Environmental Assessment Report

BG & JM Barwick Pty Ltd

In-vessel Composting Facility

1277 Boyer Road, Boyer

July 2024

EPA TASMANIA

ENVIRONMENT PROTECTION AUTHORITY

Environmental Assessment Report

Proponent	BG & JM Barwick Pty Ltd
Proposal	In-vessel Composting Facility
Location	1277 Boyer Road, Boyer
Class of Assessment	2B
PCE no.	11323
Permit Application No.	DA 2023/158 (Derwent Valley Council)
myDAS Folder No.	22/8154
myDAS Document No.	D24-182445

Assessment Process Milestones

Date	Milestone
13 September 2022	Notice of Intent lodged
29 September 2022	Class of Assessment issued
4 November 2022	Guidelines Issued
30 November 2023	Permit Application submitted to Council
4 December 2023	Referral received by the Board
8 May 2024	Start of public consultation period
5 June 2024	End of public consultation period
15 July 2024	Date draft conditions issued to proponent
1 August 2024	Statutory period for assessment ends

Glossary/Acronyms

Term	Detail
Air EPP	*Environment Protection Policy (Air) 2004*
Board	Board of the Environment Protection Authority
CAS	Conservation Assessment Section of NRE Tas
CEMP	Construction Environmental Management Plan
DA	Development Application
EER	Environmental Effects Report
EIA	Environmental impact assessment
EMPCA	*Environmental Management and Pollution Control Act 1994*
EMPCS	Environmental Management and Pollution Control System
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
FOGO	Food organics and garden organics
GO	Garden organics
ha	Hectares
LUPAA	*Land Use Planning and Approvals Act 1993*
NCA	*Nature Conservation Act 2002*
NOI	Notice of Intent
NRE Tas	Department of Natural Resources and Environment Tasmania
OU	Odour Unit
PLC	Programmable logic controller
RMPS	Resource Management and Planning System of Tasmania
SD	Sustainable Development
t/a	Tonnes per annum
TSPA	*Threatened Species Protection Act 1995*

Report Summary

This report provides an environmental assessment of the proposed In-vessel Composting Facility by BG & JM Barwick Pty Ltd.

The proposal involves construction and operation of an in-vessel composting facility to process organics wastes from a range of different sources to produce compost for sale to various markets. The proposed composting facility includes four composting tunnel vessels with the capacity to produce up to 10,000 tonnes per annum of compost product.

This report has been prepared based on information provided in the permit application and Environmental Effects Report (EER). Relevant government agencies and the public were consulted, and their submissions considered as part of the assessment.

Appendix 1 contains details of matters raised by referral agencies during the consultation process.

Appendix 2 contains a table of management measures proposed by the proponent.

Appendix 3 contains the environmental permit conditions for the proposal.

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1. Approval Process

The Board of the Environment Protection Authority (the Board) received a Notice of Intent for the proposal on 13 September 2022.

An application for a permit under the *Land Use Planning and Approvals Act 1993* (LUPAA) was submitted to Derwent Valley Council on 30 November 2023.

The proposal is defined as a 'level 2 activity' under clause 3(d)(i), Schedule 2 of the *Environmental Management and Pollution Control Act 1994* (EMPCA), being a facility for the production of compost or mushroom substrate with a production capacity of 100 tonnes per year or more.

Section 25(1) of the EMPCA required Council to refer the application to the Board of the Environment Protection Authority (the Board) for assessment under the Act. The application was received by the Board on 4 December 2024.

The Board required that information to support the proposal be provided in the form of an Environmental Effects Report (EER), prepared in accordance with the Guidelines issued by the Board on 4 November 2022. Several drafts of the EER were submitted to the EPA for review against the Guidelines before it was finalised and accepted on behalf of the Board on 2 May 2024.

The EER was released for public inspection for 28 days on 8 May 2024. Advertisements were placed in The Mercury and on the EPA website. The EER was also referred to relevant government agencies for comment. No public representations were received.

2. SD Objectives and EIA Principles

The proposal must be considered by the Board in the context of the objectives of the Resource Management and Planning System of Tasmania (RMPS), and the Environmental Management and Pollution Control System (EMPCS). Both sets of objectives are specified in Schedule 1 of the EMPCA.

The functions of the Board are to administer and enforce the provisions of the EMPCA, and to use its best endeavours to further the RMPS and EMPCS objectives. The Board must assess the proposal in accordance with the Environmental Impact Assessment Principles defined in Section 74 of the EMPCA.

3. The Proposal

The main characteristics of the proposal are summarised below. A detailed description of the proposal is provided in Section 3 of the EER.

Summary of the main characteristics of the proposal

Activity

The proposed activity is for an in-vessel composting facility, utilising concrete tunnel vessels, which will convert various organic wastes into a compost product used for commercial markets and uses such as landscaping.

All air emissions from odorous wastes during receival, mixing and composting are proposed to be captured within the negative pressure building and tunnels and directed to sulphuric acid scrubbers and two biofilters for treatment before being discharged to the atmosphere. The exception to this will be finished compost and pine bark, which will be used in the composting process and stored on a hardstand area outside the building.

The Proponent currently operates a Level 1 pine bark screening, processing, and storage facility at the site, which will cease operation if the proposed in-vessel composting facility is approved. Cessation of this operation will constitute removal of pine bark material from the site, with most of the current infrastructure to remain and be upgraded under the Level 2 proposal, with additional infrastructure to be installed.

The facility will produce approximately 7,893 t/a of compost from an estimated 26,000 t/a of waste. However, the Proponent has stated that they wish to apply for an annual limit of 10,000 t/a of compost produced.

Location and planning context

Location	1277 Boyer Road, Boyer, as shown in Figure 1 Certificate of title 113285/1
Land zoning	General Industrial (Derwent Valley Interim Planning Scheme)
Land tenure	Private freehold

Activity site

Land Use	The site has previously hosted a veneer mill and currently hosts a pine bark screening, processing, and storage facility.
Topography	The site is relatively flat, sloping gradually south towards the Derwent Estuary. It sits in a valley with steep hills and mountains to the north and south.
Geology	Older alluvium of river terrace, predominantly dolerite derived.
Soils	Kurosol: Poor to imperfectly drained grey-brown texture contrast soils developed on Permian siltstone bedrock and colluvium on undulating to rolling land.
Hydrology	An empty stormwater collection pond for the historic veneer mill is located on the south-eastern boundary of the site, which is approximately 400 m upslope of the Derwent Estuary. There are tailings ponds and artificial drains approximately 150 m south and southwest of the site, associated with the paper mill. A drain directs stormwater discharge from the site to these drains, which then report to the Derwent Estuary.
Natural Values	*Eucalyptus tenuiramis* forest and woodland on sediments (NCA listed community) is situated 150 m northwest of the site. The River Derwent Marine Conservation Area is located approximately 400 m south of the site and is considered important for breeding and migrating water birds and threatened species such as the Australian grayling (*Prototroctes maraena*).

Location region

Climate	Rainfall is approximately 570 mm per annum. Wind direction is predominantly from the west and northwest.
Surrounding land zoning, tenure and uses	Surrounding zoning is Light Industrial to the west, Rural Resource to the north, south and east; and Rural Living to the southeast. The Derwent Estuary is zoned Environmental Management and the township of New Norfolk 3 km to the west hosts a mix of different zones (e.g. open space, utilities, residential and general business). Immediate uses around the site are industrial (i.e. Norske Skog paper mill) and the River Derwent Marine Conservation Area. Mount Dromedary, Murphys Flat, Molesworth and Mount Faulkner Conservation Areas are all within a 5 km radius of the site.

Proposed infrastructure

Major equipment	• Biofilters • Biofilter fan • Air supply fans (for composting tunnels) • Mixer (to mix liquid and solid wastes) • Trommel screen • Acid scrubber • Programmable logic controller • Front end loaders • Telehandler • Forklift • Trucks for deliveries of waste and carting finished compost offsite • Light vehicles • Fast operating roller doors • Weighbridge • HVAC units (ventilation and heating)
Other infrastructure	• Tunnel and receival hall buildings • Composting tunnels • Leachate collection system • Various tanks for fire water, sulphuric acid, ammonium sulphate, leachate, and liquid waste • Hardstand areas for pine bark and compost maturation stockpiles • Stormwater management infrastructure (drains, culverts, retention, and sediment basins etc.) • Parking areas and internal gravel roadways • Water and electrical power supply from offsite • Vehicle refuelling and maintenance building

Inputs

Water	Mains water for staff amenities (kitchen, toilet). Process make-up water (various potential sources).
Energy	• Electricity for running various plant and equipment (e.g. fans, roller doors, lighting, pumps etc.)

	• Diesel fuel for internal combustion-based plant and equipment such as trucks, loader, and telehandler • Liquified gases for steel fabrication (construction only)
Other raw materials	Sulphuric acid, various wastes for composting, hydrocarbon-based lubricants/oils, and process make up water. Building materials for refurbishment, and construction of the tunnels and biofilters.

Wastes and emissions

Liquid	• Leachate from the composting process • Ammonium sulphate from the acid scrubber • Stormwater runoff from the roof, hardstands, and ground • Sanitary wastes from staff amenities • Waste oil from maintenance of equipment and vehicles
Atmospheric	Dust from internal traffic during construction and operation. Blow-off from pine bark and compost stockpiles.
Solid	• A range of solid wastes will be produced during the construction phase • Some wastes may contain foreign materials not suitable for composting, such as plastic and metal • Potential for out of specification compost requiring disposal • General refuse including food scraps, paper, and packaging
Controlled wastes	Waste oil.
Noise	• From construction activities e.g. trucks, cranes, excavators etc. • During operation from biofilter fan, wheel loader, telehandler, forklift, trucks, light vehicles, fans, pumps, HVAC units, roller doors, trommel screen, mixer etc.
Greenhouse gases	• Greenhouse gas emissions will be generated during the construction and operational phases from use of hydrocarbon powered machinery. • The nature of the facility means that a reduction in greenhouses gases will occur from diverting wastes from landfill to the composting process.

Construction, commissioning, and operations

Proposal timetable	The expected duration of construction will be 46 weeks and will commence once a permit has been granted by Derwent Valley Council. Table 6 of the EER provides a detailed breakdown of the different construction phases and their timeframes. The expected duration of commissioning is 11 weeks. Table 7 of the EER provides a detailed breakdown of the different commissioning phases and their timeframes. Commencement of operations will occur after completion of commissioning.
Operating hours (construction)	0700 to 1800 hours Monday to Saturday (subject to noise generation levels).
Operating hours (ongoing)	• The site will be staffed between 0400 to 1800 hours Monday to Saturday. • Waste and other deliveries will, where practical, be after 0600 hours Monday to Saturday. • The composting tunnels will operate 24/7.

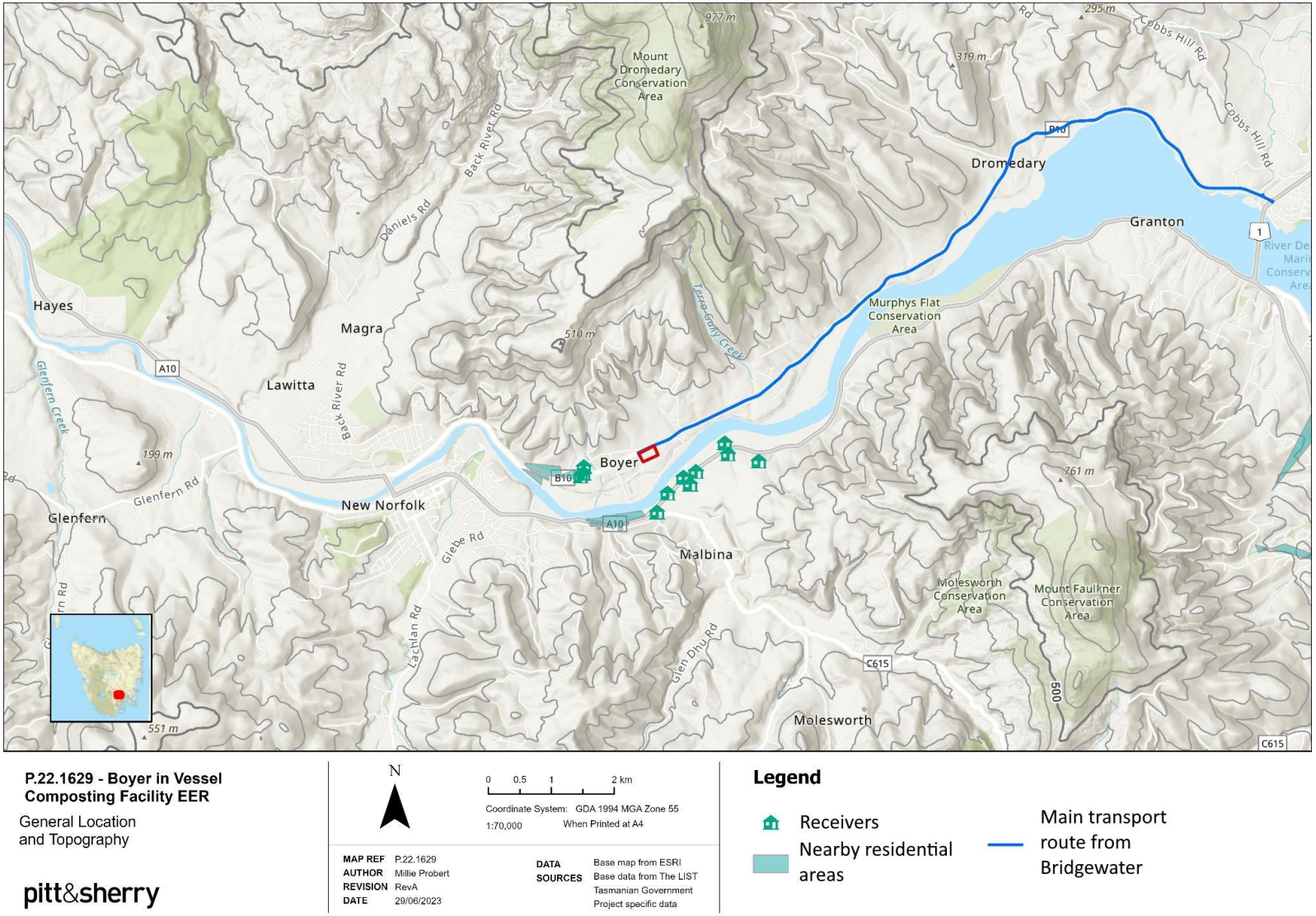


Figure 1: Proposed location (Figure 1 of the EER).

Figure 2: The site (Figure 2 of the EER).

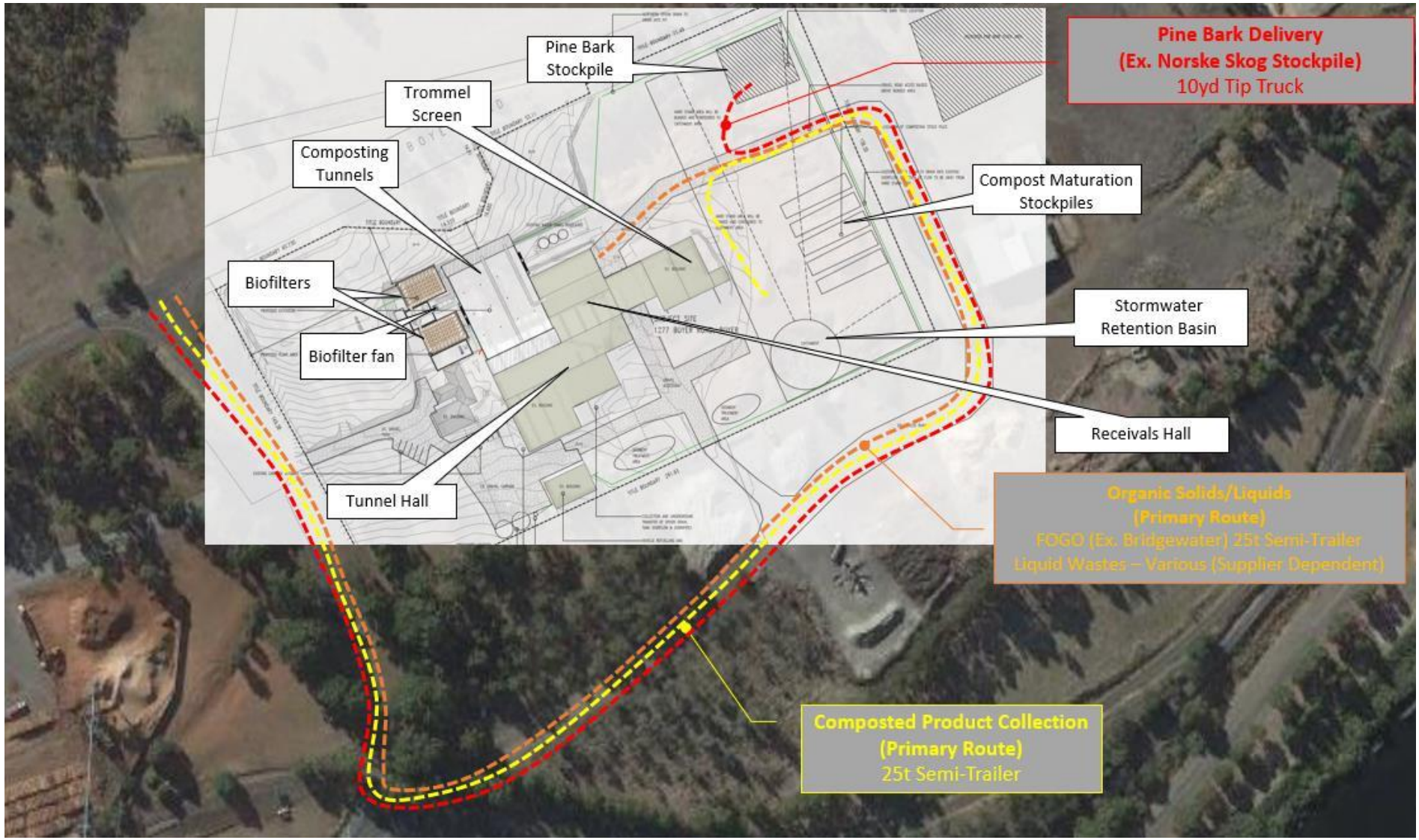


Figure 3: Site layout (Figure 9 of the EER).

4. Project Rationale and Alternatives

According to the EER the production of high-quality compost using a sophisticated, closed loop system will have the following advantages:

- Diversion of commercial, household and manufacturing wastes from landfill, with the following benefits:
  - A reduction in methane gas emissions, which would otherwise be emitted from anaerobic decomposition of organic matter in landfills. The diverted organic matter will be used for the controlled aerobic decomposition (composting); and
  - Reduction in the loss of land through the need to expand landfills.
- Reduction in carbon emissions through reduced transport of waste and finished product to / from one of the few current facilities in the state (e.g. Interlaken);
- Provision of a community service in the form of high-quality composting products; and
- The use of composting tunnels and a leachate capture system will limit any potential odour issues and result in no liquid waste emissions.

The EER states that Barwick's ownership of the land and the long-standing commercial and collaborative relationship with Norske Skog was a factor in restricting alternatives to the Boyer region.

