communities.
- Discuss the potential introduction or spread of pests, weeds<sup>38</sup> and plant and animal diseases as a result of construction and operation of the proposal.
- Discuss 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.

### 5.8.3 Avoidance and Mitigation Measures

- Describe management measures that will be implemented to avoid or mitigate adverse impacts to threatened fauna, flora and vegetation communities and other natural values, including management of weeds, pests and diseases.
- Provide a Weed and Hygiene Management Plan that describes the measures for the management of weeds, pests and diseases (taking into account the developed [Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds in Tasmania](#)).<sup>39</sup>
- Include any roadkill management measures as required in the *Survey Guidelines and Management Advice for Development Proposals that may impact on the Tasmanian Devil (*Sarcophilus harrisii*)*.<sup>35</sup>
- Where impacts cannot be avoided, present proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values.

<sup>35</sup> See <https://nre.tas.gov.au/Documents/Devil%20Survey%20Guidelines%20and%20Advice.pdf>

<sup>36</sup> See [https://www.stategrowth.tas.gov.au/energy\\_and\\_resources/forestry/native-forest](https://www.stategrowth.tas.gov.au/energy_and_resources/forestry/native-forest)

<sup>37</sup> Available at <https://fpa.tas.gov.au/>

<sup>38</sup> Weed means a plant species that has, or is likely to have, an adverse impact on the environment because of the introduction, spread or increase in population size of the species in an area; and includes a declared weed as defined in the *Biosecurity Act 2019* and subordinate regulations.

<sup>39</sup> See <https://nre.tas.gov.au/invasive-species/weeds/weed-hygiene/weed-and-disease-planning-and-hygiene-guidelines>

- Discuss rehabilitation of disturbed areas following the completion of construction activities and cessation of the activity, including any proposed seed collection and progressive rehabilitation program.

## 5.9 Marine and coastal

If not addressed in other sections, discuss impacts of the proposal on marine and coastal areas.

- Provide the results of the proposed coastal inundation hazard assessment.
- Provide measures to avoid and mitigate any possible adverse impacts.
- Assess the overall residual impacts on marine and coastal areas following implementation of the proposed avoidance and mitigation measures.
- Use cross-references to relevant sections dealing with conservation values (marine flora and fauna, geoconservation) and coastal impacts where relevant.
- Demonstrate that the proposal is consistent with the objectives and requirements of all relevant marine and coastal policies and legislation, including the [Living Marine Resources Management Act 1995](#)<sup>40</sup>, [State Policy on Water Quality Management 1997](#)<sup>41</sup> and the [Tasmanian State Coastal Policy 1996](#)<sup>42</sup>.

## 5.10 Greenhouse gas emissions, ozone depleting substances and climate change

Discuss potential impacts of the proposal in relation to greenhouse gases, ozone-depleting substances and climate change. The discussion should be proportionate to the significance of the potential impacts.

- Describe the direct and indirect effects of the proposal on greenhouse gas production and ozone-depleting substances, as well as any associated benefits of the proposal.
- Provide an inventory of projected scope 1, scope 2 and total greenhouse gas emissions,<sup>43</sup> energy production, and energy consumption for a year of operation. Describe the methods used to develop the inventory<sup>44</sup>. Discuss potential annual variation that may occur.
- Consider any carbon dioxide generated as a result of the use of lime products to treat Acid Sulfate Soils (ASS), both in production and transport as well as via spreading and neutralisation reactions. Refer to the [Tasmanian Acid Sulfate Soil Management Guidelines](#) for more information.<sup>45</sup>
- Demonstrate that the development will use cost-effective, best practice measures to minimise future greenhouse gas emissions.
- Detail measures proposed to minimise emissions and describe the anticipated effectiveness of these measures. Where less emissions-intensive options are not adopted, provide sufficient justification and/or mechanisms to offset greenhouse gas emissions.
- Estimate 'whole of life' greenhouse gas emissions for the proposed development. Include details of the methodology used.

<sup>40</sup> See <https://www.legislation.tas.gov.au/view/html/inforce/current/act-1995-025>

<sup>41</sup> See <https://epa.tas.gov.au/about-the-epa/policy-legislation-cooperative-arrangements/statutory-policies/state-policies-and-environment-protection-policies/state-policy-on-water-quality-management-1997>

<sup>42</sup> See [https://www.dpac.tas.gov.au/\\_data/assets/pdf\\_file/0010/11521/State\\_Coastal\\_Policy\\_1996.pdf](https://www.dpac.tas.gov.au/_data/assets/pdf_file/0010/11521/State_Coastal_Policy_1996.pdf)

<sup>43</sup> More information on categorising emissions can be found at <https://www.cleanenergyregulator.gov.au/NGER/About-the-National-Greenhouse-and-Energy-Reporting-scheme/Greenhouse-gases-and-energy>

<sup>44</sup> Calculators are available on the Australian Government Clean Energy Regulator website. See <http://www.cleanenergyregulator.gov.au/NGER/Forms-and-resources/Calculators#Emissions-and-Energy-Threshold-Calculator-202021-and-user-guide>

<sup>45</sup> See <https://nre.tas.gov.au/documents/ass-guidelines-final.pdf>

- Describe the potential impacts of climate change upon the proposal. For example, it may be appropriate to plan for more intense storm events, more severe fire weather, and/or long-term sea level rise.
- 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 \(State Action\) Act 2008](#) (Tas),<sup>46</sup> [Tasmania's Climate Change Action Plan 2023-25](#)<sup>47</sup> and the [Climate Change Act 2022](#) (Commonwealth).<sup>48</sup>

**Note:** Proponents must determine whether they are required to report to the Commonwealth under the [National Greenhouse and Energy Reporting Act 2007](#).<sup>49</sup>

## 5.11 Lighting

Describe all non-negligible sources of light that may emit light beyond the boundary of the Land, including:

- The purpose of the lights;
- What time of day (24hr) and days of the week the lights will be used;
- The intensity of each type of light source; and
- How light from the proposed activity will be managed to avoid creating nuisance for surrounding land users and at sensitive receivers.

Impacts of lighting on biodiversity and natural values (particularly underwater lighting) should be addressed in the Biodiversity and natural values section.

## 5.12 Socio-economic issues

Discuss the social and economic impacts of the proposal. This discussion may:

- Include 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).
- Provide a summary of operational expenditures and revenues.
- Describe 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.
- Describe impacts on upstream/downstream industries, both locally and for the State.
- Detail the extent to which raw materials, equipment, goods and services will be sourced locally.
- Provide 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.
- Describe community demographic impacts (changes to cultural background, occupation and incomes).
- Describe impacts on land values, and demand for land and housing.
- Describe impacts on the local, regional, state and national economies.

<sup>46</sup> See <https://www.legislation.tas.gov.au/view/html/inforce/current/act-2008-036>

<sup>47</sup> See [https://recfit.tas.gov.au/climate/climate\\_change\\_action\\_plan](https://recfit.tas.gov.au/climate/climate_change_action_plan)

<sup>48</sup> See <https://www.legislation.gov.au/Details/C2022A00037>

<sup>49</sup> See <https://www.legislation.gov.au/Details/C2007A00175>

- Detail any publicly funded subsidies or services to be relied upon for the construction or operation of the proposal.
- Detail 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 be adequately supported by 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 need more comprehensive analysis of economic and social benefits, to allow the Board to evaluate both the benefits and adverse impacts of the proposal. Methods used to model social and economic impacts should be described where relevant. A description of how the local community has been consulted to determine its needs and aspirations in relation to the proposal should also be included. A social impact assessment and/or economic impact assessment may be required.

### 5.13 Fire risk

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

- Consideration of fire within the site, fire escaping from the site and the impact of wildfire originating outside the development and the environmental impacts that could result from such an event.
- The objectives and management principles to be adopted to prevent and respond to potential fire events.
- Where a fire response plan is appropriate, it should be fully integrated with other relevant documents, such as a Tasmania Fire Service Local Area Fire Management Plan, a Sustainable Timber Tasmania Fire Management Plan and a Parks and Wildlife Service Fire Action Plan for relevant districts.

### 5.14 Infrastructure and off-site ancillary facilities

Discuss potential environmental impacts of the proposal on any significant off-site infrastructure or facilities (including increased use of existing infrastructure, such as roads, ports and quarries). Identify measures proposed to avoid and mitigate any possible adverse impacts. Assess the likely overall impacts after 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. Cross-reference to other sections where relevant (including s2.7 Offsite infrastructure).