The EER notes that an alternative location, on the adjacent Norske Skog land, was originally considered to remove the need for relocating the existing pine bark screening activity. However, the current site was preferred as it is located on land owned by the Proponent and won't require the significant earthworks and construction of an all-new facility. It was also noted in the EER that this proposal will better utilise the infrastructure left by the historical veneer mill than the current pine bark screening activity.

5. Public and Agency Consultation

No public submissions were received during the public consultation period.

The EER was also referred to several government agencies with an interest in the proposal, including:

- Conservation Assessments Section, Natural Resources and Environment Tasmania
- Biosecurity Tasmania, Natural Resources and Environment Tasmania
- Parks and Wildlife Service, Natural Resources and Environment Tasmania
- Waste Levy & Data Team, Natural Resources and Environment Tasmania
- The Department of State Growth
- TasRail

The following individuals also provided specialist advice on the EER:

- Regulatory Officer, Environment Protection Authority
- Scientific Officer (Air), Environment Protection Authority
- Scientific Officer (Water), Environment Protection Authority
- Scientific Officer (Noise), Environment Protection Authority

Appendix 1 of this report contains a summary of the government agency submissions received.

6. Evaluation of Key Environmental Issues

Three key environmental issues were identified for detailed evaluation in this report:

- Air Quality
- Water quality – Surface and ground water
- Noise emissions

These issues are discussed in the following subsections.

6.1 Air Quality

6.1.1 Description

Air emissions, including particulates and odours, have the potential to cause environmental nuisance, particularly to sensitive premises such as residences, if not appropriately mitigated and managed.

The predominant land uses in the vicinity of The Land are industrial (Norske Skog Paper Mill), a private timber reserve and the River Derwent Marine Conservation Area. The nearest sensitive receptor (residence) is located approximately 530 m south of The Land, across the Derwent Estuary. There are around twenty other residences within 1 km of The Land, nearly all across the Derwent Estuary along the Lyell Highway or Molesworth Road. The township of New Norfolk is located approximately 3 km west of The Land. See Figure 4 below for a diagram showing sensitive receptors within a 3 km radius of the site.

Section 4.1.1 (Part C) of the EER describes the existing environment, including the sensitive receptors and prevailing wind directions. Section 4.1.2 details the potential impacts and odours arising from the activity and summarises the modelling results (from Appendix D) for the proposal. The proposed management measures for emissions to air are outlined in Section 4.1.3.

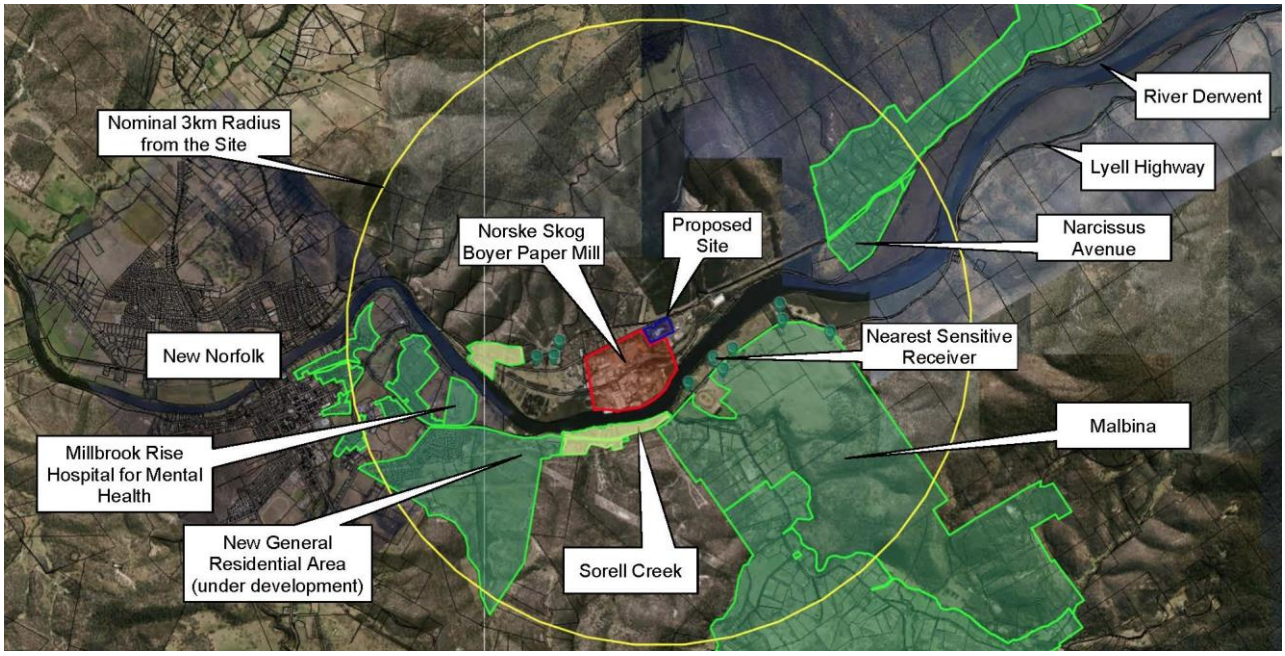


Figure 4: Map of surrounding sensitive receptors within a 3 km radius of the site (Figure 1, Appendix D of the EER).

Odour control system

The key aspect of the proposal is that it will compost material in an enclosed environment, where odorous emissions can be captured and treated before being discharged into the atmosphere. This proposal has chosen to use a series of concrete tunnels as 'vessels' for undertaking composting. Traditional open windrow composting activities are typically very odorous (depending on the wastes composted), can attract significant complaints from surrounding sensitive uses, and usually require large buffer distances.

The proposal includes construction of a sealed facility, comprising receival and tunnel halls and the four composting tunnels. Air flow will be managed by a series of fans to create a negatively pressurised facility, resulting in little air being able to escape the facility where waste delivery, mixing and composition occurs.

Air from the facility is then directed to an odour control system for treatment before being discharged to the atmosphere. The odour control system is comprised of a scrubber and two biofilters.

The scrubber is designed to saturate the air flow into the biofilters to ensure that high humidity levels are maintained for optimal performance of the biofilters. Additionally, the scrubber will be augmented by an acid dosing system, which will add sulphuric acid to the airflow to reduce ammonia concentrations to an acceptable level. High ammonia levels can damage the beneficial microorganisms, thus reducing the effectiveness of the biofilters.

Biofilters consist of a concrete basin filled with woodchips. Woodchips act as a media for beneficial microorganisms to exist, which consume the absorbed organics in air from the facility. Once these organics have been consumed by the microorganisms the odour discharged from the biofilter is described as having an earthy characteristic.

Having adequate maintenance programs, monitoring and operational procedures in place are key to ensuring the scrubber and biofilters remain at optimal performance for treating odorous air from the facility.

Odour sources

The EER identifies the following potential odour sources for the proposal:

- Incoming wastes delivered to the facility;
- Receival and tunnel halls;
- Composting tunnels;
- Scrubber, biofilters and biofilter fans;
- Trommel screen (for screening of finished compost);
- Pine bark stockpile;
- Compost maturation stockpiles (indoor and outdoor); and
- Retention basin (to capture stormwater runoff from the finished compost stockpile).

Odour sources not captured by the odour control system

The main odour sources not captured by the odour control system include the pine bark stockpile to be used in the composting process, the finished compost stockpile, the retention basin, and screening of compost.

The existing level 1 activity located on the site is a pine bark processing and screening activity, which will be relocated to an adjacent parcel of land, subject to obtaining the relevant approval(s) from Derwent Valley Council. The volume of pine bark stored on The Land will be significantly reduced to that currently stored on site for the Level 1 activity. It is expected that odour from the reduced stockpile of pine bark will not cause environmental nuisance due to its earthy character. Similarly, the finished compost stockpile and retention basin are not anticipated to generate significant odour emissions.

The trommel screen already exists for the Level 1 pine bark screening activity and will remain in its current location within the building. The trommel screen has a hopper and conveyor located outside the facility where compost from the tunnel hall is placed to feed the trommel screen. The screened compost is

conveyed to bunkers on the northern side of the facility, and then moved to the hardstand. The intake and discharge conveyors penetrate the building walls meaning that negative pressure could not reasonably be maintained within the facility if the trommel screen building was connected to the receival and tunnel hall building, which is negatively pressurised.

The odours generated from these sources are generally considered to exhibit an 'earthy' character.

Air Emission Assessment Report, including air dispersion modelling

The Air Emission Assessment Report contained in Appendix D of the EER (the Report) states that air dispersion modelling was used to predict the resulting ground level odour concentrations that will occur in the areas surrounding the proposed composting facility, as a result of the odour emissions predicted from each odour source.

The Report goes on to state that criteria for the assessment of odour emissions are specified under Schedule 3 of the *Environment Protection Policy (Air Quality) 2004* (Air EPP), noting that Table 1 of Schedule 3 specifies a maximum ground level concentration of 2 Odour Units (ou) at or beyond the boundary of The Land.

The Report states that the modelling methodology used follows the EPA's *Atmospheric Dispersion Modelling Guidelines, October 2020*. Advice from the EPA Air Section was that the modelling was of an appropriate standard and in accordance with relevant requirements.

Details of the modelling parameters and the assumptions made in the Report can be found in Appendix D of the EER. The modelling considered both normal operations and worst-case scenarios. The predicted ground level odour concentrations mapped, as shown in Figures 5 and 6 below, show the extent of the predicted 2ou contours for each scenario.

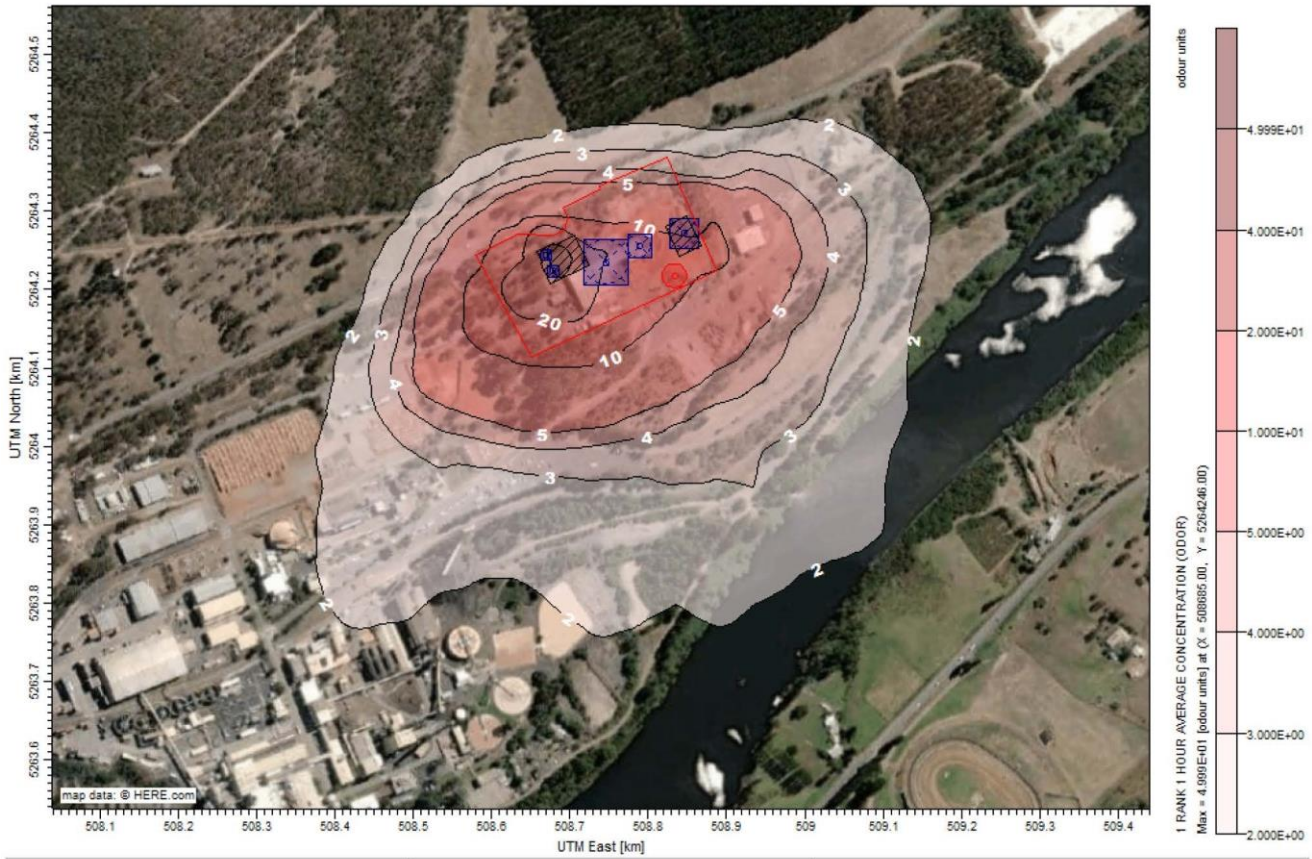
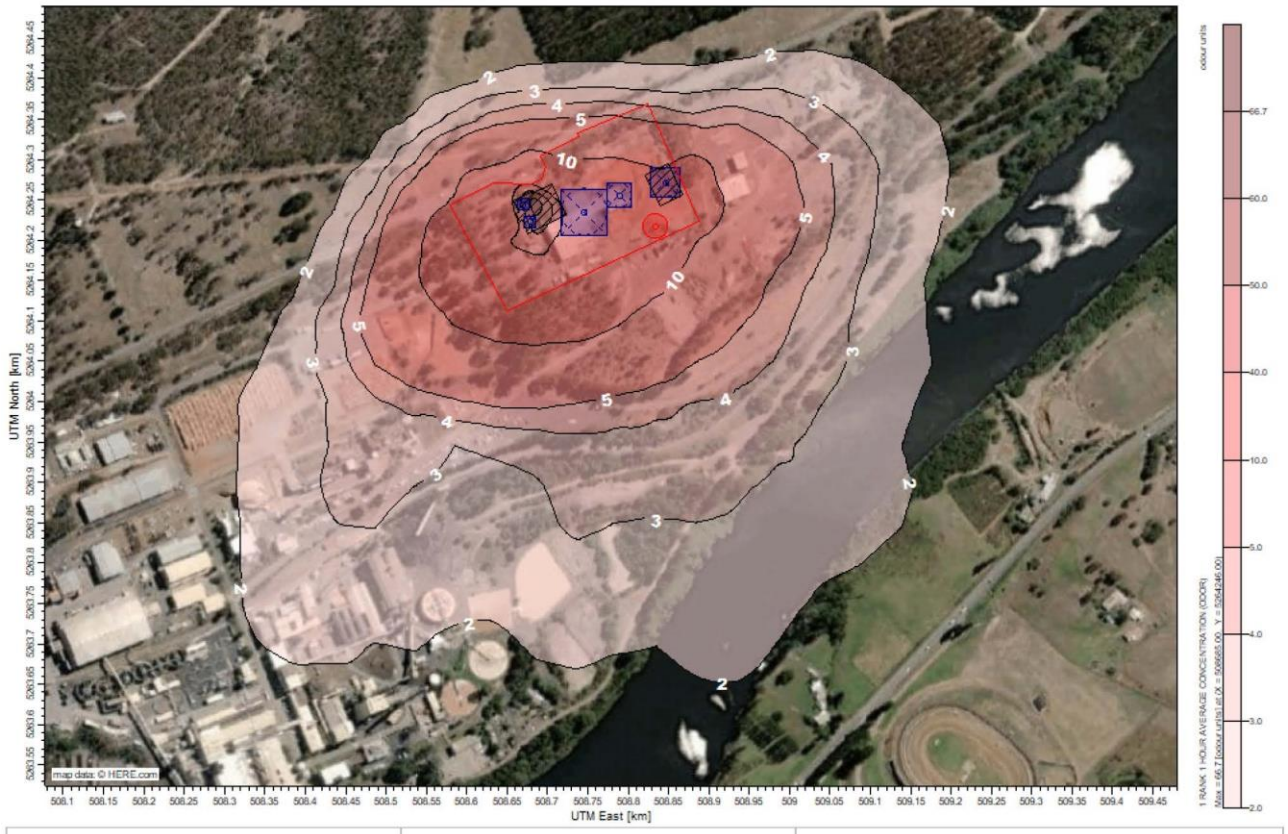


Figure 5: Predicted Ground Level Odour Concentration - Biofilters discharging at 750ou – 'Normal Operation'.



Scenario: Composting Process – Worst Case	**Pollutant:** Odour **Units:** ou	**Criterion:** TAS EPP (Air) 2ou **Maximum:** 40 ou (on boundary)
Location: Boyer In-Vessel Composting Facility	**Result:** 99.5th percentile **Averaging Time:** 1 hour	**Dispersion Model:** CALPUFF **Meteorology:** TAPM, CALMET

Figure 6: Predicted Ground Level Odour Concentration - Biofilters discharging at 1,000ou – 'Worst Case'.

The Report notes that odour concentration is greatest in the immediate vicinity of the biofilters. It also notes that under normal operations the 2ou isopleth extends up to about 520 m beyond the Boundary of The Land, and out to about 560 metres under the worst-case scenario.

The Report states that the 2ou isopleth is clear of all residences, residential zones, and any other sensitive receptors, with the nearest residence being approximately 185 m away from the 2ou isopleth under normal operations.

The Report predicts a maximum odour concentration at the boundary of The Land of 30ou under normal operations and 40ou under the worst-case scenario. It should be noted that this appears to only occur on a very small section of the northern boundary (see Figures 5 and 6 above) adjacent to the Boyer Road alignment; the maximum odour concentrations on the western, southern and eastern boundaries appear not to exceed 10ou. The Report goes on to state that the predicted odour concentrations under normal operations at the nearest residence (approximately 530 metres from the boundary of the proposal) are 0.9ou and 1.8ou under the worst-case scenario, which is within the Air EPP limit of 2 odour units (see Figures 5 and 6).

Therefore the Air Emission Assessment Report concluded that while the results of air dispersion modelling have indicated ground level odour concentrations will exceed the maximum allowable concentration specified in the *Environment Protection Policy (Air Quality) 2004* of 2 odour units, at the boundary of The Land, the modelling indicates that the exceedance is limited to nearby land and does not extend to areas that currently have, or are likely to have in the future, sensitive uses, such as residences.

The Air Emission Assessment Report also states that while the predicted odour concentrations do not meet the requirements of the Air EPP, the odour levels predicted at nearby sensitive receptors (e.g. residences) are low enough to not adversely affect their amenity or cause environmental nuisance.

Dust emissions

Dust and other particulate emissions may also be generated by internal traffic movements (during construction and operation), from pine bark and final compost stockpiles, during screening of compost (the intake and discharge conveyors penetrate through the wall of the building) and from loading finished compost and unloading pine bark.

6.1.2 Management measures

Section 4.1.3 of the EER details the proposed management measures relating to the management of air quality.

According to the EER the treatment of exhaust air from the composting tunnels, tunnel hall and receivals hall involves the following components to allow the facility to process potentially odorous materials without causing significant odour emissions:

- A central air treatment system to maintain consistent negative pressure, which will contain odours and dust. Airflow through the tunnels is provided by fans through a sub-floor air distribution network, with all exhaust air captured by the central air treatment system. This includes the receival and tunnel halls.
- Fast acting roller doors which aid in maintaining negative air pressure within the building and help minimise escape of dusts or odour.
- A scrubber will be installed on the exhaust air duct which will saturate the airflow to the humidity levels required for the biofilters to be effective and also detect ammonia levels through pH monitoring in the scrubber. If pH monitoring indicates ammonia levels are over 150 ppm, sulphuric acid will be automatically added to the scrubber by the acid dosing system to reduce ammonia levels. The scrubber will produce ammonium sulphate as a by-product.
- A set of two biofilters will remove odours from the discharged air. The humidified odorous air is blown into the bottom of the biofilters, which are comprised of a concrete basin filled with woodchips. Microorganisms within the woodchip filter consume the absorbed organics, resulting in odour-free air emissions. By-products from the biofilters include carbon dioxide, water, and heat.

The EER states that the following further odour mitigation measures and precautions are incorporated into the proposed development design and operating arrangements to minimise the probability of abnormal or upset conditions occurring:

- The following waste and compost handling will help minimise odours:
    - Wastes will only be received at the facility on an as-required basis and will be unloaded and stored within the receival hall, with the exception of pine bark which will be stored outside.
    - Compost exiting the tunnels will be stored for around 7 days within the tunnel hall.
    - Sensors will be installed on doors so that an alarm is triggered (audible and/or flashlights) if doors remain open longer than a defined period of time (to be informed during commissioning), in order to maintain negative pressure.
    - Liquid wastes that are not immediately blended with solid wastes will be stored in dedicated closed, bunded tanks inside the building.
- Leachate, including any liquids produced from the biofilters and air flow ducting, will be re-used in the composting process. The composting process is not anticipated to generate significant volumes of leachate as each tunnel 'batch' will be initially premixed with the appropriate level of moisture. The water balance suggests that the composting process will have a water deficit and require process make-up water (i.e. excess leachate and stormwater from the retention basin).
- Measures to prevent anaerobic conditions include:
    - Limited storage of pre-composted materials at the site in the receival and tunnel halls.
    - Limited mixing of wastes before they are placed in the tunnels, to reduce the likelihood of causing anaerobic conditions.

  - Ensuring the homogeneity of the material.
  - Utilising the fourth tunnel to turn the compost bed with a loader.
  - Routine cleaning of the tunnel floor spigot holes before filling and after emptying tunnels, to ensure consistent and effective air distribution / flow during the composting process.
  - Use of the programable logic controller (PLC) to monitor critical parameters such as air flows, temperatures, humidity, and bed moisture levels with alarms being triggered if conditions are outside the specified operational ranges.
- Power outages and equipment failures will be managed appropriately by:
  - Selecting critical componentry designed using principles of reliability and maintainability.
  - Regular inspection of critical components.
  - Following appropriate maintenance schedules, including regular condition monitoring of critical components, regular condition inspections to detect potential failure events with sufficient lead time to allow repairs to be carried out before failure.
  - Procuring critical / insurance spares to keep onsite. The equipment suppliers have confirmed they also hold an inventory of critical components in-country.
  - Generally operating only three of the four tunnels for composting at any given time. This allows for cleaning, maintenance and compost turning to occur in the fourth tunnel, providing a level of redundancy in the event of a tunnel aeration fan failure.
  - In the event of short term (several days) tunnel downtime, lost production could be 'caught-up' by increasing the fill height in the other tunnels temporarily. This may require turning of the compost to reduce compaction which may reduce airflow through the material.
  - During extended power outages or tunnel downtime, incoming waste will be temporarily diverted to other composting facilities operated by the Proponent, until normal operations are restored.
  - In extreme circumstances of extended power outages or tunnel downtime, composting materials and stored wastes will be diverted to other composting facilities operated by the Proponent.
- Appendix E of the EER provides a document outlining the principals of biofilter monitoring and management that will be adopted for this activity. The biofilter will be maintained in good working order by:
  - Monitoring the condition of the biofilter bed to ensure correct operation.
  - The process control system will monitor critical parameters such as air flows, temperatures, humidity, bed moisture level through the process control system, which will trigger alarms if conditions are outside specified operational ranges.
  - Replacing biofilter bed material before it ages or degrades to a point where biofilter performance is compromised.
  - Reducing the biofilter discharge flow rate by 25% overnight (1800 hours to 0400 hours) to minimise odour emissions.

Other air emission management measures include:

- Prevention of dust and particulate generation by irrigation of external stockpiles (pine bark and finished compost).
- Watering of the access road and hardstand areas during dry conditions and / or during construction.
- Development of a Construction Environmental Management Plan which will, in part, address management of odour and dust during construction activities.

6.1.3 Public and agency comment and responses

No public representations were received in relation to odour emissions.

The Parks & Wildlife Service (PWS) noted that odour modelling figures indicate odour units of between 2 and 3 are anticipated over a section of the River Derwent Marine Conservation Area (the MCA). PWS stated that an objective for the management of the MCA is recreation values, which have not been considered in the EER.

PWS requested a discussion of how odour may impact recreational values within the MCA.

6.1.4 Evaluation

Dust emissions

The EER states that while the handling of materials has the potential to generate dust, incoming materials will have moisture levels sufficient to minimise dust generation, and that any outgoing loads will be either covered or dampened to prevent dust escape. The EER also states that the pine bark and finished compost stockpiles and the internal roads and the hardstands will be dampened as necessary to prevent dust emissions. In addition, screening will occur within the building and the compost is likely to be damp, which will limit generation of dust.

Dust from construction will be managed through development and implementation of a Construction Environmental Management Plan.

Condition **CN1** requires a Construction Environmental Management Plan to be developed and implemented for the activity, this will require consideration of dust during construction. Condition **A1** is relevant as it requires any vehicles carrying material to be equipped with effective control measures (e.g., tarps or load dampening) to prevent escape of the material from the vehicle. Furthermore, condition **A2** requires that dust emissions from The Land must be controlled to the extent necessary to prevent environmental nuisance beyond the boundary of The Land.

The management measures proposed in the EER relating to dust emissions are generally supported.

Based on the commitments made in the EER and the above conditions being imposed, it is considered the risk of dust emissions causing environmental nuisance beyond the boundary of The Land is low.

Odour emissions

As previously mentioned, having appropriate operational processes, controls, maintenance, and monitoring programs in place is vital to ensuring that the facility operates as detailed, and that the odour control system is maintained for optimal performance, thus ensuring effective removal of odours from the composting process, and limiting the potential for causing environmental nuisance.

The management measures and commitments made in the EER and Air Emissions Assessment Report are generally considered appropriate and are supported. Nevertheless, to ensure that the activity is managed appropriately, the following conditions are imposed.

Condition **A3** is a standard overarching condition requiring that the person responsible must institute such odour management measures as are necessary to prevent odours causing environmental nuisance beyond the boundary of The Land.

Condition **A4** requires the preparation of an Odour Management Plan for the Director's approval, which must include:

- Details of all potential odour sources;
- the odour collection and abatement equipment used;
- actions to be implemented to mitigate odours;
- contingency measures;
- a methodology for the proposed regular odour inspections; and
- details of the biofilter and scrubber maintenance and management program.

The Odour Management Plan is also required to include an odour sampling methodology which must include details of:

- The proposed measurement of odour emissions from odour sources;
- Recommendations for the most suitable timing to conduct odour sampling;
- A timetable for completion of odour sampling; and
- Recommendations for ongoing odour sampling.

The condition also allows the Director to request an updated Odour Management Plan or odour sampling methodology.

Condition **A5** specifies the minimum reporting requirements for the odour sampling undertaken as detailed in the approved Odour Management Plan and odour sampling methodology. In the event odour sampling determines that odour concentrations noticeably exceed those predicted in the EER and Air Emissions Assessment, or if odour concentrations are considered likely to cause environmental nuisance, an Odour Mitigation Plan must be included in the Report, detailing how the odour concentrations will be reduced.

As part of the Odour Mitigation Plan, consideration must be given to the need for revising the atmospheric dispersion modelling detailed in the EER and Air Emissions Assessment, which would revise the likely extent of impact from odour emissions based on the actual odour concentrations recorded during sampling.

As the effective operation of the odour control system is critical to managing the odour emissions from the activity, it is appropriate to require a specific Odour Control System Monitoring Plan in condition **A6**. The condition requires the plan to evaluate the condition and performance of each biofilter and the scrubber, for the purpose of detecting environmental nuisance, by providing details of monitoring locations, sampling frequency and parameters required for proper operation of the odour control system and the sampling and measurement methods. It also requires details of quality assurance and control procedures, trigger levels for parameters and corresponding actions to be taken if a trigger level is exceeded.

Condition **A7** specifies the minimum reporting requirements for the monitoring undertaken as part of the Odour Control System Monitoring Plan. This includes an assessment of the adequacy of the management measures in place and the adequacy of the Odour Management Plan to detect environmental nuisance from the activity.

Condition **A8** requires that any complaint received in relation to odour, for the activity, must be reported to the Director within 24 hours. A report must be submitted to the Director within 7 days of the complaint providing details as known.

Condition **E2** is imposed to ensure that leachate generated from the activity is appropriately captured and stored / reused within the facility, as proposed in the EER. While this condition is primarily aimed at preventing impacts to surface and ground waters, leachate is also likely to be odorous.

Given the importance of operational procedures being followed to ensure correct operation of the facility, condition **OP1** requires submission and approval of an Operational Procedures Manual, which must detail the operational procedures and parameters that are required to ensure compliance with the permit conditions.

Condition **OP2** requires a person(s) to be present when the facility is open for delivery of waste, whose duties include supervising the management of waste deposition and ensuring compliance with the permit conditions.

Condition **OP3** specifies the materials that may be accepted at the facility, as detailed in the EER. The condition provides scope for the Director to consider allowing other materials to be accepted in the future if appropriate justification were to be provided and if it could be demonstrated that the likelihood of causing environmental nuisance was not significantly increased by accepting the material.

Given the waste types to be received, the efficient handling of wastes is vital to prevent anaerobic conditions from developing, as this would place additional stress on the odour control system. To ensure wastes are managed appropriately, conditions **OP4** and **OP6** are relevant. **OP4** requires that wastes delivered to The Land are stored in the composting facility building, governed by the odour control system, and that they are processed within 24 hours of being received. **OP6** requires any waste or finished / partially finished compost removed from a tunnel not meeting the pasteurisation standards of the *Australian*

Standard AS 4454: 2012 Composts, soil conditioners and mulches (AS 4454: 2012) to either be disposed of at an approved facility or placed back into a tunnel for further treatment within 24 hours of being determined not to meet the pasteurisation standards of AS 4454: 2012.

Condition **OP7** requires washdown of delivery vehicles which may have waste on the back of the vehicle that could drop off and become an unintended source of odour.

In relation to concerns raised by PWS, the Proponent was informally requested to provide information on the potential for impact to recreational values within the River Derwent Marine Conservation Area (MCA). The Proponent provided further details by email, which noted that:

- Odour modelling results are 99.5th percentile, one hour average results over a one-year period (i.e. conservative) and the 2-3ou concentrations are only predicted over a small section of the MCA.
- Users (e.g. boaters, kayakers) of the MCA, if particularly sensitive to odour, may experience brief low-level odours, but generally people would be unlikely to discern any odour from the activity.
- Odours from the activity are likely to have an earthy character and would be hard to distinguish from other odours in the area (e.g. paper mill, salt spray, vegetation, marine sediments).
- Odour concentrations will rarely reach predicted levels during daylight hours as the highest odour results typically occur on cold still nights or early mornings with light or no wind.

The additional information provided was deemed sufficient, and the risk of impacting recreational values within the MCA is considered to be low.

While the modelling confirms that the 2ou criterion specified in the Air EPP will not be met at the boundary of The Land, the information presented also suggests a low risk of environmental nuisance occurring at the nearest sensitive receptors, even under a worst-case scenario.

The management measures and commitments made in the EER are generally supported and highlight the need for diligence in operating and maintaining the facility as designed to ensure odour emissions can be effectively managed and mitigated so as not to cause environmental nuisance.

The conditions proposed are detailed and considered to be robust, which will ensure the facility is designed, managed, and maintained as detailed in the EER. However, this will only be the second such facility developed in Tasmania, and the other facility is not yet operational, so no localised data is currently available on in-vessel composting facilities. Therefore, the conditions have been drafted to ensure that they still provide enough flexibility to allow changes required to optimise the performance of the facility.

6.1.5 Conditions

The proponent will be required to comply with the following conditions:

A1 Covering of vehicles

A2 Control of dust emissions

A3 Odour management

A4 Odour Management Plan

A5 Odour Sampling Report and Odour Mitigation Plan

A6 Odour Control System Monitoring Plan

A7 Odour Control System Monitoring Report

A8 Odour complaints

CN1 Construction Environmental Management Plan

E2 Leachate management

OP1 Operational Procedures Manual

OP2 Hours of operation and site staff

OP3 Receivable wastes

OP4 Storage of wastes

OP6 Disposal of compost

OP7 Site hygiene and biosecurity

6.2 Water Quality – Surface and ground water

6.2.1 Description

Potential impacts to surface and ground waters may be caused by sediments or pollutants / wastes from spills or unintentional releases of leachate from the facility.

Construction works will involve minor excavations and heavy machinery moving around the site (e.g. cranes) which have the potential to mobilise sediments and spill hazardous substances in the event of a leak (e.g. fuels, oils, hydraulic lines etc.).

Increased impervious surfaces (e.g. tunnels and hardstand areas) may increase stormwater runoff carrying sediments or pollutants (e.g. nutrients from finished compost and pine bark).

The operation of the facility will include delivery, mixing and composting of waste materials, and stockpiling of pine bark and finished compost. The composting process itself will produce leachate and ammonium sulphate (waste from the scrubber).

If not managed appropriately these activities have the potential to negatively impact local surface and ground water values, including the Lower Derwent River Estuarine Delta and Flood Plain geoconservation area and River Derwent Marine Conservation Area.

The EER states that there is a portion of land directly north of the site where stormwater from that land enters a culvert under Boyer Road. This culvert discharges to a drain and then runs through the site via open table drains and a pipe directly to the current discharge point near the southwestern corner of the site. Refer to Figure 7 which shows the upstream catchment flowing onto the site.

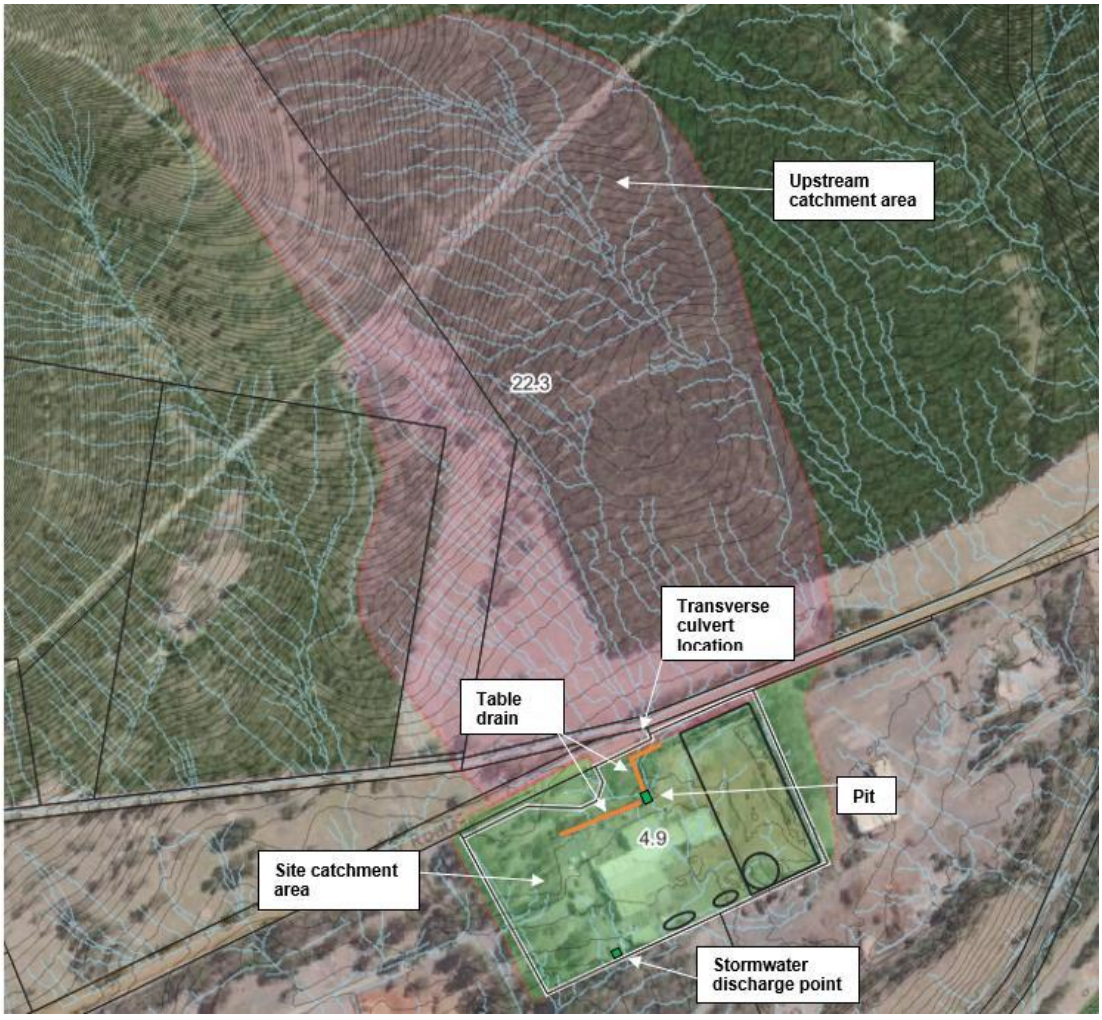


Figure 7: Upstream and site catchment areas (Figure 12 of the EER).

Stormwater from roofed areas is captured in tanks for use in firefighting or as process make up water in the composting process. Similarly, stormwater from the finished compost hardstand will be captured in the retention basin and used as the primary source of process make up water, but may, in significant storm events, overflow into the sediment basins. Stormwater from the pine bark hardstand and other natural areas on The Land will report to the two sediment basins before being discharged off site.

From the discharge point on site, the stormwater flows onto Norske Skog's land through vegetated drainage lines / table drains and eventually into the Derwent Estuary, as shown in Figure 8 below, which was mapped by the Proponent.