Describe electricity requirements and any associated infrastructure so that electricity needs for the proposal will be met and discuss any potential environmental impacts which may be associated with electricity supply and infrastructure.

Describe any forestry-related operation or facilities which may be affected by the diversion of wood waste and forestry residue from plantations and any environmental impacts which may be associated with this aspect of the activity. Include an assessment as to whether the capacity of existing plantations to provide material to the activity is expected to be sufficient, and whether or not there are any certifications or standards in place in regard to forestry activities (e.g., Forestry Stewardship Council (FSC)).

### 5.15 Cumulative and interactive impacts

Where relevant, provide 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 that have been formally proposed, and for which there is sufficient information available to the proponent to allow a meaningful assessment of their impacts, should be considered. Uncertainties about potential impacts in such cases should be described. Discuss any interactions between biophysical, socio-economic, and cultural impacts of the proposal.

### 5.16 Environmental impacts of traffic

Identify the likely traffic routes and the volume, nature and timing of traffic related to the proposal, during construction and operation phases. Compare anticipated new traffic to the current road usage. Discuss environmental impacts associated with current and altered traffic flows and road usage. This may include noise and dust impacts on other roads users and residences adjacent to roads. The assessment should focus on roads within and specific to the land defined by the proposal but should also consider indirect impacts on public roads.

If the proposal will generate an increase of night-time traffic of more than ten percent, this is considered significant in regard to likely impacts on the Tasmanian Devil (*Sarcophilus harrisi*). It is recommended that roadkill mitigation measures be implemented in accordance with the [Tasmanian Devil Survey Guidelines and Management Advice for Development Proposals](#).<sup>50</sup>

Where this issue has already been considered in other sections, cross-references may be provided.

## 6. Monitoring and Review

Outline any proposed monitoring, review and reporting programs for the proposal. Include a table of proposed monitoring locations, parameters and frequencies, and a map showing the location of all monitoring sites.

Monitoring, review and reporting programs should be designed to:

- Assess compliance with the proposed management measures;
- Assess compliance with emission standards and other identified performance requirements;
- Assess the effectiveness of the performance requirements and environmental safeguards in achieving environmental quality objectives; and
- Assess the extent to which the potential impacts described in the EIS have eventuated.

## 7. Decommissioning and Rehabilitation

Describe any proposed rehabilitation of disturbed areas that will follow construction activities or occur upon cessation of the activity. Outline a preliminary Decommissioning and Rehabilitation Plan or Closure Plan for the proposal. If applicable, describe the stages of site decommissioning and rehabilitation, including any proposed seed collection and progressive rehabilitation.

## 8. Management Measures Table

Provide a summary table listing all management measures detailed throughout the EIS. Each measure must include a reference number, must be an unambiguous statement of intent, must specify when it is to be

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<sup>50</sup> See <https://nre.tas.gov.au/Documents/Devil%20Survey%20Guidelines%20and%20Advice.pdf>

implemented (including whether it is to be implemented during construction, operation, maintenance or other phases) and must include a cross-reference to where the measure is described in the EIS.

## **9. Conclusion**

Summarise the proposal and present a balanced overview of its net impacts. Draw together the critical environmental, social and economic impacts. Evaluate the extent to which negative impacts can be avoided, mitigated, remediated or compensated and positive impacts promoted and sustained.

Describe how the proposal meets and furthers the objectives of relevant legislation, policies, plans and strategies. Itemise the RMPS and EMPCS objectives and comment on how the proposal addresses each of the objectives.

## **10. References**

Provide details of authorities consulted, reference documents and other information sources, using a consistent referencing style.

## **11. Appendices**

Detailed technical information which supports the EIS should be included as appendices. The salient features of the appendices should be included in the main body of the EIS. Technical content of appendices must be consistent with information presented in the EIS itself, unless inconsistencies are carefully explained. The EIS may not be accepted where unexplained inconsistencies exist.

## Appendix A: General principles for assessing environmental impacts

This Appendix summarises general principles for assessing environmental impacts in EIS documents prepared in accordance with EMPCA.

### General Approach

When assessing environmental impacts in an EIS, the proponent should:

- Present information in a clear, well-structured manner appropriate to the audience of the EIS.
- Avoid duplication.
- Base assessments and evaluations on scientifically supportable, referenced data.
- Describe methodologies used and provide supporting research and information wherever relevant.
- State any scientific assumptions, simplifications, or judgements, and define uncertainties.
- Describe impacts and their mitigation to a level of detail that is proportionate to potential consequences and to what extent they can be controlled.