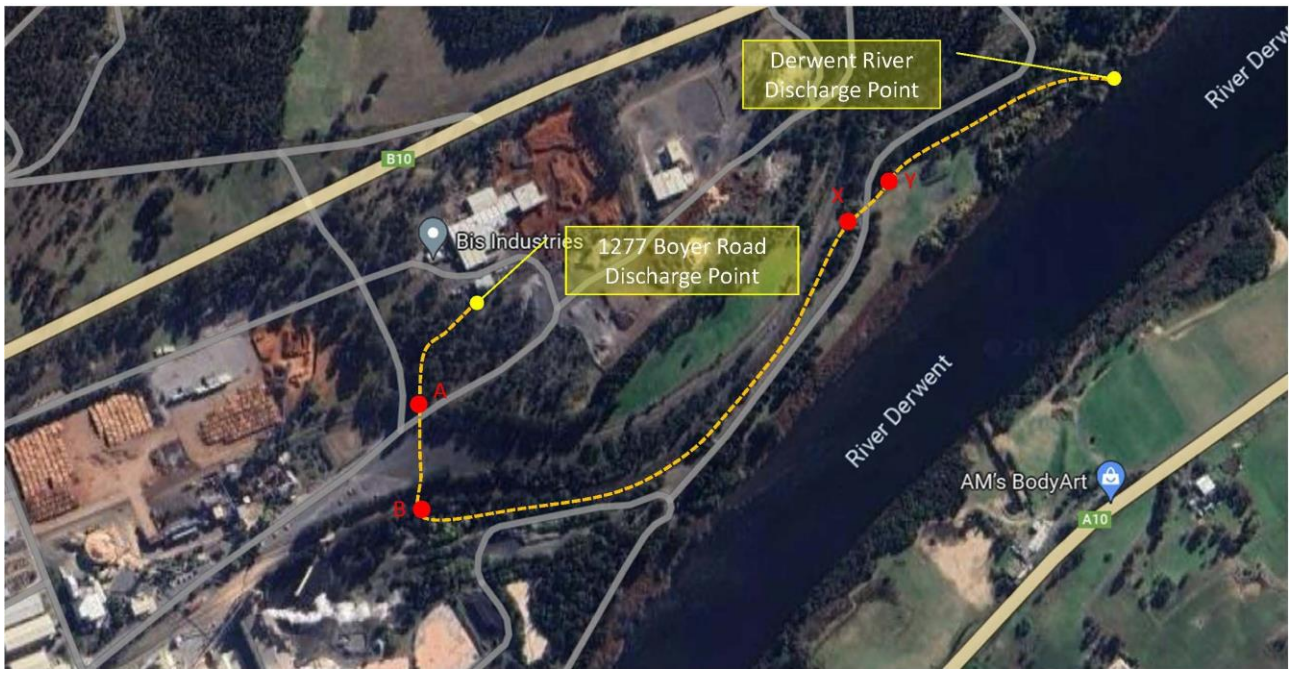


Figure 8: Stormwater flow path through the Norske Skog site (as supplied by the Proponent).

6.2.2 Management measures

Section 4.2.3 of the EER details the management measures proposed to manage water quality, the key points are detailed below.

The EER states that the existing stormwater management infrastructure will be upgraded to cater for the increased impervious surfaces required for the proposal (i.e. the hard stands, tunnels, biofilters).

According to the EER the upgraded stormwater management system will include:

- Various culverts, drains, pipes and a new headwall to capture upslope stormwater (from land in other ownership) that enters The Land from under Boyer Road and water falling on the western section of the site (car park and other vegetated areas), including a new pipeline to convey that stormwater to the sediment basin and discharge point.
- A new, lined (compacted clay) retention basin to capture runoff from the hardstand to be used as the compost storage area. The EER states that the basin can accommodate a 2% annual exceedance probability (AEP) rainfall event.
- Two new sediment basins connected by a pipe to capture and treat runoff from the north-eastern catchment area (i.e. the hardstand for pine bark storage and natural areas).
- Capture of rainwater from roofed areas in water storage tanks associated with the firefighting system, with any overflow directed to the stormwater system.

The EER also makes the following commitments:

- Development and implementation of a Stormwater Management Plan.

- Implementation of the proposed maintenance schedule for the composting tunnels to ensure the leachate capture and recirculation system works sufficiently.
- Implementation of the proposed maintenance schedule for the air treatment system to ensure ammonium sulphate is collected and sent to offsite disposal whenever necessary.
- Implementation of the proposed maintenance schedule for the stormwater system including monitoring.
- Implementation of contingency plans / designs for upset conditions (e.g. power failures, failure of key equipment etc.).
- Monitoring of stormwater quality in the retention basin.
- Use of pine bark to absorb water and reduce inflow to the retention basin.

6.2.3 Public and agency comment and responses

No public representations were received in relation to surface and ground water quality.

While TasRail did not object to the proposal, it did seek further information on whether the proposed activity, when compared to the current activity, will increase, or decrease the volume of stormwater runoff leaving the site, which travels towards TasRail assets within the Norske Skog site.

Appendix D of the EER provides calculations of the estimated stormwater runoff for the existing and proposed activity, which showed a small decrease in the volume of stormwater runoff discharged offsite for the proposed activity. It is understood that Derwent Vally Council issued a request for further information which required the Proponent to address this issue and that it has been addressed in a letter to Council and email to EPA providing a response to this issue.

6.2.4 Evaluation

A surface water assessment and stormwater management plan are contained in Appendix F of the EER. As part of the assessment, a hydrologic and hydraulic analysis, including modelling, was undertaken to consider the proposed changes to the site and to determine the appropriate management measures required to offset any impacts from the proposal. In summary, the assessment estimates that stormwater flow from the site will be slightly reduced as a result of the proposal and mitigations measures, when compared to the current scenario. However, it is also noted that the whole stormwater management system will be upgraded to ensure it is adequate to accommodate 2% annual exceedance probability (AEP) rainfall events, including some treatment, such as the retention basin and sediment basins.

Section 4.2 of the EER and Appendix F provide detailed diagrams and descriptions of the proposed upgraded stormwater management system. In summary, this includes the following:

- Runoff from the north-east portion of the site, including the pine bark storage hardstand, will report directly to the two sediment basins, instead of discharging directly offsite as currently happens;
- Runoff from the finished compost storage hardstand will report directly to the retention basin;
- The western portion of the site (i.e. car park area) and the upstream northern catchment (from land in other ownership) will report directly to the discharge point;
- The retention basin would overflow into the sediment basins; however, this is considered likely to occur only rarely and in very high rainfall conditions, as the retention and sediment basins have been sized to cater for holding process make up water and to accommodate a 2% annual exceedance probability (AEP) rainfall event;
- Any discharge from the sediment basins will flow to the discharge point near the southwest corner of the site;
- Rainfall captured by the buildings will be stored in rainwater and firewater tanks. In the event these tanks were to overflow, it will be captured by the sediment basins.

It should be noted that the proposal is for a closed loop composting system, in which all leachate is captured and reused in the composting process, so the only discharge from the site will be stormwater that

has not come in contact with composting material. The EER states that should an issue arise with leachate, it will be collected and disposed of offsite by a licenced contractor.

Given the proposal includes an upgrade of the stormwater management system and a reduction in the stormwater being discharged offsite, plus the distance to the Derwent Estuary discharge point, it is considered unlikely that stormwater from the activity would impact water quality within the Derwent Estuary.

The management measures proposed, including the capture and reuse of any liquid effluent produced from the composting process and upgrading of the stormwater management system, are generally supported. While the risks to the environment are considered to be low, it is considered appropriate to impose the below conditions.

Condition **CN1** requires the Proponent to consider management of potential impacts to surface water and waterways during construction in the Construction Environmental Management Plan.

Condition **E1** is relevant in the event of a fire occurring, which requires potentially contaminated wastewater from firefighting to be managed to prevent unauthorised discharge of pollutants beyond the boundary of The Land.

In addition, condition **E2** requires installation of a leachate collection system to prevent leachate generated as part of the activity from polluting surface or ground waters.

It is considered appropriate to require monitoring (**M1**) of the stormwater being discharged from The Land to ensure that stormwater, particularly from the pine bark storage, is not adversely impacting surface water being discharged to the Derwent Estuary. In addition, monitoring could help identify issues with the composting process, such as an undetected leak of leachate in the event of equipment / system failures.

The following operational conditions are in part relevant to the management of water quality. Condition **OP1** is about detailing the operational procedures for the activity, which ensures that appropriate processes and procedures are in place for the composting process to remain closed loop. Condition **OP5** requires pine bark and finished compost to be stored on hardstands, limiting the potential for any runoff from these areas to enter groundwater directly. In addition, condition **OP7** has also been imposed to require washdown of vehicles delivering waste to the site. This will prevent waste that may accumulate on the back of delivery trucks from spilling as they leave The Land, which could then potentially be discharged from The Land in 'clean' stormwater.

To reflect the commitments to upgrade and maintain the stormwater management system, condition **SW1** requires construction of perimeter cut off drains / bunds and any other stormwater management infrastructure required (e.g. sediment pond(s)) to ensure stormwater is managed appropriately.

Condition **SW2** is also imposed requiring all reasonable measures to be implemented to ensure solids entrained in stormwater are retained on The Land, and that any polluted stormwater discharged from The Land is first collected and treated to the extent necessary to prevent environmental harm or nuisance. It also requires that any discharge from The Land does not degrade the visual quality of any receiving waters outside The Land.

In addition, condition **SW3** sets out the required minimum standards for the design and maintenance of any sediment ponds constructed for managing stormwater.

Based on the information provided and commitments made in the EER, and the conditions imposed as detailed above, it is considered the potential environmental risks can be adequately managed to ensure that environmental harm or nuisance is not caused by the activity.

6.2.5 Conditions

The proponent will be required to comply with the following conditions:

CN1 Construction Environmental Management Plan

E1 Firefighting wastewater

E2 Leachate management

M1 Stormwater monitoring requirements

OP1 Operational Procedures Manual

OP5 Storage of finished compost and pine bark

OP7 Site hygiene and biosecurity

SW1 Perimeter drains and bunds

SW2 Stormwater

SW3 Design and maintenance of settling ponds

6.3 Noise emissions

6.3.1 Description

Noise emissions from the various components for the activity have the potential to cause environmental nuisance, including sleep disturbance, if not managed appropriately.

Noise emissions from construction activities will include those from excavators, cranes, delivery trucks, and renovation works to the existing buildings (e.g. grinding, banging etc.). According to the EER, construction activities will occur between 0700 hours and 1800 hours from Monday to Saturday.

During operation, the site will be staffed between 0400 hours and 1800 hours Monday to Saturday. During this period there will be multiple noise sources, including:

- Operation of the wheel loader (only after 0700 hours outdoors);
- Tunnel hall fans (to be switched off between 1800 hours and 0400 hours);
- Delivery of wastes (generally from 0600 hours);
- Movement of heavy and light vehicles on and off site (e.g. arrival of workers, deliveries of hazardous substances, removal of ammonium sulphate by-product etc.);
- Operation of fast roller doors when waste deliveries are being made;
- Operation of the trommel screen; and
- Operation of HVAC units for ventilation and heating.

The composting process itself will be running 24/7 on an automated system, which means the tunnel and biofilter fans will operate 24/7, but possibly intermittently.

According to the EER, existing noise emissions are dominated primarily by the Norske Skog paper mill and then traffic on Boyer Road and the Lyell Highway. It also notes that there are other small industrial activities which produce noise emissions located northwest of Norske Skog in the industrial zone.

The EER goes on to state that Norske Skog operates 24/7, including the delivery of logs and operation of loaders, with the woodchipper being the only component restricted to daytime use due to noise.

Furthermore, the EER notes that traffic on the Lyell Highway begins to build up from around 0400 hours and carries a significant traffic load each day.

The nearest sensitive receptor is identified as being 1124 Lyell Highway, approximately 520 m southeast of the site boundary. There are also at least another six sensitive receptors located within 1 km to the south of the site boundary, across the Derwent Estuary.

6.3.2 Management measures

The EER states that the following noise mitigation measures are proposed:

- All plant and equipment will be maintained in good order at all times, especially noise control equipment such as mufflers and exhaust pipes;
- Noise emissions will be considered when selecting new plant or equipment or engaging contractors to carry out work onsite;
- An on-site speed limit of 20 km/h or similar will be applied;
- Broadband style reversing beacons will be used on wheel loaders;
- Wheel loaders will not operate outside of the building earlier than 0700 hours;
- Tunnel Hall fans will not operate between 1800 hours to 0400 hours;
- Rapid closing doors will be maintained in good condition and utilised at all times; and

Unnecessary noises such as "dropping loads" or scraping loader buckets on the ground will be avoided where possible.

6.3.3 Public and agency comment and responses

No public representations or agency submissions were received in relation to noise emissions.

6.3.4 Evaluation

Included as Appendix G of the EER is a Noise Assessment Report. The report notes that the sound power levels assumed for the major noise sources are from similar equipment to that proposed for this activity.

Using the combined sound power levels, the Noise Assessment Report has estimated the noise levels likely to be experienced at the nearest sensitive receptor (1124 Lyell Highway). The Report states that the estimates are conservative due to the assessment not considering attenuation from ground and air absorption or shielding from topography or buildings. The Report assumes that the loader will not operate outside the building between 0400 to 0700 hours.

The Noise Assessment Report estimates the maximum sound pressure level at the nearest sensitive receptor would be 36.6 dB(A) during daytime and 24.8 dB(A) at nighttime. The Report goes on to state that both levels are well below the *Environment Protection Policy (Noise) 2009* indicator levels for outdoor living activities and sleep disturbance, as well as suggesting that these levels are likely to be below background noise levels during the hours of operation.

The EER and Noise Assessment Report do not fully consider noise related to construction. Noise emissions from construction are considered unlikely to be significant. These works will include some minor excavation(s), intermittent use of a crane to erect prefabricated panels for the tunnels and biofilters, worker / delivery vehicle movements and some general noise from refurbishment works.

Nevertheless, condition **CN1** requires the Proponent to consider management of noise emissions in the Construction Environmental Management Plan and condition **CN2** restricts the hours of operation for construction activities to between 0700 to 1800 hours Monday to Saturday. These conditions are considered adequate for managing noise emissions during the construction phase.

The statements made in the Noise Assessment Report and the proposed mitigation measures are generally supported.

Given the low likelihood of noise levels from the activity exceeding the existing background levels and that it is expected noise emissions from the activity will not be audible at any noise sensitive premises, it is not considered necessary to require a noise survey or impose specific noise limits for the activity. However, it is considered appropriate to impose condition **N1** which states that noise emissions from the activity must not be audible at any noise sensitive premises. This approach is considered more practical than issuing specific noise limits for the activity due to the high background noise levels in the area.

In the event that noise complaints were received in relation to the activity, condition **N2** would be triggered. This condition requires the Director to be notified of a noise complaint within 24 hours and an investigation to ensure that noise emissions are lower than background levels at the complainant property, as well as ensuring there are no dominant or intrusive noise characteristics from the activity. The condition also states that measurements must be made in accordance with the *Noise Measurement Procedure Manual*.

Condition **OP1** is relevant in that it requires the Proponent to detail the operational procedures required to ensure compliance with the conditions. This may reasonably include aspects related to the management of noise emissions, such as use of the loader and forklift, reversing tones, encouraging non-critical deliveries to be made in the daytime, roller door alarms etc., all of which can impact noise emissions. Condition **OP2** also sets the hours of operation for the activity, being 0400 to 1800 hours Monday to Friday.

Based on the information provided and the site surrounds, it is considered that noise emissions from the activity present a relatively low risk of causing environmental nuisance with the management measures proposed. In addition, the conditions imposed allow enough flexibility to manage any potential issues that may arise if complaints were received.

6.3.5 Conditions

The proponent will be required to comply with the following conditions:

CN1 Construction Environmental Management Plan

CN2 Operating hours – Construction

N1 Noise emissions

N2 Noise complaints

OP1 Operational Procedures Manual

OP2 Hours of operation and site staff

7. Evaluation of Other Environmental Issues

In addition to the key issues, the following environmental issues are considered relevant to the proposal and have been evaluated in this section:

1. Waste management
2. Natural values
3. Weed, pest and disease management
4. Dangerous goods and environmentally hazardous substances
5. Decommissioning and rehabilitation
6. Greenhouse gas emissions

7.1 General conditions

The following general conditions will be imposed on the activity:

G1 Access to and awareness of conditions and associated documents

G2 Proposed change to activity

G3 Incident response

G4 Change of ownership

G5 Complaints register

G6 Annual Environmental Review

G7 Environmental Management Plan and review thereof

G8 Notification prior to and on completion of commissioning phases

G9 Notification of commencement of operations

G10 Amendment of required plans and reports

G11 Change of responsibility

7.2 Issue 1: Waste management

7.2.1 Potential impacts

Inappropriate storage, handling, and disposal of waste, including compost, may contaminate soil, surface water or groundwater and may be odorous and aesthetically unpleasant. The proposal will be treating and reusing wastes, some of which are currently disposed of to landfill. These wastes include domestic food and garden organics (FOGO), commercial food organic wastes, aquaculture wastes, dairy wastes, poultry wastes, manures, abattoir paunch material, grease trap wastes, biomass from Norske Skog and food and beverage wastes.

Some of these waste materials are controlled wastes. Any compost not meeting required treatment standards as a consequence of the waste may also be deemed to be a controlled waste and have specific reporting and management requirements.

As some of the wastes contain restricted animal material (RAM), inappropriate storage of those wastes may pose a biosecurity risk and has the potential to spread diseases through beneficial use of the finished compost (e.g., landscaping).

There are also wastes collected from kerbsides as well as private businesses, and therefore a degree of contaminating material, such as plastics and metals, is inevitable. Such materials will require screening and separate disposal.

The majority of compost material produced is expected to be suitable for reuse, and therefore the waste generated by the proposal will be fairly minimal and in the form of general waste and waste oil.

7.2.2 Management measures proposed in the EER

The EER states that the following management measures will be implemented to ensure suitable handling and management of wastes:

- A community engagement plan will aim to educate organic waste producers to minimise contamination of compostable wastes with plastics and other non-compostable materials;
- Non-organic contamination of input wastes is approximately 3% of actual feed by volume. This amount will be further reduced by adding an additional picker at the Bridgewater facility before being transported to the Site.
- A wind sifting separation unit is proposed for decontamination of oversize material. The fully pasteurised oversized organic material can then be utilised as mulch, or alternatively, returned to the next batch of material to be composted as a recirculating load to maintain the structure of the composting pile.
- Waste or non-organic contamination accumulated through screening / decontamination is estimated at approximately 105 tonnes per annum and will be directed to landfill.
- A highly sophisticated, closed loop, controlled environment will be used for composting to ensure appropriate temperatures and pressures are attained to ensure sterilisation of compost. Compost will not be removed from the system until it has reached the appropriate ratings that indicate sterilisation.
- Leachate will not be added to the compost after the initial composting stage and will be fully contained within the leachate system.
- Composting systems will be running at a negative water balance (i.e. will need water inputs). Leachate will be immediately returned back to the compost, requiring limited storage, and reducing the chance of it entering the environment.
- Following the maintenance schedule to ensure proficient composting outputs.
- Material from site excavations will be reused in bunding and hard stand areas as per civil engineering design to eliminate excavation wastes.

- Re-use of existing shed and building to reduce building wastes.
- Operational wastes such as general waste and waste oils will be disposed of at landfill or transfer stations as appropriate along with the 105 tonnes / annum of FOGO decontamination.
- Biofilter media is expected to have an operating life of between 1.5 to 2 years if maintained appropriately. Once biofilter media has reached the end of its operating life it will be incorporated into the material to be composted.

7.2.3 Public and agency comment

No public representations were received in relation to waste management.

The Waste Levy and Data Team of NRE Tas noted that the proposed facility is likely to be a Class A Resource Recovery Facility (RRF) under the *Waste and Resource Recovery Act 2022* (the Act), which has specific reporting requirements under section 22 of the Act. They also noted that, should any of the materials, processed or unprocessed, be disposed of to landfill, they may be subject to the landfill levy.

They recommended that the Proponent contact the Waste Levy and Data Team to discuss recording and reporting arrangements for the proposed facility prior to commencing operation. This information was passed on to the Proponent, and it is understood they will contact the Waste Levy and Data Team in due course.

7.2.4 Evaluation

The management of incoming waste is critical to the success of the operation, particularly in relation to the management of odour emissions as discussed in Section 6.1 of this report.

Sorting of waste is an important factor to ensure that the operator can achieve the desired inputs to the composting tunnels. Condition **OP1** requires development of an Operational Procedures Manual which must detail the operational procedures that are in place to ensure the conditions can be met. This document is intended to include details on the inspection, sorting, and management of incoming waste.

It is acknowledged that the facility will operate 24 hours a day, 7 days a week (i.e., automated composting within the vessels). However, condition **OP2** requires that the facility is only open for the receipt of waste between 0400 hours and 1800 hours Monday to Saturday, and that while the site is open for the reception of waste, it must be staffed by a person or persons whose duties include supervision of the deposition of wastes and ensuring compliance with the permit conditions.

Condition **OP3** lists the wastes that can be accepted at the site. The condition provides scope for the Director to approve additional wastes to be added to the list detailed in **OP3**, should the Proponent present an acceptable case for this in the future.

To minimise odour and generation of contaminated stormwater, **OP4** requires all putrescible wastes received on The Land to be stored within the composting facility building (i.e. the parts of the facility under negative pressure and where air is captured and treated through the odour control system) and to be processed (i.e. mixed and placed in a tunnel) within 24 hours of being received.

Condition **OP5** requires pine bark and finished compost to be stored on the designated hardstand areas. While the level of contamination is considered to be low in finished compost (e.g., plastics that may not have been removed initially) there is potential for litter to be generated. Condition **OP10** requires a Litter Management Plan to be developed and submitted to the Director for approval, which must detail the measures that will be implemented to control and monitor the escape of litter from The Land.

Condition **OP6** states that any compost not meeting the pasteurisation standards of *Australian Standard AS 4454: 2012 Composts, soil conditioners and mulches* (AS 4454: 2012) must either be disposed of at a facility authorised to accept the waste or placed back in a composting tunnel for further treatment within 24 hours.

Several solid waste streams will also be produced from incoming waste including plastics, metals, and other miscellaneous wastes. The EER states that non-organic contamination of input waste is likely to be around

3%, but this will be reduced by adding another picker at the Bridgewater facility operated by the proponent prior to it being transported to this facility.

There are a number of requirements in relation to recording and reporting the quantities of wastes received on The Land and disposed of to landfill. Condition **WD1** requires submission of a report to the Director detailing the quantity of wastes disposed of to landfill each year, this may include compost that did not meet the pasteurisation standards of AS 4454-2012 or any other wastes generated on The Land. Condition **WD2** requires that records of all controlled wastes received or generated on The Land are kept. Condition **WD3** requires the Proponent to report the amount of waste received on The Land, as per the categories specified in **OP3**, monthly to the Director.

In addition, **LO3** provides information regarding obligations under the *Waste and Resource Recovery Act 2022* and **LO4** notes authorisation requirements for the transport of controlled wastes under EMPCA. **OI1** provides details on the waste management hierarchy under best practice environmental management principles.

The proposed management measures and conditions imposed are considered appropriate to manage any potential risk of environmental harm from waste management. The primary issue with organic waste management (odour) is covered in the air quality section of this report.

7.2.5 Conditions

The proponent will be required to comply with the following conditions:

OP1 Operational Procedures Manual

OP2 Hours of operation and site staff

OP3 Receivable wastes

OP4 Storage of waste

OP5 Storage of finished compost and pine bark

OP6 Disposal of compost

OP10 Litter Management Plan

WD1 Waste data reporting

WD2 Record of controlled wastes

WD3 Reporting of wastes received

Other information:

LO3 *Waste and Resource Recovery Act 2022* obligations

LO4 Controlled waste transport

OI1 Waste management hierarchy

7.3 Issue 2: Natural values

7.3.1 Potential impacts

Construction works have the potential to disturb, injure or kill threatened flora and fauna species and vegetation communities if not managed appropriately. In addition, the movement of vehicles and machinery on and off-site, particularly during the night-time period, has the potential to increase the risk of injury or death of threatened fauna species during both construction and operation of the facility.

The EER notes that a search of the Natural Values Atlas and Protected Matters was undertaken in January 2023. It states that no listed species or communities were identified as being within the site, however, several threatened species and vegetation communities were identified as likely being present in the surrounding area, including within the River Derwent Marine Conservation Area (see section 4.4 of the EER). It is considered likely that some of these fauna species may potentially travel through the site from time to time. The EER identified that there are observations from along Boyer Road of Tasmanian devil (*Sarcophilus harrisii*) roadkill.

According to the EER the site is located on a partly cleared industrial area but notes that a small area of partially native vegetation (0.2 ha) comprising small shrubs and grasses will require removal as part of the proposal. A number of native trees of varying sizes across the site have not been identified as requiring removal, although the proposed management measures indicate some potential for this to occur.

The EER states that no natural values survey was considered necessary given the brownfield nature of the site and lack of natural values on the site. Nevertheless, it did state the main risk to natural values is from roadkill due to the increase in traffic volumes and emissions to the aquatic environment.

Furthermore, the EER notes the Lower Derwent River Estuarine Delta and Flood Plain geoconservation area, which is of state significance, is located 350 m downstream of the site and extends approximately 12.5 kms down the Derwent Estuary.

7.3.2 Management measures proposed in the EER

The EER states that the following management measures will be implemented to ensure minimal impact to natural values:

- Limiting waste deliveries and finished product dispatches to between 6 am and 6 pm, where practicable.
- Encouraging dispatch and delivery drivers to visit the site during daylight hours.
- Limiting on-site speed limits to 20 km/h.
- Ensuring traffic volumes do not increase from current volumes between dusk and dawn by more than 10%, to ensure minimal change to roadkill risk from current levels of traffic to the site.
- Prioritising transport to / from Boyer rather than Interlaken to reduce roadkill risk on these roads.
- The Conservation Assessment Section of NRE Tas (CAS) will be contacted for further advice if:
    - Any potential devil dens are observed within the development area; and
    - Any tree with a diameter at breast height (DBH) greater than 100 cm is to be removed, to minimise any potential impact to masked owls.
- If any tree with a DBH greater than 70 cm is to be removed, it will be checked for hollows for swift parrot.
- Following the recommendations made in the noise assessment to reduce potential impacts to noise sensitive species:
    - All plant and equipment will be maintained in good order at all times, especially noise control equipment such as mufflers and exhaust pipes;
    - Noise control issues will be considered when selecting new plant or equipment or engaging contractors to carry out work onsite;

- An on-site speed limit of 20 km/h will be applied;
- Broad-band style reversing beacons will be used on wheel loaders;
- Wheel loaders will not operate outside of the building earlier than 7 am;
- Rapid closing doors will be maintained in good condition and utilised at all times; and
- Unnecessary noises such as 'dropping loads' or scraping loader buckets on the ground will be avoided.

- Development of a CEMP to ensure contaminated soil and water does not enter receiving environments.
- To minimise impacts to aquatic environments:
  - Installation of a stormwater collection system, drainage control measures such as cut-off drains and sediment settling ponds as described in section 4.2.3 of the EER to reduce potential contamination from composting entering offsite discharge;
  - Excess stockpiles will be relocated to other processing facilities such as Interlaken; and
  - Stormwater collection systems will be designed and built to collect quantities of water for 2% AEP events.
- Ensuring minimal vegetation clearance. Construction of the facility will only require removal of a small area (<0.2 ha) native vegetation; and
- Revegetation of unused areas with native vegetation to minimise weed spread, reduce stormwater runoff, and replace vegetation that may be affected by development.

7.3.3 Public and agency comment

No public representations were received in relation to natural values.

In general, CAS supported the proposed management measures outlined in section 4.4.3 of the EER.

CAS noted that the definition for night-time has been updated and that the Proponent needs to be aware of the change. Night-time is now defined as the period from one hour before sunset to one hour after sunrise.

CAS queried how delivery drivers will be encouraged to visit the site during daylight hours and recommended that the operator undertake regular education and awareness training for drivers associated with the development.

7.3.4 Evaluation

It is noted that The Land is already an operating pine bark screening, processing, and storage facility and that only a small section of partially native vegetation will require clearance (0.2 ha) for installation of the composting tunnel vessels and biofilters, meaning that there is unlikely to be any significant impact on flora and fauna from the proposal.

Nevertheless, as previously noted there are native trees of varying sizes across the site which are not included in the area required for construction of the tunnels and biofilters. These trees should not be cleared or disturbed and it is considered appropriate to impose condition **FF1**, which restricts vegetation clearance (unless otherwise approved by the Director) to the 0.2 ha of partially native shrubs and grasses required for construction of the tunnels and biofilters, as detailed in the EER. In addition, the condition requires delineation, with a visible barrier, of the interface between the proposed clearing and other native vegetation on The Land.

Condition **CN1** also requires consideration of flora and fauna management in the Construction Environmental Management Plan (CEMP). It would be reasonable to expect that the proposed method for delineating areas not to be cleared or disturbed during construction work will be detailed in the CEMP.

It is noted that conditions relating to other issues, for example water quality, are relevant to managing the potential impacts on natural values, such as the Lower Derwent River Estuarine Delta and Flood Plains and the River Derwent Marine Conservation Area.

The closed loop nature of the activity means that there will be no liquid discharges to the environment from the activity itself. Stormwater leaving The Land is not treated as part of the existing activity, therefore the proposed upgrade of stormwater infrastructure and the addition of a retention basin and sediment settlement ponds, along with a slightly reduced (compared to current) discharge means that the likelihood of any additional impact to the surrounding natural values is low.

As noted, the main risk to natural values is from nighttime traffic. The EER states that there will be a slight (<10%) increase in the number of heavy vehicles during the night-time period. The EER also notes that the total increase in vehicle movements as part of the proposal will be less than 10%.

The proposed management measures are generally supported. It is recommended that the Proponent develop a driver education and awareness training system to ensure that drivers associated with the proposal are regularly reminded of the practices they can implement to reduce the likelihood of roadkill when travelling during the night-time period.

7.3.5 Conditions

The proponent will be required to comply with the following conditions:

CN1 Construction Environmental Management Plan

FF1 Removal of vegetation

7.4 Issue 3: Weed, pest and disease management

7.4.1 Potential impacts

There are several aspects to weed, pest, and disease management for the activity which need to be managed appropriately.

Initially there is potential for transport of weed propagules and pathogens to the site during construction works, with newly disturbed areas particularly at risk for establishment of weed infestations, which could potentially contaminate the finished outdoor compost stockpile.

During operation of the activity, wastes received have the potential to carry weed propagules or pathogens. The composting process therefore needs to ensure that appropriate treatment of waste is achieved, in accordance with the Australian Standard 4454-2012: *Composts, soil conditioners and mulches* (AS 4454-2012) to avoid spread of weeds or pathogens offsite via the compost produced.

Pest animals may also be attracted to the wastes, with potential to carry and spread diseases.

7.4.2 Management measures proposed in the EER

According to the EER, a weed and disease management plan will be developed for the site in accordance with the NRE Tas (2015) *Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania*.

In addition, the EER lists the following specific management measures for weeds:

- Treatment and removal of any weed species identified on the site;
- Disturbed soils during construction will be contained and managed as detailed in the Construction Environmental Management Plan (CEMP);
- Hygiene measures, such as washdown of equipment that may carry weeds or diseases will be followed; and
- Disturbed areas will be revegetated with native species to reduce potential for weeds to establish.

The EER also lists the following specific management measures for pests and pathogens:

- Wastes will be unloaded in the Receival Hall, restricting access by pests;
- If pests do enter the tightly sealed building, a pest management regime will be implemented;
- The maintenance schedule detailed in Appendix B will be applied to ensure the facility runs as designed;
- An automated control system is used for the composting process, which means accidental changes to the process which could impact the quality of the compost are unlikely to occur.
- The designers will visit / remote access the facility regularly to ensure it is working as designed.
- The composting practices will be in accordance with the requirements of the Australian Standard 4454-2012: *Composts, soil conditioners and mulches* (AS 4454-2012). This will help ensure any weed propagules or pathogens are adequately treated.
- Provisions listed under AS 4454-2012 for the containment of diseases include:
    - Processing requirements for ensuring pasteurisation is achieved;
    - Testing of finished products for plant propagules and pathogen indicators (as shown in Table 11 of the EER) where "high risk" materials such as RAM are used in the composting process; and
    - Labelling requirements for the finished product as detailed in section 5 of AS 4454-2012, plus the inclusion of the provisions from Appendix 5 of the Australian Ruminant Feed Ban National Uniform Guidelines, which comprise:
        - information about the restriction to feed ruminant animals;
        - the requirement to restrict access to the product by ruminant animals; and

- the grazing withholding period for application in a pasture paddock used for grazing ruminant animals.

7.4.3 Public and agency comment

No public representations were received in relation to weed, pest and disease management.

In general CAS supported the proposed management measures outlined in section 4.5.3 of the EER.

7.4.4 Evaluation

As noted above, weed, pest and disease management are important for the activity to manage to ensure that compost produced meets the requirements of the Australian Standard. In addition, selling compost that may be contaminated with weed propagules or pathogens has the potential to spread them offsite and impact the businesses reputation.

The measures proposed in the EER are considered reasonable and are generally supported.

Condition **CN1** requires a CEMP which amongst other things must address weed, pest, and disease management during the construction phase.

Condition **OP1** requires a set of operational parameters to be approved by the Director, partly to ensure that the operational procedures and parameters are compliant with the permit conditions, and that in turn the final compost meets the applicable pasteurisation standards of AS 4454-2012, thus reducing the risk of any weed propagules or pathogens being present in finished compost.

Conditions **OP4** and **OP6** are relevant to this issue. **OP4** requires putrescible wastes to be stored within the composting facility building and to be processed within 24 hours of being received. **OP6** states that any compost not meeting the pasteurisation standards of AS 4454-2012 must within 24 hours be either disposed of at a facility authorised to accept the waste or placed back in the composting tunnel(s) for further treatment.

While the EER states that any vehicles, plant, and equipment brought to the site which may potentially be contaminated with weed propagules or pathogens will be washed down prior to entering The Land, the EER does not discuss the need for washdown facilities to allow delivery trucks to clean their vehicles. Condition **OP7** is therefore imposed requiring that washdown facilities are provided on The Land and that any washdown water must be collected by the leachate collection system.

Condition **OP8** requires The Land be kept substantially free of weeds. While the site is largely comprised of buildings and hardstands, the waste received, and the product produced for public sale means weed and disease management is relatively important for the activity. The EER proposes to develop a weed and disease management plan, and this is required under condition **OP9**.

7.4.5 Conditions

The proponent will be required to comply with the following conditions:

CN1 Construction Environmental Management Plan

OP1 Operational Procedures Manual

OP4 Storage of waste

OP6 Disposal of compost

OP7 Site hygiene and biosecurity

OP8 Weed management

OP9 Weed Management Plan

7.5 Issue 4: Dangerous goods and environmentally hazardous substances

7.5.1 Potential impacts

Inappropriate storage, handling, and disposal of environmentally hazardous substances, including fuels, oils and chemicals can lead to spills and leaks which may contaminate soil, surface, and ground water. Spills of these substances may cause harm to flora and fauna, particularly in aquatic environments. These risks can be easily mitigated by standard management practices such as using suitable storage vessels, impervious bunding and employing correct handling and disposal options.

Section 4.7 of the EER details the hazardous substances that will be used on site during the construction and operational phases of the proposal. During construction there will be liquefied gases for steel fabrication, up to 100,000 litres of diesel for refueling and lubricants for servicing machinery and equipment. During the operational phase, in addition to the diesel, there will be sulphuric acid and ammonium sulphate stored onsite.

These materials have the potential to cause water quality and / or odour impacts if not appropriately handled and stored.

7.5.2 Management measures proposed in EER

Management measures proposed in the EER for the different phases of the proposal to mitigate risks from storage and handling of dangerous goods and environmentally hazardous substances include:

- A register of hazardous substances / dangerous goods will be maintained throughout construction and operations.
- Induction for all workers will include instruction on the safe handling, storage, and use of hazardous substances / dangerous goods.
- Dedicated areas away from waterways will be established for mobile plant refuelling (diesel) and maintenance and will be equipped with appropriate spillage control measures and in accordance with relevant regulations.
- Diesel will be stored in an above ground tank within a shed and bunded in accordance with relevant regulations.
- Hydrocarbon-based products will be stored in well-ventilated area on self-bunded pallets.
- Spill kits will be located across the site for ready access.
- Design and operation of storage / handling facilities for sulphuric acid and ammonium sulphate will be established according to the relevant Australian Standards and aligned to EPA *Bunding and Spill Management Guidelines 2015*.
- As a minimum sulphuric acid will be stored in a self-bunded tank to be contained within a bunded / drained enclosure adjacent to the biofilter.
- Notification / registration as a Manifest Quantity Workplace with Worksafe Tasmania will be undertaken if the quantity of sulphuric acid stored on site exceeds the designated limit.
- All other hazardous substances will be managed in accordance with relevant Safety Data Sheet requirements.

7.5.3 Public and agency comment

No public representations or agency submissions were received in relation to dangerous goods or environmentally hazardous substances.

7.5.4 Evaluation

The management measures proposed in the EER are considered appropriate for managing environmentally hazardous substances. The following conditions are imposed to reflect those management measures.

Condition **H1** requires spill kits appropriate for the types and volumes of hazardous materials used / stored on The Land to be kept at appropriate locations and maintained in functional condition to assist with containment of any spills that occur on The Land.

Condition **H2** require all environmentally hazardous materials held on The Land to be kept within containment systems such as impervious bunded areas or spill trays, appropriate to the volume of material. In addition, condition **H3** stipulates the minimum requirements when using mobile refueling equipment on The Land, this which will primarily apply to the construction phase of the proposal.

LO2 is included which provides information on the Proponent's responsibilities under relevant legislation relating to hazardous materials including the *Work Health and Safety Act 2012* and any subordinate legislation.

7.5.5 Conditions

The proponent will be required to comply with the following conditions:

H1 Spill kits

H2 Storage and handling of hazardous materials

H3 Handling of hazardous materials – mobile

Additional information:

LO2 Storage and handling of dangerous goods, explosives, and dangerous substances

7.6 Issue 5: Decommissioning and rehabilitation

7.6.1 Potential impacts

Potential impacts from a poorly decommissioned site include safety, biosecurity, water quality and visual impacts from equipment or wastes, compost, chemicals, hydrocarbons, or other wastes being left on site. Poorly decommissioned and rehabilitated sites may also limit future uses of the land.

7.6.2 Management measures proposed in the EER

Management measures proposed in the EER for decommissioning and rehabilitation include:

- Notifying the Director of cessation of the activity.
- Providing a decommissioning and rehabilitation plan within 30 days of notification.
- Dismantling and removal of the main building and supporting infrastructure from the Project site (unless otherwise agreed by the purchaser).
- Continuing to apply quarantine procedures for management of all biosecurity risk wastes.
- Rehabilitating the land to ensure that it is left in a better state than originally obtained. This may involve contouring, waste removal, site contamination investigation, validation, surface sealing for provision of a separation if identified to be needed, and landscaping.

7.6.3 Public and agency comment

No public representations or agency submissions were received in relation to decommissioning and rehabilitation.

7.6.4 Evaluation

The management measures proposed in the EER in the event of temporary or permanent cessation of the activity are considered appropriate and are generally supported. In the event of permanent decommissioning of the activity the person responsible will be required to develop a Decommissioning and Rehabilitation Plan which will detail the specific actions that will be undertaken to rehabilitate the site.