### Impact assessment

Impact assessment involves the identification and characterization of the effects of a proposal. When undertaking impact assessment, the proponent should:

- Explain methodologies used to identify and characterise impacts.
- Clearly state the impacts that are expected to result from the development in terms of the aspect of the proposal involved and the environmental receptor affected.
- Characterise those impacts in terms of:
  - The magnitude of impacts, quantified where possible, including spatial extent and timeframe;
  - The vulnerability of the affected environmental receptors to harm or nuisance;
  - Sources of the impacts and pathways by which the impact may occur;
  - Probability of occurrence (if not 100%);
  - The range of scenarios in which the impact may occur, including plausible worst-case consequences;
  - Reversibility of impacts;
  - Any predicted indirect effects; and
  - Any aspects of other proposals examined cumulatively.
- With reference to the project description and alternatives described in the EIS, state what measures to avoid or reduce impacts have been considered as part of this assessment, and which of these have been incorporated into the proposal.

### Impact evaluation

Impact evaluation is the determination of the significance of impacts. Proponents should support conclusions about the significance of impacts using a structured argument that clearly describes the magnitude of the impact, the sensitivity of the affected receptors, and how they relate.

### Mitigation and Monitoring

Mitigation (planning and design considerations, pollution control technology and management practices) and monitoring are measures additional to those considered during the impact assessment to reduce the impact of the proposal. In presenting mitigation and monitoring the proponent should:

- Describe the measures proposed;
- Describe how mitigation measures function to avoid or reduce the impacts;



- Explain how measures accord with existing guidance, accepted practice or best practice environmental management as defined in EMPCA;
- Discuss contingencies for the breakdown/malfunction of equipment or processes;
- Describe any anticipated impacts resulting from the mitigation actions and how these will be addressed; and
- Identify where control measures are to be carried out, operated and/or maintained by a third party, and how this will be achieved.

### **Residual impacts**

Residual impacts are those that remain after all proposed avoidance and mitigation measures have been taken into account. When assessing residual impacts, the proponent should:

- Revisit the first evaluation of impact, taking into account the effects of the measures to reduce the magnitude of the impacts and present a revised statement of significance, and
- Where required, identify appropriate actions that will offset impacts, based on the relevant guidelines. Offset actions must present a measurable, relevant and ongoing net benefit which would not otherwise have been realised, and which is not accounted for by any other project or proposal.

## Appendix B: Other issues and agency contacts

In addition to a permit under LUPAA and EMPCA, there may be other legal requirements to allow your proposal to proceed, including other permits, licences or landowner consent. You may also need to contact other Government agencies to obtain information for the purpose of assessment.

Your proposal may have been referred to other agencies by EPA. If assessments or approvals outside of the Board's responsibilities are required, you should engage with the respective agency to progress them. The following list identifies some of the agencies you may need to contact:

### Conservation Assessments

Department of Natural Resources and Environment Tasmania

Telephone: (03) 6165 4396

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

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

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

### Heritage Tasmania

Department of Natural Resources and Environment 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)

Purpose: Historic cultural heritage, including State-level site listings, impacts and permits as required under the Historic Cultural Heritage Act 1995. Where works are proposed in or near 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 Tasmania

Department of Premier and Cabinet

Telephone: 1300 487 045

Email: [aboriginalheritage@dpac.tas.gov.au](mailto:aboriginalheritage@dpac.tas.gov.au)

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

Purpose: Aboriginal heritage, including desktop assessment, artefact survey requirements, permits and advice.

### Parks and Wildlife – Property Services

Department of Natural Resources and Environment Tasmania

Telephone: (03) 6169 9015

Email: [PropertyServices@parks.tas.gov.au](mailto:PropertyServices@parks.tas.gov.au)

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

Purpose: Impacts on parks and reserves managed by Parks and Wildlife, or Crown land.

### **Agriculture and Water**

Department of Natural Resources and Environment Tasmania

Telephone: 1300 368 550

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

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

Purpose: Water licences and works impacting natural waterway flow (e.g. dams or fords).