Conditions **DC1** and **DC2** set out the requirements for when either temporary suspension or permanent cessation of the activity is proposed respectively. Temporary suspension of the activity may require submission of a Care and Maintenance Plan to detail how the potential environmental impacts will be managed to prevent environmental harm or nuisance. Permanent cessation triggers condition **DC3** which requires submission of a Decommissioning and Rehabilitation Plan for the Director's approval. Condition **DC4** is also triggered on permanent cessation and sets out the broad steps that must be undertaken upon permanent cessation of the activity, including implementation of an approved DRP.

7.6.5 Conditions

The proponent will be required to comply with the following conditions:

DC1 Temporary suspension of activity

DC2 Notification of cessation

DC3 DRP requirements

DC4 Rehabilitation following cessation

7.7 Issue 6: Greenhouse gas emissions

7.7.1 Potential impacts

Section 4.10 of the EER advises that overall, the proposal has the potential to have a positive impact on climate change by providing a local facility to compost organic wastes, which would otherwise be disposed of to landfill or transported further distances to composting or recycling facilities.

Landfill disposal of organic wastes creates gases such as methane which, as a greenhouse gas is significantly more harmful than carbon dioxide. The EER notes that in-vessel composting is more energy and fuel efficient than open windrow composting, which typically requires diesel powered vehicles to turn the windrows.

The EER also considers the potential impacts of climate change on the proposal, including the predicted increased intensity of rainfall events, increased risk of fire events and sea level rise. The EER concludes that the site selected poses a low risk from the effects of climate change, including flooding, with the site located 20 m above and sloping downhill towards the Derwent Estuary. The fire risk from vegetation on the site is considered manageable.

7.7.2 Management measures proposed in the EER

Measures proposed in the EER to manage greenhouse gas emissions and climate change include:

- The site stormwater system is designed to consider climate change-induced rainfall events and increased intensity / volumes.
- The impacts of increased and more prolonged high temperature events are minimised by the use of an enclosed humidity-controlled composting system. The system is expected to result in better control of temperature and reduced water usage compared to a traditional open windrow composting system.

7.7.3 Public and agency comment

No public representations were received in relation to greenhouse gas emissions.

During early stakeholder consultation on this proposal the Renewables, Climate and Future Industries Tasmania branch of the Department of State Growth provided support for the project noting that by diverting approximately 52,000 tonnes of organic waste from possible landfill disposal the proposal will avoid around 77,000 tonnes CO_2-e per year if operating at full capacity (note that these figures were from an initial estimate, the actual proposed waste quantity in the final EER is around 26,000 tonnes / year).

7.7.4 Evaluation

The proposal overall has the potential to reduce greenhouse gas emissions by approximately 38,500 tonnes CO_2-e per year, which is supported. The management measures proposed to address potential climate change impacts are appropriate and reasonable with respect to the proposal.

7.7.5 Conditions

No conditions are considered necessary in relation to greenhouse gas emissions.

Issues not assessed by the Board

The following issue was raised during the assessment process but is not the responsibility of the Board under the EMPCA and is therefore more appropriately addressed by another regulatory agency.

7.8 Other issue: Fire risk

7.8.1 Potential impacts

Fire occurring within the facility or as a wildfire in the vegetated areas surrounding the site poses a risk to worker safety, the facility, and natural values.

7.8.2 Management measures proposed in the EER

The EER notes that water runoff from roofed areas will be directed to two 40,000 litre water tanks associated with a fire-fighting system. In addition, it notes that maturing compost piles will be accessible to four-wheel drive water carrying vehicles if required.

The EER also states that a fire management plan is being prepared so that emergency response facilities are located on the site to respond to a fire.

7.8.3 Public and agency comment

PWS did note that there is a threatened vegetation community (*Eucalyptus tenuiramis* forest and woodland on sediments) located approximately 100 m northwest of the site and that a fire at the site could potentially impact on this vegetation community. However, PWS also acknowledges that this issue lies outside its authority, as it does not include land managed by PWS.

7.8.4 Conclusion

Fire risk is not within the Board's remit to assess, however, the proposed management measures are generally supported.

To manage the potential environmental risks associated with fires, conditions **E1** and **OP12** are imposed.

Condition **E1** requires that any potentially contaminated water arising from a firefighting must be managed to prevent the unauthorised discharge of pollutants beyond the boundary of The Land.

Furthermore, condition **OP12** states that:

- fire control measures on The Land must be to the written satisfaction of a certified bushfire hazard practitioner (the Tasmanian Fire Service no longer does these certifications);
- fires occurring on The Land must be extinguished as soon as possible;
- the lighting of fires on The Land is not permitted; and
- the person responsible must make all reasonable efforts to prevent unauthorised ignition of any organic matter on The Land, such as the pine bark stockpile.

The proponent will be required to comply with the following conditions:

E1 Firefighting wastewater

OP12 Fire management

8. Report Conclusions

This assessment has been based on the information provided by the proponent, BG & JM Barwick Pty Ltd, in the permit application, the case for assessment (the EER), and additional information provided.

This report incorporates specialist advice provided by EPA scientific and regulatory staff, the Department of Natural Resources and Environment Tasmania, and other government agencies.

It is concluded that:

1. the RMPS and EMPCS objectives have been duly and properly pursued in the assessment of the proposal; and
2. the assessment of the proposal has been undertaken in accordance with the Environmental Impact Assessment Principles; and
3. the proposal is capable of being managed in an environmentally acceptable manner such that it is unlikely that the RMPS and EMPCS objectives would be compromised, provided that the Permit Conditions - Environmental No. 11323 appended to this report are imposed and duly complied with.

Report Approval

Environmental Assessment Report and conclusions, including environmental conditions, adopted:

ANDREW PAUL

CHAIRPERSON, BOARD OF THE ENVIRONMENT PROTECTION AUTHORITY

Meeting date: 30 July 2024

9. References

Pitt & Sherry (2024) *Barwick's In-Vessel Composting Facility - Environmental Effects Report,* dated 25 January 2024 and prepared by Pitt & Sherry (Operations) Pty Ltd.

10. Appendices

Appendix 1 Summary of agency submissions

Appendix 2 Table of proponent management measures

Appendix 3 Permit conditions – environmental No. 11323

Appendix 1: Summary of agency submissions

Table 1: Matters raised during public consultation period

Representation / Agency	Comments and Issues	Further Information Requested	EPA Comments
The Waste and Levy and Data Team of NRE Tas	The Waste and Levy and Data team (WLD) provided the following comments: • The Proponent is currently involved in two Class A Resource Recovery Facilities (RRF) under the *Waste and Resource Recovery Act 2022* (the Act), both of which report resource recovery data as required under s.22 of the Act. • The in-vessel composting facility is proposed to accept a maximum quantity of 26,000 tonnes of waste per annum, indicating the facility will be classified as a Class A Resource Recovery Facility. • Should any of the materials, processed or unprocessed, be disposed of in landfill, it may be subject to the landfill levy. A partial rebate on the levy may be available. • Given the Proponent currently operate a separate Class A RRF, they should be aware of their obligations under the Act, however it may be prudent to remind them. • It is recommended that the Proponent contact the Waste Levy and Data Team to discuss their recording and reporting arrangements for the proposed facility prior to commencing operation.	No	The comments were passed onto the Proponent recommending that they contact the Waste Levy and Data Team.
TasRail	TasRail indicated that while it had no objection to the proposal, it did potentially have concerns in relation to water run-off. TasRail requested clarification as to whether the proposed development will result in more or less runoff leaving the site, compared to the current pine bark activity, noting that the current discharge drains over/under their rail line within the Norske Skog site.	Yes	Further details were informally requested in relation to the stormwater flow path through the Norske Skog site. It is understood Council also requested details in an RFI and this has been addressed by the Proponent.
Parks & Wildlife Service	• PWS noted that odour modelling figures indicate odour units of between 2 and 3 are anticipated over a section of the River Derwent Marine Conservation Area (the MCA). PWS stated that an objective for the management of the MCA is recreation	Yes	Further information was informally requested from the Proponent to discuss the potential impacts of odour on recreational values within the MCA.

Representation / Agency	Comments and Issues	Further Information Requested	EPA Comments
	values, which have not been considered in the EER. • PWS requested a discussion of how odour may impact recreational values within the MCA. • PWS noted that potential impacts on the MCA from stormwater, noise and fire appears to be negligible and/or manageable. • PWS did raise concerns about the potential impacts of wildfire on a nearby threatened vegetation community and supported the development of a robust fire management plan, noting that the land referred to is not under the management of the PWS.		This additional advice is discussed in issue 6.1 of this report.

Appendix 2: Table of proponent management measures

Table 2: Proponent management measures (Section 5 – Part D of the EER)

Number	Action	Timing
Air Quality		
1	Effective design, construction, and operation of the central air treatment system, which includes maintaining the building and composting tunnels at negative air pressure, and use of a scrubber and biofilter.	Design, construction and operation
2	Effective waste and compost handling to reduce odours, including minimisation of excess stockpiles and stockpiling of most materials inside.	During operation
3	Re-use of leachate in composting process.	Design and operation
4	Implementation of measures to prevent anaerobic conditions including following maintenance measures and use of the PLC.	Design and operation
5	Power outages and equipment failures will be managed through regular inspection of critical components, spare parts kept on site, use of a fourth tunnel in the event one tunnel experiences a failure, and the ability to divert compost / wastes to other Barwick facilities.	Design and operation
6	Maintenance of the biofilter to provide effective working conditions (refer to Monitoring Biofilter Health in Appendix E).	During operation
7	Prevention of dust by irrigation of external stockpiles, and watering roads and hardstands during dry conditions and construction. Construction works to be carried out under a CEMP.	During construction and operation
Water Quality		
8	Preparation and implementation of a stormwater management plan.	Design and construction
9	Implementation of the maintenance schedule for the composting tunnels to ensure the leachate capture and recirculation system works sufficiently.	During operation
10	Implementation of the maintenance schedule for the air treatment system to ensure ammonium sulphate is collected and sent to offsite disposal whenever necessary.	During operation
11	Implementation of the maintenance schedule for the stormwater system including monitoring.	During operation
12	Implementation of contingency plans / designs for upset conditions.	During operation
13	Stormwater monitoring in retention basin.	During operation
14	Use of pine bark to absorb water and reduce inflow to the retention basin.	During operation
Noise Emissions		
15	All plant and equipment will be maintained in good order at all times, especially noise control equipment such as mufflers and exhaust pipes.	During operation
16	Noise control issues will be considered when selecting new plant or equipment or engaging contractors to carry out work onsite.	During operation

Number	Action	Timing
17	An on-site speed limit of 20 km/h or similar will be applied.	During operation
18	Broadband style reversing beacons will be used on wheel loaders.	During operation
19	Wheel loaders will not operate outside of the building earlier than 7 am.	During operation
20	Rapid closing doors to be maintained in good condition and utilised at all times.	During operation
21	Unnecessary noises such as "dropping loads" or scraping loader buckets on the ground will be avoided.	During operation
Natural Values		
22	Limiting the majority of waste deliveries / finished product dispatches prior to 6 am or post 6 pm, where practicable.	During operation
23	Encouraging deliveries and dispatches to occur between dawn and dusk to limit risk to roadkill.	During operation
24	Prioritise transport to / from Boyer rather than Interlaken to further reduce roadkill risk.	During operation
25	Following recommendations in noise assessment to reduce impacts to sensitive fauna.	During operation
26	Development of a CEMP to ensure contaminated soil and water does not enter receiving environments.	During construction
27	Installation of stormwater collection systems, drainage control measures such as cut-off drains and sediment settling ponds.	During construction
28	Excess stockpiles will be relocated to other processing facilities such as Interlaken.	During operation
29	Stormwater collection systems will be designed and built to collect quantities of water for 2% AEP events.	Design and planning
30	Ensure minimal vegetation clearance for the facility.	During construction
31	Revegetation of unused areas with native vegetation.	During construction and operation
Weeds, pests, and pathogens		
32	Ensure composting process continues to work effectively through maintenance and site visits from design engineers.	During operation
33	Ensure composting process works effectively and that the final product is free of weeds and disease by meeting the requirements of AS 4454-2012, including processing requirements for pasteurization, testing of the finished product, and labelling requirements. Where compost includes RAM, the additional measures from AS 4454-2012 for "high risk" wastes must also be met, including testing for plant propagules and pathogen indicators and further labelling requirements, including the provisions from the ARFB National Uniform Guidelines.	During operation
34	Unloading wastes within the Receival Hall.	During operation
35	Development of a weed and disease management plan establishing hygiene measures such as washdown of equipment that may have been exposed to weeds or diseased vegetation. A pest management regime will be developed if pests such as rodents enter the tightly sealed building.	During operation

Number	Action	Timing
36	Treating and removing weed species from the Project site.	During operation
37	Careful containment of disturbed soil under a CEMP.	During construction
38	Re-vegetating disused areas with native vegetation to minimise weed spread.	During operation
39	Monitoring and treatment of any new weed incursions.	During operation
Wastes		
40	Compost will not be removed from the system until it has reached the appropriate ratings that indicate sterilisation.	During operation
41	Leachate will not be added to the compost post initial composting stage.	During operation
42	Composting systems will be running at a negative water balance (i.e. will need water inputs). Leachate will be immediately returned back to the compost, requiring limited storage or chance of entering the environment.	During operation
43	Implementation of the maintenance schedule.	During operation
44	Re-use of existing shed and building to reduce building wastes.	During construction
45	Contaminants from secondary trommel screening / wind sifting operations (i.e. non-organic contaminants) will be removed and disposed to landfill.	During operation
46	Reuse of expired biofilter media and leachate screen oversize in the composting process.	During operation
Environmentally Hazardous Materials		
47	A register of hazardous substances / dangerous goods will be maintained throughout construction and operations.	During operation
48	Induction for all workers will include instruction on the safe handling, storage, and use of hazardous substances / dangerous goods.	During operation
49	Dedicated areas away from waterways will be established for mobile plant refuelling and maintenance, equipped with appropriate spillage control measures.	Design and planning
50	Hydrocarbon-based products will be stored in well-ventilated area on self-bunded pallets.	During operation
51	Spill kits will be located across site for ready access.	On Commissioning
52	Design and operation of storage / handling facilities for sulphuric acid and ammonium sulphate will be established according to relevant Australian standards and aligned to EPA *Bunding and Spill Management Guidelines 2015*.	Design and planning
53	As a minimum sulphuric acid will be stored in a self-bunded tank within loading / unloading operations to be conducted within a bunded / drained enclosure.	Design and planning
54	Notification / registration as a Manifest Quantity Workplace with Worksafe Tasmania will be undertaken if the quantity of sulphuric acid stored on site exceeds the designated limit.	On Commissioning
55	All other hazardous substances will be managed in accordance with relevant Safety Data Sheet requirements.	During operation
Site Contamination		

Number	Action	Timing
56	All sediment runoff during excavation works should be managed through appropriate sediment control measures, such as silt fences and silt traps. These measures should be included and managed under a CEMP.	During construction
57	Runoff water should be diverted into an appropriate stormwater management system.	Design and planning
58	The mixed operational waste at the site should be removed and disposed of appropriately.	During construction
Environmental Impacts of Traffic		
59	An on-site speed limit of 20 km/h or similar will be applied.	During operation
60	Additional truck movements will occur from 6 am to 6 pm, where practicable.	During operation
61	Dust will be managed on site under a CEMP to minimise dust emissions from traffic on car parks and gravel roads during construction.	During construction
Greenhouse Gas Emissions and Climate Change		
62	Increased intense rainfall events along with climate change induced rainfall increases are considered in the design of the site's stormwater system.	Design and planning
63	Increased and more prolonged high temperature events are minimised by the use of an enclosed humidity-controlled production system. The system is expected to result in better control of temperature and reduced water usage compared to the traditional open windrow system.	Design and planning

Appendix 3: Permit conditions – Environmental No. 11323

PERMIT PART B
PERMIT CONDITIONS - ENVIRONMENTAL No. 11323

Issued under the *Environmental Management and Pollution Control Act 1994*

Activity: **The operation of a composting facility (ACTIVITY TYPE: Resource Recovery)**
BOYER IN VESSEL COMPOSTING FACILITY, 1277 BOYER ROAD BOYER TAS 7140

The above activity has been assessed as a level 2 activity under the *Environmental Management and Pollution Control Act 1994*.

Acting under Section 25(5)(a)(i) of the EMPCA, the Board of the Environment Protection Authority has required that this Permit Part B be included in any Permit granted under the *Land Use Planning and Approvals Act 1993* with respect to the above activity.

Municipality: **DERWENT VALLEY**
Permit Application Reference: **DA 2023/158**
EPA file reference: **22/8154**

Date conditions approved: 30 July 2024

Signed: 

CHAIRPERSON, BOARD OF THE ENVIRONMENT PROTECTION AUTHORITY

DEFINITIONS

Unless the contrary appears, words and expressions used in this Permit Part B have the meaning given to them in **Schedule 1** of this Permit and in the EMPCA. If there is any inconsistency between a definition in the EMPCA and a definition in this Permit Part B, the EMPCA prevails to the extent of the inconsistency.

ENVIRONMENTAL CONDITIONS

The person responsible for the activity must comply with the conditions contained in **Schedule 2** of this Permit Part B.

INFORMATION

Attention is drawn to **Schedule 3**, which contains important additional information.

Table Of Contents

Attachments

Schedule 1: Definitions

In this Permit Part B:-

Activity means any environmentally relevant activity (as defined in Section 3 of EMPCA) to which this document relates and includes more than one such activity.

Air Quality EPP means the *Environment Protection Policy (Air Quality) 2004*, made under section 96K of EMPCA.

audible means a sound that can be heard.

Authorized Officer means an authorized officer under section 20 of EMPCA.

Background Noise Level ($L_{A90,T}$) is the level that is exceeded 90% of the time for each measurement interval when measured in the absence of the subject site noise.

cold commissioning means the phase of commissioning where testing of the functions and operation of the facility occur without the presence of waste material.

commencement of construction activities means any activities associated with the construction phase of the activity, including but not limited to, preparation earthworks and refurbishment of existing infrastructure.

commencement of operations means when the commissioning phases have been completed and full unrestricted operation of the activity commences.

completion of commissioning means when the commissioning performance testing phase has demonstrated that the facility is operating as specified.

composting facility building means those parts of the facility under negative pressure and where air is captured and treated through the odour control system.

Controlled Waste has the meaning described in Section 3(1) of EMPCA.

Director means the Director, Environment Protection Authority holding office under Section 18 of EMPCA and includes a delegate or person authorised in writing by the Director to exercise a power or function on the Director's behalf.

Dominant or Intrusive Noise Characteristics means any noise characteristic that contributes to a noise being considered louder than would be indicated by the A-weighted sound pressure level measured, or that exacerbates nuisance or harm caused by the noise.

DRP means Decommissioning and Rehabilitation Plan.

EER means the document titled *Barwick's In-Vessel Composting Facility - Environmental Effects Report*, dated 25 January 2024 and prepared by Pitt & Sherry (Operations) Pty Ltd.

EMPCA means the *Environmental Management and Pollution Control Act 1994*.

Environmental Harm and **Material Environmental Harm** and **Serious Environmental Harm** each have the meanings ascribed to them in Section 5 of EMPCA.

Environmental Nuisance has the meanings ascribed to it in Section 3 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 Board means the Board of the Environment Protection Authority established under section 13 of EMPCA and includes a delegate or person authorised in writing by the EPA Board to exercise a power or function on the EPA Board's behalf.

hardstand means a defined area designed and constructed to have a maximum permeability of 10^{-7} or $10E^{-7}$ m/s.

Leachate means any liquid that is either released by or has percolated through waste.

Liquid Waste means any waste that is in liquid form or is substantially comprised of free liquids or is not spadeable (able to be lifted and moved in heaps with a spade).

Noise Measurement Procedures Manual means the document titled *Noise Measurement Procedures Manual*, by the Department of Environment, Parks, Heritage and the Arts, dated July 2008, and any amendment to or substitution of this document.

Noise Sensitive Premises means 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.

performance testing the phase of commissioning where a full load(s) of waste, according to nominal capacity, is processed to demonstrate the operation and performance of the facility.

Person Responsible is any person who is or was responsible for the environmentally relevant activity to which this document relates and includes the officers, employees, contractors, joint venture partners and agents of that person, and includes a body corporate.

Planning Authority means the Council(s) for the municipal area(s) in which The Land is situated.

Pollutant has the meaning ascribed to it in Section 3 of EMPCA.

Reporting Period means the financial year.

Stormwater means water runoff as a consequence of a rainfall event, whether surface flow, piped flow, or flow within conduits, including any contaminants collected by the water during its passage.

The Land means the land on which the activity to which this document relates may be carried out and includes buildings and other structures permanently fixed to the land, any part of the land covered with water, and any water covering the land. The Land falls within the area defined by:

1 Certificate of title 113285/1; and

2 as further delineated in Attachment 1.

warm commissioning means the phase of commissioning where testing of the functions and operation of the facility occur with the presence of waste material.

Wastewater means spent or used water (whether from industrial or domestic sources) containing a pollutant and includes stormwater which becomes mixed with wastewater.

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.

Weed And Disease Guidelines means the document titled *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania*, by the Department of Primary Industries, Parks, Water and Environment, dated March 2015, and any amendment to or substitution of this document.

Schedule 2: Conditions

Maximum Quantities

Q1 Regulatory limits

1 The activity must not exceed the following limits :

1.1 10,000 tonnes per year of production of compost or mushroom substrate.

General

G1 Access to and awareness of conditions and associated documents

A copy of these conditions and any associated documents referred to in these conditions must be held in a location that is known to and accessible to the person responsible for the activity. The person responsible for the activity must ensure that all persons who are responsible for undertaking work on The Land, including contractors and sub-contractors, are familiar with these conditions to the extent relevant to their work.

G2 Proposed change to activity

1 The person responsible must notify the Director in writing prior to implementing any change to the activity authorised by this document that may cause or increase the emission of a pollutant or which may result in environmental harm or environmental nuisance (even temporarily). A change includes, but is not limited to, any of the following:

1.1 an increase in the discharge of a pollutant, or the location of its discharge.

1.2 the construction, installation, alteration or removal of any structure or equipment used in the course of carrying out the activity.

1.3 any clearance of native vegetation or earthworks.

1.4 a change in the quantity or characteristics of materials used in carrying out the activity.

2 The notification must be in an approved form and include the following:

2.1 details of the proposed change;

2.2 an assessment of the environmental impacts that may result from the change;

2.3 any relevant approvals held by the person responsible; and

2.4 any advice from the relevant planning authority to the effect that approval is not required.

3 The person responsible must provide additional information as requested by an Authorized Officer.

4 The proposed change must not be implemented until the Director has confirmed in writing that they are satisfied that no other approval or variation of this document is required.

5 For the avoidance of doubt, a notification of a proposed change under this provision is not required if the proposed change is part of a referral to the EPA Board for assessment under sections 24, 25 or 27 of EMPCA.

G3 Incident response

If an incident causing or threatening environmental nuisance, serious environmental harm or material environmental harm from pollution occurs in the course of the activity, then the person responsible for the activity must immediately take all reasonable and practicable action to minimise any adverse environmental effects from the incident.

G4 Change of ownership

If the owner of The Land upon which the activity is carried out changes or is to change, then, as soon as reasonably practicable but no later than 30 days after becoming aware of the change or intended change in the ownership of The Land, the person responsible must notify the Director in writing of the change or intended change of ownership.

G5 Complaints register

1 A public complaints register must be maintained. The public complaints register must, as a minimum, record the following detail in relation to each complaint received in which it is alleged that environmental harm (including an environmental nuisance) has been caused by the activity:

1.1 the date and time at which the complaint was received;

1.2 contact details for the complainant (where provided);

1.3 the subject matter of the complaint;

1.4 any investigations undertaken with regard to the complaint; and

1.5 the manner in which the complaint was resolved, including any mitigation measures implemented.

2 Complaint records must be maintained for a period of at least 3 years.

G6 Annual Environmental Review

1 Unless otherwise specified in writing by the Director, a publicly available Annual Environmental Review for the activity must be submitted to the Director each year within three months of the end of the reporting period. Without limitation, each Annual Environmental Review must include the following information:

1.1 a statement by the General Manager, Chief Executive Officer or equivalent for the activity acknowledging the contents of the Annual Environmental Review;

1.2 subject to the Personal Information Protection Act 2004, a list of all complaints received from the public during the reporting period concerning actual or potential environmental harm or environmental nuisance caused by the activity and a description of any actions taken as a result of those complaints;

1.3 details of environment-related procedural or process changes that have been implemented during the reporting period;

1.4 a summary of the amounts (tonnes or litres) of both solid and liquid wastes produced and treatment methods implemented during the reporting period. Initiatives or programs planned to avoid, minimise, re-use, or recycle such wastes over the next reporting period should be detailed;

1.5 details of all non-trivial environmental incidents and/or non-compliance with these conditions that occurred during the reporting period, and any mitigative or preventative actions that have resulted from such incidents;

1.6 a summary of the monitoring data and record keeping required by these conditions. This information should be presented in graphical form where possible, including comparison with the results of at least the preceding reporting period. Special causes and system changes that have impacted on the parameters monitored must be noted. Explanation of significant deviations between actual results and any predictions made in previous reports must be provided;

1.7 a discussion of the surface water monitoring results with reference to published or determined water quality guideline values for the receiving environment.

1.8 identification of breaches of limits specified in these conditions and significant variations from predicted results contained in any relevant EER or EMP, an explanation of why each identified breach of specified limits or variation from predictions occurred and details of the actions taken in response to each identified breach of limits or variance from predictions;

1.9 a list of any issues, not discussed elsewhere in the report, that must be addressed to improve compliance with these conditions, and the actions that are proposed to address any such issues;

1.10 a summary of fulfilment of environmental commitments made for the reporting period. This summary must include indication of results of the actions implemented and explanation of any failures to achieve such commitments; and

1.11 a summary of any community consultation and communication undertaken during the reporting period.

G7 Environmental Management Plan and review thereof

1 Unless otherwise specified in writing by the Director, an Environmental Management Plan - Operations ('EMP Operations') for the activity must be submitted to the Director for approval by whichever of the following dates occurs first and at five yearly intervals thereafter:

1.1 In the case of the Director having approved a previous EMP Operations, the fifth anniversary of the date of that approval;

1.2 The fifth anniversary of the date on which these conditions take effect; or

1.3 A date specified in writing by the Director.

2 The EMP Operations must include a statement by the General Manager, Chief Executive Officer or equivalent for the activity acknowledging the contents of the EMP Operations.

3 The EMP Operations must detail the potential environmental impacts arising from the ongoing operation of the activity over the next 5 years, including a strategic consideration of potential changes to the activity during that period and consideration of opportunities to implement continuous improvement.

4 The EMP Operations must separately identify specific commitments, with actions and timeframes, to mitigate or prevent the identified potential environmental impacts. In preparing the EMP Operations the person responsible must take into account the contents of any previous annual environmental reviews including complaints, incidents and monitoring data.

5 If the Director issues guidelines for preparation of the EMP Operations, the EMP Operations must address the matters listed in those guidelines.

6 Once approved the person responsible must act in accordance with the approved EMP Operations.

7 The person responsible may apply to the Director to vary or substitute the EMP Operations. Any variation or substitution of the plan approved by the Director, by notice in writing, replaces the earlier approval with effect from the date specified in the notice.

G8 Notification prior to and on completion of commissioning phases

1 Unless otherwise approved in writing by the Director, at least 14 days prior to, and also within 7 days of actually occurring, notification of the following events must be made to the Director:

1.1 commencement of cold commissioning;

1.2 commencement of warm commissioning;

1.3 commencement of performance testing; and

1.4 completion of commissioning.

G9 Notification of commencement of operations
The Director must be notified within 7 days of the commencement of operations occurring.

G10 Amendment of required plans and reports

1 The plans and reports required by these conditions must be amended to address any matter required by the Director, as advised by notice in writing.

2 Amended plans and reports must be resubmitted within the timeframe that the Director specifies.

G11 Change of responsibility
If the person responsible for the activity intends to cease to be responsible for the activity, that person must notify the Director in writing of the full particulars of any person who will become the person responsible for the activity, before such cessation.

Atmospheric

A1 Covering of vehicles
Vehicles carrying loads containing material which may blow or spill must be equipped with effective control measures to prevent the escape of the materials from the vehicles when they leave The Land or travel on public roads. Effective control measures may include tarpaulins or load dampening.

A2 Control of dust emissions
Dust emissions from The Land must be controlled to the extent necessary to prevent environmental nuisance beyond the boundary of The Land.

A3 Odour management
The person responsible must institute such odour management measures as are necessary to prevent odours causing environmental nuisance beyond the boundary of The Land.

A4 Odour Management Plan

1 Unless otherwise approved in writing by the Director, an Odour Management Plan (OMP) must be submitted to the Director for approval at least three (3) months prior to the commencement of warm commissioning.

2 The OMP must include, but not necessarily be limited to:

2.1 an inventory of all potential odour sources at the Activity;

2.2 an overview of the odour collection and abatement equipment in operation at the Activity;

2.3 details of any proposed actions to be implemented to mitigate anticipated odours caused by any aspect of the Activity;

2.4 contingency measures for unforeseen events such as power failures, fires, flooding, equipment breakdown, or process failure, to mitigate the risk of increasing odour emissions;

2.5 a proposed methodology and frequency for regular odour inspections to be undertaken to ensure odours at the Activity are minimised to levels that are unlikely to cause environmental nuisance at nearby sensitive receptors;

2.6 details of a proposed biofilter and scrubber maintenance and management program to ensure their optimal performance, taking into consideration intermittent and variable production rates, odour input sources and flow rates; and

2.7 a procedure for recording and acting upon any increase in odour emissions.

3 Unless otherwise approved in writing by the Director, a proposed odour sampling methodology must be included in the OMP.

3.1 the sampling methodology must include:

3.1.1 proposals for measurement of odour emissions from the identified odour sources;

3.1.2 recommendations for seasonal and operating conditions most suitable for undertaking the odour sampling;

3.1.3 a timetable for the completion of the odour sampling;

3.1.4 recommendations for any proposed ongoing odour sampling; and

3.1.5 details of the proposed accreditations and methods to be used (e.g. who will undertake sampling, where will samples be analysed and what accreditations will be applied to the sampling and analysis of samples).

4 The requirements of this condition will be deemed to be satisfied only when the Director indicates in writing that the submitted document adequately addresses the requirements of this condition to his or her satisfaction.

5 The Activity must be undertaken in accordance with the approved OMP, and any subsequent amendments to the Plan, as approved in writing by the Director.

6 Unless otherwise approved in writing by the Director, the OMP must be updated:

6.1 within three (3) months after any change to the activity which is likely to substantially alter the character or increase the level of odour emitted from The Land; and

6.2 where the Director is of the opinion that the Odour Management Plan or odour sampling methodology must be updated within a specified timeframe.

7 The person responsible may apply to the Director to vary or substitute the OMP. Any variation or substitution of the report or Plan approved by the Director, by notice in writing, replaces the earlier approval with effect from the date specified in the notice.

A5 Odour Sampling Report and Odour Mitigation Plan

1 Unless otherwise specified in writing by the Director, the person responsible must submit an Odour Sampling Report to the Director for approval within four (4) months of the completion of odour sampling undertaken in accordance with these conditions.

2 Unless otherwise specified in writing by the Director, the odour sampling report must include:

2.1 the location and operational characteristics of all emission sources;

2.2 sampling parameters and test methods used;

2.3 information about the activity operating conditions at the times of the sampling;

2.4 a comparison of the measured parameters with the relevant inputs used in the air dispersion modelling presented in the Air Emissions Assessment detailed in Appendix D of the EER;

2.5 a discussion of any differences between the measured odour emission rate values and those assumed as air dispersion modelling input values in the EER;

2.6 potential for exceedance of relevant limits and criteria specified in the Air Quality EPP;

2.7 a conclusion on whether odorous compounds from the activity are likely to cause environmental nuisance at or beyond the boundary of The Land;

2.8 discussion of any odour complaints received; and

2.9 any other information relevant to the sampling.

3 In the event that the odour sampling results noticeably exceed those predicted by the air dispersion model and/or it is concluded odour is likely to cause environmental nuisance, the report must also include an Odour Mitigation Plan for approval detailing:

3.1 if necessary, revised atmospheric dispersion modelling consistent with the approach taken in the EER;

3.2 specific measures to reduce or eliminate odour emissions;

3.3 a timetable for implementing these measures; and

3.4 provisions for ongoing monitoring to assess the effectiveness of the corrective actions.

4 The Activity must be undertaken in accordance with the approved Odour Mitigation Plan, and any subsequent amendments to the Plan, as approved in writing by the Director.

5 The person responsible may apply to the Director to vary or substitute the Odour Sampling Report or Odour Mitigation Plan. Any variation or substitution of the report or plan approved by the Director, by notice in writing, replaces the earlier approval with effect from the date specified in the notice.

A6 Odour Control System Monitoring Plan

1 Within three (3) months of the commencement of warm commissioning, or by a date otherwise specified in writing by the Director, an Odour Control System Monitoring Plan must be submitted for approval, in writing, by the Director.

2 Unless otherwise approved in writing by the Director the Odour Control System Monitoring Plan must:

2.1 be prepared in accordance with any relevant guidance provided by the Director;

2.2 include within its scope, evaluation of the condition and performance of each biofilter and the scrubber, for the purpose of detecting environmental harm or environmental nuisance arising from the activity;

2.3 without limitation include:

2.3.1 details and justification for:

2.3.1.1 monitoring locations, including a map(s) and table(s) of coordinates;

2.3.1.2 sampling frequency and measurement parameters; and

2.3.1.3 sampling and measurements methods.

2.3.2 quality assurance and quality control procedures;

2.3.3 where applicable, trigger levels, and actions to be taken when those trigger levels are met;

2.3.4 a table containing all the major requirements in the Odour Control System Monitoring Plan; and

2.3.5 an implementation timetable for key aspects of the Odour Control System Monitoring Plan.

3 The Activity must be undertaken in accordance with the approved Odour Control System Monitoring Plan, and any subsequent amendments to the Plan, as approved in writing by the Director.

4 The person responsible may apply to the Director to vary or substitute the Odour Control System Monitoring Plan. Any variation or substitution of the plan approved by the Director, by notice in writing, replaces the earlier approval with effect from the date specified in the notice.

A7 Odour Control System Monitoring Report

1 In the event that any trigger levels in the Odour Control System Monitoring Plan are exceeded, the Director must be notified of the exceedance and the follow up actions taken, within five (5) working days of the person responsible becoming aware of the exceedance.

2 Unless otherwise approved in writing by the Director, within one (1) month of the completion of odour control system monitoring, an Odour Control System Monitoring Report for the activity must be submitted to the Director.

3 Unless otherwise specified in writing by the Director, the Odour Control System Monitoring Report must be prepared in accordance with any relevant guidance provided by the Director, and without limitation must include:

3.1 the date(s) and time(s) of measurements;

3.2 method(s) used to produce the measurements;

3.3 results and interpretation of results, including assessment of temporal trends;

3.4 an assessment of quality assurance and quality control measures;

3.5 actions taken in response to trigger levels being met;

3.6 an assessment of the adequacy of the management measures in place and recommendations on what, if any, additional management measures are required, to address the identified risks of causing environmental harm or environmental nuisance; and

3.7 an assessment of the adequacy of the Odour Management Plan to detect environmental harm arising from the activity and, if applicable, recommendations for changes to the Odour Management Plan.

A8 Odour complaints

1 Unless otherwise specified in writing by the Director, in the event that an odour complaint is received in relation to the activity:

1.1 the Director must be notified within 24 hours of the person responsible becoming aware of the odour complaint.

1.1.1 the notification must include details of the odour complaint and any immediate actions taken in response to the odour complaint.

1.2 a report must be forwarded to the Director within 7 days of becoming aware of the odour complaint. The report must include, but not necessarily be limited to, the following details, if known:

1.2.1 location of the odour complaint;

1.2.2 date of the complaint;

1.2.3 time of the odour;

1.2.4 duration of the odour;

1.2.5 frequency of the odour (i.e. is it consistent or transient);

1.2.6 odour intensity (i.e. is it strong, distinct, or weak);

1.2.7 characteristics of the odour;

1.2.8 meteorological conditions, prior to and during the odour (i.e. temperature, wind strength and direction, cloud cover);

1.2.9 any investigations undertaken with regard to the complaint;

1.2.10 the manner in which the complaint was resolved, including any mitigation measures implemented; and

1.2.11 any other details relevant to the odour complaint.

2 Complaint records must be maintained for a period of at least 3 years.

Construction

CN1 Construction Environmental Management Plan

1 At least 30 days prior to the commencement of construction activities, or by a date otherwise specified in writing by the Director, a Construction Environmental Management Plan ('Construction EMP') must be submitted to the Director for approval.

2 The Construction EMP must contain a detailed description of the proposed timing and sequence of the major construction activities and of the proposed management measures to be implemented to avoid or minimise the environmental impacts during the construction phase. The Construction EMP must include, but not necessarily be limited to, management measures in relation to the following:

2.1 any works required in relation to the decommissioning of the existing Level 1 activity on The Land;

2.2 prevention of impacts upon surface water and waterways;

2.3 stormwater management, including erosion and sediment controls;

2.4 odour control;

2.5 noise control;

2.6 dust control;

2.7 management of environmentally hazardous materials;

2.8 flora and fauna management;

2.9 weed, pest and disease management;

2.10 quality control arrangements including supervision by appropriately qualified and experienced persons, detailed construction specifications for key items of environmental management infrastructure, documented site procedures, quality control testing and the keeping of appropriate records;

2.11 acid sulphate soil management (if identified in pre-construction testing); and

2.12 any other matters relevant to the proposal (e.g. Aboriginal and non-Aboriginal heritage).

3 Construction must not commence until the Construction EMP has been approved by the Director.

4 Unless otherwise specified in writing by the Director, construction activities must be carried out in accordance with an approved Construction EMP.

CN2 Operating hours - Construction

1 Unless otherwise approved in writing by the Director, construction activities must not be undertaken outside 0700 hours to 1800 hours Monday to Saturday.

2 Notwithstanding the above paragraph, construction activities must not be carried out on Sundays or Public Holidays that are observed State-wide (Easter Tuesday excepted).