### **Transport Services**

Department of State Growth

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)

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

### **Mineral Resources Tasmania**

Department of State Growth

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)

Purpose: Mining Leases.

## Appendix C: Example of project description summary table

### Location and Planning Context

<b>Location</b>	State the address of the site, and CTs and PIDs (as applicable) for all titles on which the activity will take place.
<b>Land zoning</b>	Describe the land zoning of the site and surrounds. If rezoning of the site is required, provide details.
<b>Land tenure</b>	Provide the land tenure of the proposal.
<b>Use Class and Permissibility</b>	If a permit is required under LUPAA, provide the Use Class of the proposed activity and Permissibility of the activity with reference to the relevant Planning Scheme.

*For extractive industries only, delete if not required*

<b>Mining lease</b>	
<b>Lease area</b>	
<b>Bond</b>	State the amount of any bond required by MRT (for extractive industries)

### Existing site

<b>Land Use</b>	Describe the existing land use of the site and surrounds.
<b>Topography</b>	Describe the topography of the site and surrounds.
<b>Geology</b>	Describe the geology of the site, including the likely presence of potentially acid forming (PAF) material.  Describe any geoconservation values on or near the site, e.g. karst.
<b>Soils</b>	Describe the potential to encounter acid sulphate soils and or contaminated soil (from past activities, as relevant).
<b>Hydrology</b>	Describe groundwater and surface drainage (including waterways, lakes, wetlands and coastal areas)  Describe the waterbodies and aquatic values on site and in the surrounding area. State the distance from the activity to the nearest waterbody.
<b>Natural Values</b>	List the threatened fauna, flora and vegetation communities, including potential habitat for any such species, that are known to occur on or near the site (use the Natural Values Atlas, TASVEG 4.0 or results of any relevant survey).  State the vegetation types on and near the site.
<b>Potential Hazards</b>	Provide a brief assessment of the vulnerability of the site to natural hazards (e.g. flooding, seismic activity, fire, landslips or strong winds) or climate change.

### Local Region

<b>Climate</b>	State the annual rainfall and predominant wind direction.
<b>Surrounding land zoning, tenure and uses</b>	Describe the surrounding land use, distance to the nearest residences in other ownership, note any conservation reserves or recreation areas in the area, and provide a coastal description if the coast is nearby.
<b>Species, sites or areas of conservation significance</b>	Provide information on species, sites or areas of landscape, aesthetic, wilderness, scientific or otherwise special conservation significance which may be affected by the proposal. Relevant information resources include the LIST ( <a href="http://www.thelist.tas.gov.au">www.thelist.tas.gov.au</a> ) and the Natural Values Atlas ( <a href="https://www.naturalvaluesatlas.tas.gov.au">https://www.naturalvaluesatlas.tas.gov.au</a> ).

### Proposed Infrastructure

<b>Major equipment</b>	List all existing and proposed plant, machinery, or other major equipment (distinguish between existing and proposed).
<b>Other infrastructure</b>	List the existing and proposed buildings, structures, access roads, internal haul roads (can refer to the Site Plan) (distinguish between existing and proposed).

### Inputs

<b>Water</b>	Include quantities and characteristics.
<b>Energy</b>	Include quantities and characteristics.
<b>Other raw materials</b>	Include quantities and characteristics.

### Wastes and Emissions

<b>Liquid</b>	Include quantities and characteristics.
<b>Atmospheric</b>	Include quantities and characteristics.
<b>Solid</b>	Include quantities and characteristics.
<b>Controlled wastes</b>	Include quantities and characteristics.
<b>Noise</b>	Include major sources of noise emissions.
<b>Greenhouse gases</b>	Provide a brief description of changes to greenhouse gas emissions that will be caused by the proposal.

### Construction, Commissioning and Operations

<b>Proposal timetable</b>	Provide a brief timetable outlining the proposed timeframe(s) for construction, commissioning and commencement of operations. Include significant milestones if applicable.
<b>Construction hours</b>	e.g. xx-xx Monday to Friday xx-xx Saturday
<b>Operating hours (ongoing)</b>	e.g. xx-xx Monday to Friday xx-xx Saturday

### Other Key Characteristics

<b>Other</b>	Describe any additional characteristics relevant to the proposal/environment that are likely to provide important context as part of this summary.
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ENVIRONMENT PROTECTION AUTHORITY