Decommissioning And Rehabilitation

DC1 Temporary suspension of activity

1 Within 30 days of becoming aware of any event or decision which is likely to give rise to the temporary suspension of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to suspend or has suspended.

2 During temporary suspension of the activity The Land must be managed and monitored by the person responsible for the activity to ensure that emissions from The Land do not cause serious environmental harm, material environmental harm or environmental nuisance.

3 If required by the Director, a Care and Maintenance Plan for the activity must be submitted to the Director for approval, by a date specified in writing by the Director. This requirement will be deemed to be satisfied only when the Director indicates in writing that the submitted document adequately addresses the requirements of this condition.

3.1 The plan must be prepared in accordance with any guidelines provided by the Director.

3.2 Once approved the person responsible must act in accordance with the approved Care and Maintenance Plan.

3.3 The person responsible may apply to the Director to vary or substitute the Care and Maintenance Plan. Any variation or substitution of the plan approved by the Director, by notice in writing, replaces the earlier approval with effect from the date specified in the notice.

4 Unless otherwise approved in writing by the Director, if the activity on The Land has substantially ceased for 2 years or more, rehabilitation of The Land must be carried out in accordance with the requirements of these conditions as if the activity has permanently ceased.

DC2 Notification of cessation

Within 30 days of becoming aware of any event or decision which is likely to give rise to the permanent cessation of the activity, the person responsible for the activity must notify the Director in writing of that event or decision. The notice must specify the date upon which the activity is expected to cease or has ceased.

DC3 DRP requirements

1 Unless otherwise approved in writing by the Director, a Decommissioning and Rehabilitation Plan (DRP) for the activity must be submitted for approval to the Director within 30 days of the Director being notified of the planned cessation of the activity. The DRP must be prepared in accordance with any guidelines provided by the Director. This requirement will be deemed to be satisfied only when the Director indicates in writing that the submitted document adequately addresses the requirements of this condition.

2 The person responsible may apply to the Director to vary or substitute the DRP. Any variation or substitution of the plan approved by the Director, by notice in writing, replaces the earlier approval with effect from the date specified in the notice.

DC4 Rehabilitation following cessation

1 Following permanent cessation of the activity, and unless otherwise approved in writing by the Director, The Land must be rehabilitated including:

1.1 stabilisation of any land surfaces that may be subject to erosion;

1.2 removal or mitigation of all environmental hazards or land contamination, that might pose an ongoing risk of causing environmental harm; and

1.3 decommissioning of any equipment that has not been removed.

2 Where a Decommissioning and Rehabilitation Plan (DRP) has been approved by the Director, decommissioning and rehabilitation must be carried out in accordance with that plan.

3 The person responsible may apply to the Director to vary or substitute the DRP. Any variation or substitution of the plan approved by the Director, by notice in writing, replaces the earlier approval with effect from the date specified in the notice.

Effluent Disposal

E1 Firefighting wastewater

In the event of a fire, potentially contaminated wastewater arising from firefighting must be managed to prevent the unauthorised discharge of pollutants beyond the boundary of The Land.

E2 Leachate management

1 A leachate collection system must be installed to prevent leachate generated during the operation of the activity from polluting surface or ground waters.

2 Leachate on The Land must be managed such that:

2.1 it does not cause an odour nuisance beyond the boundary of The Land; and

2.2 human contact with leachate is minimised.

3 Any waters that have or have potentially been in contact with waste(s) must be captured by the leachate collection system.

Flora And Fauna

FF1 Removal of vegetation

1 Unless otherwise approved in writing by the Director:

1.1 a maximum of 0.2 ha of partially native shrubs and grasses may be cleared and disturbed for the purposes of installing the tunnel vessels and biofilters, as specified in the EER;

1.2 the interface between the construction area to be cleared and the existing native vegetation must be delineated with a visible barrier during construction works; and

1.3 no other native vegetation is to be cleared or disturbed for the purpose of the activity.

Hazardous Substances

H1 Spill kits

Spill kits appropriate for the types and volumes of materials handled on The Land must be kept in appropriate locations and maintained in a functional condition to assist with the containment of spilt environmentally hazardous materials.

H2 Storage and handling of hazardous materials

1 Unless otherwise approved in writing by the Director, environmentally hazardous materials held on The Land must be:

1.1 stored within maintained and functional impervious bunded areas, spill trays or other containment systems; and

1.2 managed to prevent unauthorised discharge, emission or deposition of pollutants:

1.2.1 to soils within the boundary of The Land in a manner that is likely to cause serious or material environmental harm;

1.2.2 to groundwater;

1.2.3 to waterways; or

1.2.4 beyond the boundary of The Land.

H3 Handling of hazardous materials - mobile

1 Where mobile containment of environmentally hazardous materials is utilised for the fuelling or servicing of mobile or fixed plant on The Land, all reasonable measures must be implemented to prevent unauthorised discharge, emission or deposition of pollutants:

1.1 to soils within the boundary of The Land in a manner that is likely to cause serious or material environmental harm;

1.2 to groundwater;

1.3 to waterways; or

1.4 beyond the boundary of The Land.

2 Reasonable measures may include spill kits, spill trays/bunds or absorbent pads, and automatic cut-offs on any pumping equipment.

Monitoring

M1 Stormwater monitoring requirements

1 Unless otherwise specified in writing by the Director:

1.1 representative stormwater samples must be taken from the discharge point, as shown in Attachment 1;

1.2 sampling must occur at the following times:

1.2.1 at six monthly intervals, during discharge of stormwater from the discharge point; and

1.2.2 if requested in writing by the Director.

1.3 samples must be analysed for the parameters listed in Table 1;

1.4 the results of laboratory analysis of samples collected must be submitted as data to the Director within 21 days of completion of those analyses by the laboratory.

2 Table 1 - Stormwater quality monitoring parameters

Parameter	Unit
Biological Oxygen Demand	mg/L
pH	pH units
Conductivity	µs/cm
Total Suspended Solids	mg/L

M2 Samples and measurements for monitoring purposes

1 Any sample or measurement required under these conditions must be taken and processed in accordance with the following:

1.1 sampling and measuring must be undertaken by a person with training, experience, and knowledge of the appropriate procedure;

1.2 the integrity of samples must be maintained prior to delivery to a testing facility;

1.3 sample analysis must be conducted by a testing facility accredited by the National Association of Testing Authorities (NATA), or a testing facility approved in writing by the Director, for the specified test;

1.4 details of methods employed in taking samples and measurements and results of sample analysis, and measurements must be retained for at least three (3) years after the date of collection; and

1.5 sampling and measurement equipment must be maintained and operated in accordance with manufacturer's specifications and records of maintenance must be retained for at least three (3) years.

Noise Control

N1 Noise emissions

Noise emissions from the activity must not be audible at all times (day, evening and night), at any noise sensitive premises.

N2 Noise complaints

1 In the event that a noise complaint is received in relation to the activity, the complaint must be reported to the Director within 24 hours.

2 Noise complaints must be investigated to ensure that:

2.1 noise emissions from the activity are lower than the representative background noise levels of the complainant property; and

2.2 noise emissions from the site do not contain any dominant or intrusive noise characteristics when measured or observed at the complainant property as assessed in accordance with the *Noise Measurement Procedure Manual;* and

2.3 all methods of measurement must be in accordance with the *Noise Measurement Procedures Manual*.

Operations

OP1 Operational Procedures Manual

1 Unless otherwise approved in writing by the Director, an Operational Procedures Manual ('the Manual') must be submitted to the Director for approval within three (3) months of the commencement of operations. The Manual must provide detailed information relating to the activity and must detail operational procedures and parameters as required to ensure compliance with these conditions.

2 The Manual must be prepared in accordance with any guidelines provided by the Director. If no guidelines are provided, the Manual must:

2.1 be written in an easy to understand format, with checklists, diagrams, and photographs as appropriate.

2.2 be available for easy reference by operational staff, including any documents referenced by the Manual.

2.3 be clear about who is responsible for carrying out tasks, as well as how, when, or how often tasks should be performed.

3 Unless otherwise specified by the Director, once approved in writing by the Director, the Activity must be carried out in accordance with the approved Operational Procedures Manual.

4 The Manual must be kept up to date, and reviewed at least annually, and must take into account environment related complaints, incidents, and changes to the activity.

OP2 Hours of operation and site staff

1 Subject to the following paragraph the Activity must not be open for the reception of waste outside the hours of 0400 hours to 1800 hours Monday to Saturday.

2 The responsible person may allow reception of waste on The Land outside the normal operating hours specified in the above paragraph where a specific prior arrangement has been made, providing all other conditions are complied with.

3 While The Land is open for reception of waste, The Land must be attended by a person or persons whose duties must include supervising the management of waste deposition and ensuring compliance with these conditions.

4 The hours of operation must be posted on a sign, which must be erected and maintained at the entrance to The Land.

5 Access to The Land must be through a gate that must be secured to prevent unauthorised access when The Land is unattended.

OP3 Receivable wastes

1 Unless otherwise approved in writing by the Director, only the following materials may be received, stored, or used in composting on The Land:

1.1 food organics, garden organics - council kerbside;

1.2 food organics - commercial;

1.3 garden organics - council kerbside;

1.4 garden organics - transfer stations / landfill;

1.5 food & beverage - processing;

1.6 wood fibre, including sawdust and pine bark;

1.7 dairy organics;

1.8 fish organics - liquid;

1.9 fish mortalities - whole;

1.10 poultry mortalities - whole;

1.11 poultry organics - liquid;

1.12 chicken manure;

1.13 cow manure;

1.14 abattoir organics - paunch;

1.15 grease trap waste;

1.16 biomass - Norske Skog; and

1.17 plasterboard.

OP4 Storage of wastes

1 Unless otherwise approved in writing by the Director:

1.1 all receivable wastes received on The Land must be stored within the composting facility building, with the exception of pine bark.

1.2 all putrescible wastes must be processed within 24 hours after delivery to The Land.

1.3 management of non-putrescible wastes must be included in the Operational Procedures Manual required under these conditions.

OP5 Storage of finished compost and pine bark

1 Unless otherwise approved in writing by the Director:

1.1 finished compost, once removed from the composting facility building, must:

1.1.1 only be stored on the finished compost storage hardstand, as delineated in Attachment 1; and

1.1.2 must not exceed 5,000 cubic meters at any given time.

1.2 pine bark must only be stored on the pine bark storage hardstand, as delineated in Attachment 1.

OP6 Disposal of compost

Unless otherwise approved in writing by the Director, any waste or finished or partially finished compost product removed from a tunnel not meeting the pasteurisation standards of the *Australian Standard AS 4454: 2012 Composts, soil conditioners and mulches*, or any subsequent revision or substitution of this standard, must be either disposed of at a facility authorised to accept the waste or placed back within a composting tunnel for further treatment, within 24 hours of it being determined not to meet the pasteurisation standards of the Australian Standard.

OP7 Site hygiene and biosecurity

1 Unless otherwise approved in writing by the Director, washdown facilities for vehicles delivering waste must be provided and maintained by the person responsible.

2 Washdown water from transport containers and vehicles must not leave The Land and must report to the leachate collection system.

3 Transport equipment and vehicles delivering waste must be washed in the designated areas to ensure that the washing process does not cause an odour nuisance beyond the boundary of The Land.

4 The premises and equipment, including transport equipment and vehicles, must be maintained, and cleaned as necessary to prevent the accumulation of putrescible materials that may give rise to odour.

OP8 Weed management

The Land must be kept substantially free of weeds to minimise the risk of weeds being spread through the transport of products from The Land.

OP9 Weed Management Plan

1 At least 30 days prior to the commencement of construction, or by a date otherwise specified in writing by the Director, a Weed & Disease Management Plan must be submitted to the Director for approval. This requirement will be deemed to be satisfied only when the Director indicates in writing that the submitted document adequately addresses the requirements of this condition.

2 The plan must be consistent with the Weed and Disease Guidelines, or any subsequent revisions of that document.

3 Once approved the person responsible must act in accordance with the approved plan.

4 The person responsible may apply to the Director to vary or substitute the plan. Any variation or substitution of the plan approved by the Director, by notice in writing, replaces the earlier approval with effect from the date specified in the notice.

OP10 Litter Management Plan

1 Unless otherwise approved in writing by the Director, prior to the commencement of operations, or by a date otherwise specified in writing by the Director, a Litter Management Plan must be submitted for approval, in writing, by the Director.

2 The Litter Management Plan must include:

2.1 details of the measures that will be implemented to control and monitor the escape of litter from The Land; and

2.2 a schedule for the inspection and removal of litter on, and adjacent to, The Land.

3 The Activity must be undertaken in accordance with the approved Litter Management Plan, and any subsequent amendments to the Plan, as approved in writing by the Director.

4 The person responsible may apply to the Director to vary or substitute the Litter Management Plan. Any variation or substitution of the Plan approved by the Director, by notice in writing, replaces the earlier approval with effect from the date specified in the notice.

OP11 Emergency Response Plan

1 Unless otherwise approved in writing by the Director, within six (6) months of the commencement of wet commissioning, a detailed and site-specific Emergency Response Plan must be prepared and submitted to the Director for approval. The Plan must be prepared in consultation with the Director, the State Emergency Service, and the Tasmanian Fire Service.

2 Once approved the person responsible must act in accordance with the approved Emergency Response Plan.

3 The person responsible may apply to the Director to vary or substitute the Emergency Response Plan. Any variation or substitution of the plan approved by the Director, by notice in writing, replaces the earlier approval with effect from the date specified in the notice.

OP12 Fire management

1 Unless otherwise approved in writing by the Director, fire control measures on The Land must be to the satisfaction of a certified bushfire hazard practitioner. Correspondence from the certified bushfire hazard practitioner indicating the suitability of fire control measures must be submitted to the Director within six (6) months of the date on which these conditions take effect.

2 Fires occurring on The Land must be extinguished as soon as possible using all practical means available.

3 The lighting of fires on The Land is not permitted.

4 The person responsible must make all reasonable efforts to prevent unauthorised ignition of any organic matter on The Land (e.g. pine bark stockpile).

Stormwater Management

SW1 Perimeter drains or bund

1 Perimeter cut-off drains, or bunds, must be constructed at strategic locations on The Land to prevent surface run-off from entering the area used or disturbed in carrying out the activity. All reasonable measures must be implemented to ensure that sediment transported along these drains, or bunds, remains on The Land. Such measures may include provision of strategically located sediment fences, appropriately sized, and maintained sediment settling ponds, vegetated swales, detention basins and other measures designed and operated in accordance with industry best practice document *International Erosion Control Association (IECA), Best Practice Erosion and Sediment Control documents* (2008 or later version).

2 Drains, or bunds, must have sufficient capacity to contain run-off that could reasonably be expected to arise during a 1 in 20-year rainfall event. Maintenance activities must be undertaken regularly to ensure that this capacity does not diminish.

SW2 Stormwater

1 Polluted stormwater that will be discharged from The Land must be collected and treated prior to discharge to the extent necessary to prevent serious or material environmental harm, or environmental nuisance.

2 Notwithstanding the above, all stormwater that is discharged from The Land must not carry pollutants such as sediment, oil and grease in quantities or concentrations that are likely to degrade the visual quality of any receiving waters outside The Land.

3 All reasonable measures must be implemented to ensure that solids entrained in stormwater are retained on The Land. Such measures may include appropriately sized and maintained sediment settling ponds or detention basins.

SW3 Design and maintenance of settling ponds

1 Sediment settling ponds must be designed and maintained in accordance with the following requirements:

1.1 ponds must be designed to successfully mitigate reasonably foreseeable sediment loss which would result from a 1 in 20 year storm event;

1.2 discharge from ponds must occur via a stable spillway that is not subject to erosion;

1.3 all pond walls must be stable and treated with topsoil and vegetated or otherwise treated in such a manner as to prevent erosion; and

1.4 sediment settling ponds must be periodically cleaned out to ensure that the pond design capacity is maintained. Sediment removed during this cleaning must be securely deposited such that sediment will not be transported off The Land by surface run-off.

Waste Data And Reporting

WD1 Waste data reporting

1 The person responsible must submit a report to the Director detailing the quantity (in tonnes) of compost produced (for example, which does not meet the pasteurisation standards of the Australian Standard AS 4454: 2012 Composts, soil conditioners and mulches), and/or any other waste materials produced associated with the Activity (for example, packaging), which are disposed of to landfill during each financial year.

2 The report must be in a format approved in writing by the Director and submitted to the Director within three (3) months of the end of the reporting period.

WD2 Record of controlled wastes

1 A record of all controlled waste received or generated on The Land must be kept. This record must include:

1.1 the controlled waste category set down in the *National Environment Protection (Movement of Controlled Waste Between States and Territories) Measure 1998* and waste code associated with the waste category, or where applicable, the description of the controlled waste as defined in the *Environmental Management and Pollution Control (Waste Management) Regulations 2020*;

1.2 the quantity of controlled waste received or generated;

1.3 the fate (e.g. stored, disposed, or transported off The Land) of the controlled waste;

1.4 where available, the person or organisation which generated the waste.

2 Where there is doubt concerning whether the classification of a waste is a 'controlled waste', then clarification must be sought from the Director.

WD3 Reporting of wastes received

Unless otherwise approved in writing by the Director, from the date on which commencement of operations occurs, a monthly report must be submitted to the Director detailing the amount, in tonnes, for each category of waste allowed to be received under these conditions.

Schedule 3: Information

Legal Obligations

LO1 EMPCA

The activity must be conducted in accordance with both the conditions in this document and the obligations of the *Environmental Management and Pollution Control Act 1994* (EMPCA) and subordinate regulations. The conditions of this document do not replicate legislated obligations; therefore, you should ensure you are aware of your obligations under EMPCA and subordinate regulations.

LO2 Storage and handling of dangerous goods, explosives and dangerous substances

1 The storage, handling and transport of dangerous goods, explosives and dangerous substances must comply with the requirements of relevant State Acts and any regulations thereunder, including:

1.1 *Work Health and Safety Act 2012* and subordinate regulations;

1.2 *Explosives Act 2012* and subordinate regulations; and

1.3 *Dangerous Goods (Road and Rail Transport) Act 2010* and subordinate regulations.

LO3 Waste and Resource Recovery Act 2022 obligations

The activity may be a prescribed a Landfill or Resource Recovery Facility under the *Waste and Resource Recovery Act 2022* and must comply with reporting and obligations under that legislation.

LO4 Controlled waste transport

Transport of controlled wastes to and from The Land must be undertaken only by persons authorised to do so under EMPCA or subordinate legislation.

Other Information

OI1 Waste management hierarchy

1 Wastes should be managed in accordance with the following hierarchy of waste management:

1.1 waste should be minimised, that is, the generation of waste must be reduced to the maximum extent that is reasonable and practicable, having regard to best practice environmental management;

1.2 waste should be re-used or recycled to the maximum extent that is practicable; and

1.3 waste that cannot be re-used or recycled must be disposed of at a waste depot site or treatment facility that has been approved in writing by the relevant planning authority or the Director to receive such waste, or otherwise in a manner approved in writing by the Director.

OI2 Notification of incidents under section 32 of EMPCA

Where a person is required by section 32 of EMPCA to notify the Director of the release of a pollutant, the Director can be notified by telephoning **1800 005 171** (a 24-hour emergency telephone number).

Attachment 1: The Land

ENVIRONMENT PROTECTION AUTHORITY